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PROFESSIONAL ACTIVITIES

Professional Experience

- 10/21 – present Deputy Director, National Science Foundation funded Science and Technology Center for Integration of Modern Optoelectronic Materials on Demand (IMOD)
- 7/21 – present Director and Fellow, Renewable and Sustainable Energy Institute, a joint institute between the University of Colorado Boulder (CU-Boulder) and the National Renewable Energy Laboratory (NREL)
- 1/22 – present Fellow and Professor, Materials Science and Engineering Program, University of Colorado Boulder, Boulder, CO
- 7/21 – present Professor, Departments of Chemistry and Chemical and Biological Engineering, University of Colorado Boulder, Boulder, CO
- 7/21 – present Senior Research Fellow, National Renewable Energy Laboratory
- 11/20 – 6/21 Visiting Professor, University of Colorado Boulder
- 7/16 – 6/21 Director, Center on the Science and Technology of Advanced Materials and Interfaces (STAMI) funded by the Georgia Institute of Technology
- 9/15 – 12/21 Co-Director, Army Research Office funded Multidisciplinary University Research Initiative (MURI) Center for Advanced 2D Organic Networks
- 7/14 – 12/19 Director, Office of Naval Research funded Multidisciplinary University Research Initiative (MURI) Center for Advanced Organic Photovoltaics (CAOP)
- 10/12 – 8/15 Co-Director, Materials Research Science and Engineering Center Georgia Institute of Technology, Atlanta, GA
- 8/11 – 6/21 Regents' Professorship Georgia Institute of Technology, Atlanta, GA

1/11 – 12/20	Associate Director, Center for Organic Photonics and Electronics Georgia Institute of Technology, Atlanta, GA
10/10 – 3/16	Director, Air Force Office of Scientific Research funded MURI Center for Organic Materials for All Optical Switching (COMAS)
1/10 – 6/21	Georgia Power Chair in Energy Efficiency Georgia Institute of Technology, Atlanta, GA
1/10 – 12/10	Co-Director, Center for Organic Photonics and Electronics Georgia Institute of Technology, Atlanta, GA
9/09 – 7/14	Associate Director, Department of Energy funded Energy Frontier Research Center: Center for Interface Science: Hybrid Solar-Electric Materials (CIS:SEM)
8/05 – 8/13	Deputy Director, National Science Foundation funded Science and Technology Center for Materials and Devices for Information Technology Research (CMDITR)
5/04 – 6/21	Professor of Materials Science and Engineering (courtesy) Georgia Institute of Technology, Atlanta, GA
8/03 – 6/21	Professor of Chemistry Georgia Institute of Technology, Atlanta, GA
8/03 – 12/09	Founding Director, Center for Organic Photonics and Electronics Georgia Institute of Technology, Atlanta, GA
8/02 – 7/05	Associate Director, National Science Foundation funded Science and Technology Center for Materials and Devices for Information Technology Research
8/99 – 7/03	Professor of Optical Sciences University of Arizona, Tucson, AZ
9/98 – 7/03	Professor of Chemistry University of Arizona, Tucson, AZ
9/98 – 7/03	Visiting Faculty Associate Division of Chemistry and Chemical Engineering California Institute of Technology, Pasadena, CA
4/97 – 9/99	Research Advisor Frontier Research Program, RIKEN, Saitama, Wako, Japan
9/95 – 12/00	Associate Director, Center for Advanced Multi-Functional Nonlinear Optical Polymers and Molecular Assemblies, Office of Naval Research
10/90 – 9/98	Member of the Beckman Institute Beckman Institute, California Institute of Technology, Pasadena, CA
5/89 – 9/98	Member of the Technical Staff Optoelectronics Materials Group The Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA

- 5/89 – 10/90 Visiting Associate (part time)
Division of Chemistry and Chemical Engineering
California Institute of Technology, Pasadena, CA
- 11/88 – 5/89 Contractor through Kirk Mayer Consulting
The Jet Propulsion Laboratory, California Institute of Technology,
Pasadena, CA
- 7/87 – 11/88 National Research Council Resident Research Associate
The Jet Propulsion Laboratory, California Institute of Technology,
Pasadena, CA
Research Advisors: Dr. Joseph W. Perry and Prof. Robert H. Grubbs
- 9/85 – 7/87 Postdoctoral Research Fellow
University of Oxford, Oxford, England
Research Advisor: Professor Malcolm L. H. Green

Education

- 8/81 – 6/85 Ph.D. in Chemistry
University of Wisconsin at Madison, Madison, WI
Thesis Advisor: Professor Charles P. Casey
- 9/78 – 5/81 B.A. in Chemistry
Massachusetts Institute of Technology, Cambridge, MA
Research Advisor: Professor Alan Davison

Personal

- Born June 25, 1961, in Brooklyn, NY
- Married in 1983 to Julia E. Shimaoka
- Enjoys time with dogs, cooking, tennis, music, and traveling

Professional Objectives

- Developing structure-property relationships to advance the science and technology of optical, magnetic, and electronic materials
- Providing a holistic education through classroom teaching, and advising
- Fostering diversity through development of new programs, advocacy, recruiting, and mentoring

Research Interests

- Design, synthesis, and evaluation of polymeric, organic, and organometallic materials for both second- and third-order nonlinear (NLO) optical studies and applications
- Design of materials for OLED, OFET, OPV, and DSSC applications
- Design and synthesis of infrared absorbing dyes for electronics, photonics, and biological applications
- Design and synthesis of electron transfer active molecules

- Examination of the photophysical properties of donor-acceptor compounds with extended conjugation
- Design and applications of dyes with two-photon and multi-photon absorption
- Development of surface modifiers for electronic, thermoelectric, and encapsulation applications
- Thermochemical nanolithography

Membership in Professional Societies

American Chemical Society, American Physical Society, American Association for the Advancement of Science, Society of Photo-Optical Instrumentation Engineers, Materials Research Society, Royal Society of Chemistry, National Academy of Inventors

Honors and Awards

2024	VinFuture Award “Top Nominator” for 2024
2021	Appointed Senior Research Fellow NREL
2018	Humboldt Research Award
2018	Class of 1934 Distinguished Professor Award, Georgia Tech
2016	Elected Fellow, National Academy of Inventors
2015	Visiting Professor, Institute of Science and Supramolecular Engineering, University of Strasbourg
2015	Materials Research Society Mid-Career Award
2014	Recipient of a <i>Thank a Teacher</i> certificate, Georgia Tech
2014	Outstanding Faculty Research Author Award, Georgia Tech
2014	Elected Fellow, Materials Research Society
2011	Recipient on behalf of the Center for Organic Photonics and Electronics, the Materials Awards at the GTRC Award for Excellence in Research, Industry Engagement and Technology Transfer
2011 – 2021	Regents Professorship, Georgia Institute of Technology
2011	Recipient of the 2011 Arthur C. Cope Scholar Award
2010	Elected Co-Vice Chair of 2012 Gordon Research Conference of Electronic Processes in the Organic Solid State and Co-Chair of 2014 Conference
2010 – 2013	Guest Professor, Wuhan University
2010 – 2021	Georgia Power Chair in Energy Efficiency
2009	Guest Professor, Ecole Normale Supérieure de Cachan
2009	Georgia Tech, Outstanding Award in Research Program Development
2008	Elected Fellow, American Physical Society
2008	Elected Fellow, Royal Society of Chemistry

2007	Elected Fellow, Society of Photo-Optical Instrumentation Engineers (SPIE)
2007 – 2010	Guest Professor, Anhui University
2006	Invited Speaker, Japan-America Frontiers of Engineering Symposium, Tsukuba, Japan
2005 – 2008	Guest Professor, Shanghai Jiaotong University
2005 – 2008	Guest Professor, Huazhang University of Science & Technology
2004	Elected Fellow, Optical Society of America
2003	Elected Fellow, American Association for the Advancement of Science
2002 – 2005	Guest Professor, Wuhan University, Wuhan, China
7/97 – 6/99	NSF Special Creativity Award Extension
2/95	3M Lecturer in Materials Science, University of British Columbia
9/93	Lew Allen Award for Research, The Jet Propulsion Laboratory
11/92	Invited Speaker, National Academy of Sciences Frontiers in Science Conference, Irvine, CA
7/87 – 11/88	National Research Council Resident Research Associate The Jet Propulsion Laboratory
9/84 – 6/85	W.R. Grace and Company Industrial Fellowship University of Wisconsin at Madison
8/82	Departmental Commendation for Excellence in Teaching Department of Chemistry, University of Wisconsin at Madison
6/77 – 8/77	National Science Foundation Summer Science Training Program in Chemistry, San Diego State University

TEACHING

University Courses

Chem 8833:	Introduction to Organic Mechanisms - Fall 2015 at Georgia Tech (Co-teaching with Dr. Christoph Fahrni)
Chem 8002:	Information Resources for Chemists & Biochemists (including Responsible Conduct in Research-RCR; Co-teaching with Dr. Pamela Pollet) at Georgia Tech - Spring 2015, Spring 2016, Spring 2017, Spring 2019, Spring 2020
Chem 4311:	Advanced Organic Chemistry- Fall 2013 (Co-teaching with Stefan France), Fall 2014 (Co-teaching with Stefan France), Fall 2015 (Co-teaching with Stefan France), Fall 2016, Fall 2017, Fall 2018, Fall 2019, Fall 2020 (held virtually)
Chem 4341/6371:	Applied Spectroscopy – Fall 2019
Chem 6372:	Physical Organic Chemistry - Fall 2006, Spring 2007, Spring 2008, Spring 2009, Spring 2010, Spring 2011, Spring 2012, Spring 2013, Spring 2014,

Spring 2015, Spring 2016 at Georgia Tech (Co-teaching with Dr. Charles Liotta and Dr. Stefan France), Spring 2017 at Georgia Tech (Co-teaching with Dr. Charles Liotta), Spring 2019 at Georgia Tech (co-teaching with Dr. Jean-Luc Brédas), Spring 2020 at Georgia Tech (co-teaching with Dr. Christoph Fahrni), Spring 2021 at Georgia Tech (held virtually)

Chem 6484: Optical Properties of Materials - Spring 2008, Spring 2010, Spring 2012, Spring 2013, Spring 2014 at Georgia Tech (Co-teaching with Dr. Jean-Luc Brédas), Fall 2016 at Georgia Tech (Co-teaching with Dr. Joseph Perry)

Chem 2311: Organic Chemistry - Spring 2008, Fall 2011 at Georgia Tech (Co-teaching with Dr. Charles Liotta)

Chem 2311: Organic Chemistry - Fall 2004 at Georgia Tech (Co-teaching with Dr. Uwe Bunz)

Chem 8873: Chemistry of Electronic and Photonic Materials - Spring 2000, 2001, 2003, Fall 2006 at Georgia Tech (Co-teaching with Dr. Jean-Luc Brédas)

Chem 246: Introductory Organic Chemistry - Fall 1999, 2000, 2001, 2002 (UA)

Chem 535: Chemistry of Electronic and Photonic Materials - Spring 2000, 2001, 2003 at UA (Co-teaching with Dr. Jean-Luc Brédas)

Teaching Assistant (1981 – 1982)
Introductory Organic Chemistry, University of Wisconsin at Madison

Teaching Assistant (1981 – 1982)
Intermediate Organic Chemistry Laboratory, University of Wisconsin at Madison

Short Courses and Outreach (from 2013 onwards)

“Proposal Writing.” Seminars presented to Chem 8902 students at Georgia Tech (March 26, 2013 and March 28, 2013)

“Conflict Resolution.” Workshop presented to GT-NOBCChE, Women in Chemistry, and students at Georgia Tech (April 16, 2013)

“Proposal Development.” Workshop presented to graduate and undergraduate students at Norfolk State University (April 24, 2013)

“Intellectual Property and Ethics Implications.” Recorded for use as an IGERT training module; presented to graduate and undergraduate students at Norfolk State University (April 24, 2013)

“Modification of metal oxides with organic materials for energy applications.” Presented at the iMAT Workshop on Electrodes for Energy Applications at Georgia Tech (May 6, 2013)

“Maintaining a laboratory notebook.” Presented at a seminar for REU students at Georgia Tech (May 29, 2013)

“Opportunities in Organic Photonics and Electronics.” Seminar presentation for SURE students at Georgia Tech (May 30, 2013)

“Opportunities in Organic Photonics and Electronics.” Seminar presentation for SURF students at Georgia Tech (June 4, 2013)

“Successfully Navigating the Georgia Tech Graduate School Environment.” Panelist for NOBCCChE event at Georgia Tech (September 10, 2013)

Exemplar Speaker, “Enhancing Meaningful Creative Challenges: EMC²” event for Celebrating Tenure at Georgia Tech (October 12, 2013)

“Data acquisition; Management, sharing and ownership of data and collaborative research.” CHEM 8002 - Responsible Conduct of Research (RCR) Seminar at Georgia Tech (February 25, 2014)

“Plastic Electronics: from Foldable Displays to Light Weight Solar Cells.” Exploration Science Café with CCHF at the Atlanta Science Festival, Atlanta, GA (March 29, 2014)

“Learning from IGERTs at Tech.” Panelist, Georgia Tech (April 2, 2014)

“STC Information Session.” Panelist, Georgia Tech (April 22, 2014)

“Introduction to Laboratory Record Keeping.” Lecture given to incoming graduate students at Georgia Tech (June 3, 2014)

“Ethical Conduct of Research.” Lecture given to incoming graduate students at Georgia Tech (June 13, 2014)

“My life and academic journey.” Seminar presentation for the SURE undergraduate students at Georgia Tech (July 15, 2014)

“Opportunities in Organic Photonics and Electronics.” Seminar presentation for the MRSEC REU students at Georgia Tech (July 17, 2014)

“An Introduction to Second- and Third-Order Nonlinear Optics.” 2014 Organic Chemistry Summer Speaker for a summer lecture series at University of Wyoming (August 4-8, 2014)

“Successfully Navigating the Ga Tech Environment.” Panel member for Georgia Tech NOBCCChE, Georgia Tech (September 9, 2014)

“Fantastic Plastics: Organic Materials for Electronics and Optical Communications.” Presented at the Science Café with CCHF at the Atlanta Science Festival, Atlanta, GA (March 28, 2015)

“Fantastic Plastics: Organic Materials for Electronics and Optical Communications.” Presented at the Science Café at the Atlanta Botanical Garden, Atlanta, GA (May 10, 2015)

“Laboratory Record Keeping.” Seminar presentation for 1st-year graduate students at Georgia Tech (June 15, 2015)

“Ethical Conduct of Research.” Seminar presentation for 1st-year graduate students at Georgia Tech (June 22, 2015)

“My life journey in research.” Seminar presentation for the SURE undergraduate students at Georgia Tech (July 14, 2015)

“Interface Chemistry for Organic Electronics and Opto-electronics,” and “The Development of Conjugated Materials for Organic Electronics and Photovoltaics.” Lectures given at the Conference de ISIS and as part of the Organic Chemistry Seminar Series of the University of Strasbourg, Strasbourg, France (September 7-11, 2015)

Serve as Interim Faculty Liaison for the CCHF Network for Diversity in Chemical Research program during the transition of the Education and Outreach Director (December 2015-present)

“Panel on the Candidacy Exam” for graduate students at Georgia Tech. Panelist, Georgia Tech (March 1, 2016)

“Fantastic Plastics: Organic Materials for Electronics and Optical Communications.” Presented at the Science Café with CCHF at the Atlanta Science Festival, Atlanta, GA (March 26, 2016)

“Panel on life after graduate school” for the 13th Annual Research Symposium of the Georgia Tech Graduate Minority Students Symposium. Panel member for Georgia Tech's Black Graduate Student Association (BGSA). (April 8-9, 2016)

“My life journey in research.” Seminar presentation for the SURE undergraduate students at Georgia Tech (July 19, 2016)

“A Personal View of Being a Professor.” Seth R. Marder, presented at the American University of Beirut in Beirut, Lebanon (October 19, 2016)

“How to write effective research proposals and grants applications in science?” Workshop presented at the University Chapters, Student Virtual Event 2016 Fall MRS conference in Boston (November 30, 2016)

“Best Practices Forum on Integrating Professional Development into Graduate and Postdoctoral Training.” Panel for Faculty and Staff held at Georgia Tech (April 13, 2017)

“My life journey in research.” Seminar presentation for the SURE undergraduate students at Georgia Tech (June 20, 2017)

“My life journey in research.” Seminar presentation for the SURE undergraduate students at Georgia Tech (July 17, 2018)

“Molecular Redox Dopants for Organic Semiconductors and Interface Modification; Part 1: Basic Concepts and Development of Dopants (AM session); Part 2: Application of Dopants to Semiconductors and Interfaces (PM session).” Invited to give lectures on electronic organics for the BIGS Chemistry Summer School program at the University of Bonn, Germany (September 10, 2019)

“Academic and Industrial Career Panel.” Panel for CCHF graduate and postdoctoral students held at Emory University (September 24, 2019)

“Applications of Molecular Dopants and Interface Modifiers for Electronic and Opto-Electronic Applications.” Seminar presentation for the Institute for Electronics and Nanotechnology (IEN) Nano@Tech seminar series at Georgia Tech (October 8, 2019). Link to the video recording: <https://smartech.gatech.edu/handle/1853/61975>

“Race at TECH: Panel discussion.” Panelist for the Georgia Tech Institute Diversity, Equity, and Inclusion hosted virtual event (July 16, 2020)

“Dinner with A Virtual Professor.” Invited by the Georgia Tech Student Affiliates of American Chemical Society (SAACS) to meet with students virtually to discuss research and life (September 24, 2020)

“Networking Night.” Participant, Georgia Tech’s American Medical Student Association virtual social event to connect pre-medical students with experts in the fields they aspire to pursue (October 20, 2020)

“Part One: Introduction to the Design and Synthesis and of Molecular Redox Dopants.” Invited to give two tutorial talks on Doping of Organic Semiconductors as part of the Tata Institute of Fundamental Research (TIFR) and the Indian Institute of Science (IISc) joint webinar series (Held virtually, February 18, 2021)

“Part Two: Applications of Molecular Redox Dopants for Electronics and Optoelectronics.” Invited to give two tutorial talks on Doping of Organic Semiconductors as part of the Tata Institute of Fundamental Research (TIFR) and the Indian Institute of Science (IISc) joint webinar series (Held virtually, February 19, 2021)

“Thoughts on Materials Horizons and Publishing High Quality Papers.” Invited to give a virtual talk at the Silesian University of Technology, P (March 2, 2021)

“Seizing Opportunities and Overcoming Challenges: A Personal Perspective.” Invited to give a talk at the Georgia Tech School of Chemistry and Biochemistry Staff Lunch and Learn series (held virtually on April 6, 2021)

“Thoughts About the Right Here, Right Now Global Climate Summit.” Public Lecture: Seth R. Marder, presented virtually as part of the 14th BESSY@HZB User Meeting of the Helmholtz Zentrum Berlin (held virtually on December 8, 2022)

“Developing Your Science & Research Identity.” Panelist for the STC IMOD professional development session as part of the OMS³ course at the University of Washington, Seattle WA (August 6, 2023)

“Driving the Solar Energy Transition: Building a more Resilient and Secure Energy Supply Chain.” Panelist at the Plenary Table discussion as part of the Falling Walls Science Summit of Helmholtz-Zentrum Berlin (Hzb) and the Falling Walls Foundation that was held in Walburga Hemetsberger, Germany (November 8, 2023)

Interviewed and discussed research for a “ChemTalk podcast, Let’s Talk Chemistry” that will be uploaded for the purpose of inspiring youth to pursue chemistry or chemistry-related degrees (January 9, 2024)

Seth Marder participated in an interview with Pine Crest School (Fort Lauderdale Campus) students on a 5th Grade Science Project on renewable energy (April 18, 2024)

2024 Electronic Processes in Organic Materials Gordon Research Conference, Seth R. Marder served as discussion leader for the Durability, Stability, and Sustainability session, held in Barga, Italy (July 7-12, 2024)

Seth Marder led the organizational efforts and participated in a workshop focused on the IMOD/CHOISE/PEAQs projects at Fort Lewis College in Durango, CO (October 9-11, 2024)

MENTORING

Graduate Advisor (Ph.D.) – 37 total

Richard Hreha (1999-2003), Jing Wang (2001-2007), Zesheng An (2000-2005), Da Yang (2002-2003), Susan Odom (2003-2008, NSF Predoctoral Fellow), Michal Malicki (2002-2009; co-advised with J. Perry), Takeshi Kondo (2003-2007; co-advised with B. Kippelen), Xuan Zhang (2004-2009), Peter Hotchkiss (2004-2008), Jonathan Matichak (2005-2010), Chun Huang (2005-2010), Yanrong Shi (2006-2011), Carlos Zuniga (2007-2011), Lauren Hayden-Polander (2007-2011), Anthony Giordano (2007-2014, 2008 National Defense Science and Engineering Graduate fellow, NSF fellow), Sergio Paniagua-Barrantes (2008-2013), O'Neil Smith (2008-2014), Marcel Said (2010-2016; co-advised with David Bucknall), Fadi Jradi (2011-2016), Rebecca Hill (2011-2018, IGERT Fellow), Karttikay Moudgil (2011-2016), Zhishuai Geng (2012-2018; co-advised with M. G. Finn), Siyuan Zhang (2012-2016), Matthew Cooper (2012-2018), Hye Kyung Kim (2012-2018), Federico Pulvirenti (2013-2019), Theodore Hicks (2015-2021), Marie-Helene Tremblay (2016-2020), Cameron Feriante (2015-2020), Yao "Chloe" Xiong (CSC Fellow, 2017-2021), Khaled Al Kurdi (2017-2021), Taylor Allen (2018), Declan McCarthy (2018-2023), Farzaneh Saeedifard (2018-2021), Varunprasaath "Varun" Selvaraju Ramasamy (2019-2025), Jorge Esteban Rojas Gatjens (2019-2024, co-advised with Carlos Silva), Collin Sindt (2021-present, co-advised with Mike Toney), Noah Smith (2022-present, co-advised with Tim White), Saghar Rezaie Kouhestani (2024-present, co-advised with Sadegh Yazdi)

Graduate Advisor (M.S.) – 18 total

Cara Grasso (2000-2003), Adrianna Rusu (with J.-L. Brédas, 2000-2001), Judith Lavin (2001-2003), Amy Graham (2001-2003; co-advised with N. Armstrong), LaKeisha McClary (2003-2007), David Duckworth (2003-2006, NSF-STEP fellow), Myneeka Cook (2005-2006, GEM fellow), William Underwood (2006-2009), Wei Zhang (2007-2009), Helen Westbrook (2008-2010), Jessica Nock (2008-2010), Guanhua Feng (2011-2012), Maitri Desai (2011-2013; co-advised with Jennifer Curtis), Jennie Wood (2012), LaRita Williams (2012-2014), Xiaochu Ba (co-advised with J. Reynolds, 2014-2016), Janos Simon (2011-2017)

Postdoctoral Advisor – 97 total

Jack Tseng (1990-1991), Daniel Alvarez (1990-1992, James Irvine Postdoctoral Fellow), Christopher Gorman (1991-1992, JPL Fellow), Sandra Gilmour (1991-1993, NRC Resident Research Associate), Andrienne Friedli (1992-1993), Chin-Ti Chen (1992-1995), Rafael Ortiz (1993-1995, James Irvine Postdoctoral Fellow), Peter Bedworth (1993-1997, James Irvine Postdoctoral Fellow), Dennis Ng (1993-1994), Dominic McGrath (1994), Zhongying Hu (1995-1996), Fabienne Meyers (1995-1996, NATO Postdoctoral Fellowship recipient, declined), Harald Röckel (1995-1997, Alexander von Humboldt Foundation, Feodor Lyman Postdoctoral Fellow), Sankaran Thayumanavan (1996-1999), Stephen Barlow (1996-1998), Dianne McCord-Maughon (1996-1997), Katrin Staub (1997-1998), Michael Levin (1997-1998), Dan Dyer (1997-1998), Tim Zhang (1997-1998), Matthew Lipson (1997-1998), Timo Mangel (1997-1998), Timothy Parker (1997-2000), Osamu Tsutsui (1998-1999), Valerie Alain (1998-1999), Kevin Cammack (1998-2000), Yadong Zhang (1998-2001), Markus Halik (1998-2000), Sriram Kumaraswamy (1999-2000), Sheng Li (1999-2001), Wenhui Zhou

(2000-2003), Lisa Dollinger (2000-2001), Timo Meyer-Friedrichsen (2000-2001), Maximilienne Bishop (2001-2002), Sung-Jae Chung (2002-2004), Xiaowei Zhan (2002-2004), Jian-Yang Cho (2002-2004), Bilal Kaafarani (2003-2004), Shijun Zheng (2003-2004), Simon Jones (2003-2004), Luca Beverina (2003-2004, Perilli Fellow), Takashi Okada (2004-2006), Toru Odani (2005-2006), Haichao Zhang (2005-2006), Guojie Wang (2005-2006), Neil Cumpstey (2006-2007), Raghunath Reddy Dasari (2006-2008), Feng Jing (2006-2007), Ali Hayek (2006-2008), Gaëlle Deshayes (2007-2009), Rajneesh Misra (2007-2008), Jonas Jarvholm (2007-2008), Yulia Getmanenko (2007-2008), Richard Mason (2007 -2010), Soo Young Kim (2007-2009), Junxiang Zhang (2008-2009, 2011-2014), Julie Leroy (2008-2009), Hsin-Chieh Lin (2008-2010), Arpornrat ‘Nam’ Nantalaksakul (2009-2011), Annabelle Scarpaci (2009-2011), Suk-Gyu Hahm (2009-2011), Jeong Woo Park (2009), Sang Bok Kim (2009-2010), Jassem Abdallah (2009-2011), Xuyang He (2009-2012), Benjamin Wunsch (2010-2012), Zhen Li (2010), Swagat Mohapatra (2010-2012, and 2018-2019), Song Guo (2009-2012), Anthony Baldridge (2011), Daijun Feng (2011-2013), Iryna Davydenko (2011-2016), Qinqin Shi (2011-2013), Natalia Doubina (2012), Dun-Yen Kang (2012-2013), Jared Delcamp (2012-2013), Kostiantyn Ziabrev (2014-2016), Elena Longhi (2016-2018), Shruti Agarkar (2016-2017), Andre Zeumault (joint with Stingelin/Silva, June 2017-June 2018), Hio-Ieng Un (2019-2020), Aiswarya Abhisek Mohapatra (2021-2024), Victor Brosius (2021-2023), Kan Tang (2021-2023), Farzaneh Saeedifard (2021-2022), Yunping Huang (2022-2025), Suman Kuila (2023-), Pattarawadee Therdkatanyuphong (2023-2024), Debasmita Pariari (2024-), Margherita Taddei (co-advised with Beard, 2024-)

Advisor to Research Scientists – 16 total

Stephen Barlow (2002-present), Simon Jones (2005-2007), Jian-Yang Cho (2005-2006), Xiaowei Zhan (2005-2006), Sung-Jae Chung (2005-2006), Shijun Zheng (2005-2006), Sushanta Pal (2006-2007), Yadong Zhang (2006-present), Arumugasamy Elangovan (2006-2007), Janusz Kowalik (2007-2008), Tissa Sajoto (2008-2011), Mariacristina Rumi (2008-2012), Raghunath “Reddy” Dasari (2008-2022), Yulia Getmanenko (2008-2013), Timothy Parker (2011-2021), Denise Bale (2012-present), Junxiang Zhang (2014-present), Aniruddha Basu (2023-2025), Qing Zhang (2024-present), Lauren Scholz (2024-present)

Research Advisor Undergraduate Students – 115 students

James Spotts (1990-1991), Graham Cummins (1991-1993), James Murdoch (1991), Ingrid Choong (1992-1993), Jen Niessink (1993-1995), Ging S. Lee (1993-1994), Edward Yang (1993), Matthew Perry (1993), Karen Phillips (1994), Susy Kohout (1994-1995), James Quallen (1994-1995), Karen Kustedjo (1995), Lael Erskine (1996-1998), Jeff Mendez (1996-1998), Arjun Mendiratta (1997-1998), Michelle Harris (1997), Mark Slaska (1997), Johanna Schmidtke (2000-2002), Neil Tucker (2001-2003), Greg Walker (2002-2003), Takuhei Yamamoto (2002), Candace George (2002-2003), Aaron Goldberg (2002-2003), Cherise Tidd (2004), Zerubba Levi (2004), Natalie Thompson (2004-2006), Clint South (2004), Jing Su (2005-2006), Vijayalakshmi Sundaram (2005), Aaron Finke (2005), Tehetena Mesganaw (2005-2006), Taina Cleveland (2005), Amanda Cooper (2005 - 2007), Daniel Sweat (2005), Stephanie Tolbert (2005-2006), Ryan Bloomquist (2006), Adam Jakus (2006-2007), Kelly Lefler (2006- 2007), Lindsey Carter (2006), Charneal Dixon (2006), Lauren Hayden (2006-2007), Joielisa Tyler (2006), Erika Abernathy (2007), O’Neil Smith (2007), Erin Stache

(2007), Igor Coropceanu (2007-2008, 2009-2011), Nathaniel Parks (2008), Nathan Hankins (2008), Taylor Giddens (2008), Donavan Thompson (2008), Kristen Brown (2009-2010), Anesia Burns (2009), Akil Foluk (2009), Jeremy Feaster (2009), Brian Seifried (2009-2012), Vashti Campbell (2010), Kenneth Lyons, Jr (2010), Thomas Purcell (2010), Shutong Zhan (2010), Karttikay Moudgil (2010), Marcel Said (2010), Brian Doyle (2010), Wallace Derricotte (2011), Julisha Joyner (2011), Katherine Henry (2011, 2012), Chiara Petrucci (2011), Jianli Zhang (2011 – 2012), Vishwa Ravleker (2011), Ritesh Kumar (2011 – 2012), Wayne Chen (2012-2014), Siyuan Zhang (2012), Catherine Robinson (2012), Emily Li (2012-2013), Abigail Halim (2012), Hamit Eren (2012), Cihan Efe Kilic (2012), Huseyin Erguyven (2012), Anthony Rojas (2012-2014, 2013 Summer 3M REU), Daniel Morales Salazar (2013-2014, 2013 Summer HoP REU), Gabriel Pajares (2013-2014), Devin Friend (2013 Summer MRSEC REU), Phillip Nwachokor (2013 Summer SURF REU), Caleb Ackermann (Fall 2013-2014), Ashleigh Cummings (2013), Leslie Wynn (2014 Summer MRSEC REU), Andres Molina Villarino (2014 Summer 3M/HoP REU), Shantonio Birch (2014 Summer SURE student), Aaron Zahoran (2014-2015), Yanni (John) Anagnostopoulos (2014-present), Erica Bush (2014-2015), Sarah Lau (2014-2015), Shawn Gregory (Spring 2015), Caria Evans (2015 Summer SURE student, 2016 CCHF CSURP, 2017 CCHF CSURP), Sarah Sharpe (2015 Summer HoP REU), Colleen Chen (Spring 2015-Summer 2015), Barbara Witol (Fall 2015), Rivka Jacobs (Fall 2015-2016), Benjamin Faught (I2P program, Fall 2015, Spring 2016), Geoffrey Noh (I2P program, Fall 2015, Spring 2016), Kenneth Yi-Kang Zhang (I2P program, Fall 2015, Spring 2016), Andreas Robertson (Spring 2016, Fall 2016, Spring 2017), Jamieson Pye (Spring 2016, Fall 2016), Arnold Eng (Spring 2016), Adrian Franzzone (Summer 2017), Kaitlin Slicker (Spring 2018 - Spring 2019), Dian Ding (Emory summer student, June 2018-August 2018), Nicholas Johnson (Emory summer student, June 2018-August 2018), Maxwell Conte (Spring 2019-2020), John Pederson (Summer 2019), Chloe Pelkowski (Fall 2019-present), Eleanor “Lily” Turaski (Fall 2019 - 2021), Tehilla Immanuel (2020 – 2020), Griffin Stewart (2020 – 2020), Kathryn Bairley (Summer 2022), John List (Summer 2023, 2024), Kathryn “Kate” Jordan (Summer 2023), Emma Sundberg (2024), Gaia van den Bergh Ferrer (2024) Bailey Roberts (Spring 2024-)

Summer Research Advisor High School Teachers

Paul Groves, high school teacher at South Pasadena High School (1988-1990), Linda Dukes, high school teacher at Tri Cities High School, Fulton County School System (2004), Kimberly Alston, high school teacher at Westlake High School, Fulton County School System (2005)

Research Advisor to High School Students

R. Barney Grubbs (1989-1990), Edward Yang (1991-1992), Eric Liang (1993, 1994-1995), Christina Smith (2006), Linda Willoughby (2007), Thomas Dellaert (2013), Alexander Taylor (2013), Justin Hutchins (ENGAGE student, Summer 2014 – Spring 2015), Brandon Gottlieb (Summer 2017), Thomas Gomez (Summer 2019)

Research Advisor Visiting Students

Fabienne Meyers, visiting graduate student from Université de Mons-Hainaut (March-September 1993, March-May 1994), Thierry Kogej, visiting graduate student from Université de Mons-Hainaut (February-April 1997), Davide D’Atilla, visiting graduate student (March - August 2003), Xamat Barreras, visiting graduate student from Pontificia Universidad Católica

Dé Chile (September-December 2004), Fadi Jradi was a visiting graduate student from American University of Beirut, Lebanon (2008), Shuzo Hirata, visiting graduate student from Tokyo University of Agriculture and Technology (2008), Miquel Planells, visiting exchange student from Institut Català d'Investigació Química (2009), Elena Galan, visiting graduate student from the University of Zaragoza (2010, 2012), Rebecca Hill, visiting graduate student from the Ecole Polytechnique Federale de Lausanne (2010), Wan Yue, visiting student from Institute of Chemistry, Chinese Academy of Sciences (2011), Maria Alejandra Sanchez, visiting student from Universidad de Costa Rica (2011), Jian-Zhang Cheng, visiting student from National Taiwan University (2011-2012), Simon Pascal, visiting student from Ecole Normale Supérieure de Lyon (2012), Cassandre Quinton, Laboratoire Photophysique et Photochimie Supramoléculaires et Macromoléculaires, Cachan, France (November 2012 – April 2013), Sarah Wong, visiting student from Oxford, England (May 2013), Marcin Kielar, Université de Nantes Sciences et Techniques, Nantes, France (May-September 2013), Syeda Shehzadi (June-October 2013), Jay Patel (July-August 2013), Cihan Kilic, Turkey (August-September 2013), Eda Rende, Turkey (August- September 2013), Yeli Fan, School of chemistry and chemical engineering, Southeast University, China (September 2014-March 2016), Yuting Bernice Gao, Institute of Fine Chemicals, East China University of Science and Technology (October 2014-September 2015), Santosh Adhikari (Oklahoma State University, July 2015), Geert Pirotte (Hasselt University, Belgium, August 2016-December 2016), Yao Gong (Peking University, China, July 2016-June 2017), Yi Jia (Tianjin University (TJU) in Tianjin, China November 2016-October 2017), Yinlong Du (Jilin University in Changchun, November 2016-October 2017), Christa Sharabati (American University of Beirut, Lebanon, June 2017-August 2017), Narra Vamsi Krishna (CSIR-Indian Institute of Chemical Technology, August 2017 – October 2017), Staffan Dahlstrom (Åbo Akademi University, September 2017 – December 2017), Yu Yamashita (University of Tokyo, March 2018 – May 2018), Hio-leng Un (Peking University, April 2018 – September 2018), Varunprasaath Selvaraju Ramasamy (Indian Institute of Science – Bangalore, May 2018 – August 2018), Dinesh Bhardwaj (CSIR-National Physical Laboratory, November 2017 – April 2018), Hio-leng Un (Peking University, April 2018- August 2018), Man Him Chak (Hong Kong University of Science and Technology, June 2018 – August 2018), Youquan Fu (Peking University, June 2018 – September 2018), Boqin Zhao (Peking University, July 2018 – September 2018), Runyu Zhu (Peking University, July 2019 – September 2019), Ziqi Zhao (Nankai University, August 2019 – January 2019), Briec Le De (ENS Paris-Saclay, October 2019 – March 2020), Xiuting Li (School of Donghua University, November 2019 – November 2020), Pattarawadee Therdkatanyuphong (Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand, July 2021 – June 2023) Patteera Funchien (Vidyasirimedhi Institute of Science and Technology (VISTEC), Thailand, July 2021 – June 2023), Marvin Schumacher (Summer 2023), Jakub Wagner (Instytut Chemii Organicznej Polskiej Akademii Nauk, October 2024 -)

Host for Visiting Scientists and Postdoctoral Scholars

Dr. Jennifer Green, University of Oxford (February - March 1993), Professor Jean-Luc Brédas, Université de Mons Hainaut (May-June 1993, July-August 1997, 1998), Dr. Mireille Blanchard-Desce, Ecole Normale Supérieure (August 1993, June-August 1994, July 1997), Dr. Robert Montgomery, University of Southern California (September 1993, June 1994), Dr. Joseph Perry, Jet Propulsion Laboratory (1994), Dr. Tatsuo Wada, RIKEN (August 1995),

Professor Siegfried Daehne, Bundesanstalt für Materialforschung und Prüfung (BAM) (June 1996), Professor Girija Subramanian, Pennsylvania State University at Hazleton (June-August 1996, June - July 1997), Professor Marguerite Barzoukas, IPCMS (July-August 1996), Professor Bernard Kippelen, University of Arizona (July-August 1996), Professor Jingui Qin, University of Wuhan, China (August 1996-January 1997), Dr. Maria Helena Vegas (June-July 2000), Andre-Jean Attias (2000), Seiji Kurihara, Japan (2001), Myoungsik Cha, Pusan National University, Korea (December 2001-2003), Peter Gunter, Institute of Quantum Electronics, Switzerland (October - December 2005), Robert Twieg, Kent State University (February-March 2006), Yupeng Tian, Anhui University, China (September 2006-August 2007), Brian Lawrence, Morehouse College (2008-2013), Qing Zhang, Shanghai Jian Tong University, China (2003-2014), Bilal Kaafarani, American University of Beirut, Lebanon (August-September 2009, August-September 2010, August – September 2012, August 2014 – July 2015), Konstantinos Kavallieratos, Florida International University (January – July 2009), Valerie Alain-Rizzo, Laboratoire Photophysique et Photochimie Supramoléculaires et Macromoléculaires, Cachan, France (July-August 2009), Professor Xike Gao, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences (December 2012 – March 2013), Professor Colleen Scott, University of Southern Illinois (June – July 2013, June – July 2014), Mehdi Khodayari (University of Southern Florida, August 2013 – August 2014), Professor Dipak Pinjari (Fulbright Fellow, Institute of Chemical Technology, Mumbai, March 2014 – March 2015), Sheena Zuberi (Cambridge Display Technology, March 2015), Shruti Agarkar (May 2015-September 2016), Professor Toby Nelson (Oklahoma State University, July 2015), Professor Zuoquan Jiang (Soochow University in Suzhou, September 2015-September 2016), Professor Qingxin Tang (Northeast Normal University, Changchun, P. R. China, July 2016-October 2016), Professor Michael Williams (Clark-Atlanta, August 2016-December 2016), Prof. David Jones (University of Melbourne, January 2017 – February 2017), Richard Mason (Albany State University, June 2017 – July 2017), Professor Gitti Frey (Technion, July 2017 – February 2018), Professor Shuzo Hirata (Tokyo Institute of Technology, August 2017 – November 2017), Professor Xiaoyan Gan (Wuhan University of Technology, October 2017 – August 2018), Sebastian Furer (Monash University, September 2018 – November 2018), Samik Jhulki (Fulbright Fellow, Indian Institute of Technology, Kanpur, November 2017 – October 2019), Dugang Chen (Wuhan Institute of Technology September 2019 – August 2020)

Ph.D. Research Committee Member

Rob Kevwitch (1999-2003), Stephanie Pond (1999-2003), Kevin Braun (2000-2003), Christina Bauer (2000-2005) Yingying Huang (2001-2003), Chad Risko (2001-2005), Amalia Leclercq (2002-2006), Robin Kloster (2002-2003), Nisan Siegel (2004-2010), Shannon Watt (2004-2007), Sigifredo Sanchez-Carrera (2004-2008), San-Hui Chi (2004-2009), Kamlesh Nair (2004-2008), Arianna Biesso (2003-2007), Neetu Singh (2005-2008), Kelly Lancaster (2005-2009), Sandeep Patel (2005-2009), Seyhan Salman (2006-2009), Shino Ohira (2007-2009), Mike Salvitti (2007-2008, finished with M.S.), Richard Lawson (2007-2011), Anthony Appleton (2008-2010), Dan Berrigan (2009-2012), Jing Cheng (2009-2013), Ariel Marshall (2009-2014), Stephen Lee (2010-2011), Fan Hu (2010-2014), Ziyin Lin (2010-2014), Robert Brown (2010-2011), Berkley Gryder (2010 – 2013), Bin Mu (2010-2011), Christopher Sutton (2010-2014), Anthony DeSimone (2010-2013), Imani Jones (2011-2013), Chelsea Wyss (2011-2015), Jeannie Yom (2011-2013; finished with M.S.), Brandon Tate (2011-2015), Casey Campbell (2011-2012; finished with M.S.), Khanh Do (2011-2016), Sean Ryno (2011-

2015), Rebecca Giesecking (2011-2015), Luke Johnstone (2011-2018), Yongjin Kim (2011-2013), Craig G. Cameron (2011-2014), Kin Lo (2011-2017), Raynold Shenje (2012-2016), James Ponder (2012-2017), Caroline Grand (2012-2014), Alexander Hyla (2012-2016), James Deininger (2012), Michael Rood (2013-2014), Chaowei Feng (2013-2015), Elizabeth Henry (2013-2014), Keith Carroll (2013), Rylan Wolfe (2013-2018), Taylor Allen (2014-2018), Daniel O'Neil (2014-2018), Brandon Yik (2017-2018), Jiyao Yu (2017-2021), Gabriel Faura (2017-2021), Guanyao Fu (2017-2021), Jiahui Zhang (2017-2021), Hilena Gezahagne (2019-2024), Shawn Gregory (2020-2022); at CU Boulder: Samantha (Sam) Kaczaral (2022-present), Suxuen Yew (2022-present), Manuel "Manny" A Rodriguez III (2023-present), Samantha (Sami) Eyolfson (2024-present)

Prelims for ChBE: Nathanael Ramos (2021), Elizabeth Allan-Cole (2021), Maria Kelly (2021), Trisha Nickerson (2021), Katarina "Kat" Odak (2021), Dami Akinneye (2022), Travis Dong (2022), Brandon Oliphant (2022), Sophie Gerits (2023), Rafael Ferreira de Menezes (2023), Evan Flitz (2023), Jason Pfeilsticker (2023), Zachary Meduna (2024)

SERVICE

University Service

Member, Hazardous Chemical Safety Committee, Caltech (1992 – 1998)

Co-authored draft of proposed projects for President Likin's "Campaign Project" (October 2000)

Co-presenter at Kickoff for "Campaign Arizona", poster on proposed Center for Advanced Nanophotonics Science and Technology (October 2000)

Co-authored a proposal for a Decision Package on Optical Materials Technology (2000)

Member, Proposition 301 Faculty Advisory Committee (2001)

Member, Proposition 301 Imaging Search Committee (2002)

Founding Director, Center for Organic Photonics and Electronics (2003 – 2009)

Member, Georgia Tech Materials Research Council (2004 – present)

Panelist, Faculty Orientation Workshop (2004)

Member, Optics/Photonics Management Committee (2006 – present)

Member, Vice Provost for Academic Diversity Search Committee, Georgia Institute of Technology (2007 – 2008)

Member, Provost's Task for Interdisciplinary, Georgia Institute of Technology (2007 – 2008)

Member, Georgia Institute of Technology Center for Ethics in Science and Technology Advisory Board (2007 – 2008)

Member, Search Committee Director of the Byers Institute for Sustainable Systems and Georgia Research Alliance Eminent Scholar and Hightower Chair for Environmental Technologies (2007 – 2008)

Member, Georgia Tech Executive Board (Elected) (2008 – 2011)

Member, Georgia Tech Faculty Awards Committee (2008 – 2010)

Member, Vice Provost for Academic Diversity Advisory Group (2009 – 2010)

Core Contributor, 2009 Georgia Tech Strategic Plan

Member, Search Committee Executive Vice President for Research (2009 – 2011)

Member, Responsible Conduct of Research Policy Committee / Task Force (2009 – 2010)

Member, Task Force on Innovation and Entrepreneurism / Innovation Task Force (2010 – 2012)

Member, International Advisory Group, GT Global Strategic Plan (2010 – 2012)

Member, Internal Review Committee, MRSEC (2011 – 2012)

Member of the Vice President for Institute Diversity's (VPID) Advisory Board (2011 – present)

Member, Steering Committee, Georgia Tech Materials Institute Initiative (2011 – 2012)

Member, Diversity Symposium Planning Committee (2012 – present)

Speaker, NSF Minority Faculty Development Workshop at GaTech (March 15-18, 2012)

Member, Faculty Steering Committee Georgia Tech Manufacturing Research Center (2012 – 2014)

Member, ChBE Chair Search Committee, Georgia Institute of Technology (2012)

Member, Proposal Review Committee for 2013 Retirement Transitions Legacy Project Competition (2013)

Member, Georgia Tech Institute for Materials (IMAT) Cabinet (2013 – 2015)

Member, Georgia Tech Task Force on Faculty Incentives for Industry Related Research (2013 – 2014)

Member, AVPR Search Committee, (2013)

Member, Honorary Degree and Commencement Speaker Committee, Georgia Institute of Technology (2014-2018)

Member, Black Student Experience Task Force, Georgia Institute of Technology (2015-2016)

Member, Interdisciplinary Programs Council, Georgia Institute of Technology (2016-present)

Member, Hearing Panels for Student Sexual Misconduct, Georgia Institute of Technology (2016-2018)

Fellow, Council of Global Affairs, Georgia Institute of Technology (2016-2019)

Member, Georgia Tech International Advisory Board (2020- 2021)

Member, Georgia Tech's Research Continuity Task Force and Rapid Response to COVID-19 (2020)

Member, Georgia Tech Restarting the Research Enterprise in response to COVID-19 outbreak (2020)

Chair, Institute Director Communications Working Group for the Research and Innovation Office, CU Boulder (2023)

University of Colorado

Member, Executive Board and Energy Liaison Collaboratory, 2021 – present

Co-Chair, Right Here Right Now Climate Summer: co-Hosted by CU-Boulder and UN Human Right Commission Steering Committee, 2021 – present

Member, Director Conflicts of Interest & Commitment Search Committee, 2021

Member, SEEL Safety Committee, 2021- present

Member, Advisory Committee for SEEC Building, 2022 – present

CU-representative for Colorado Energy Research Collaboratory 2021- present

Member, Search Committee for Executive Director of Colorado Energy Research Collaboratory, 2024

Member, Research and Innovation Office Core Facilities Task Force, 2024 – present

Member, Research and Innovation Office Task Force for Core Sustainability, 2024 – present

Member, Institute Representative for the Advisory Committee to the Core Facilities, 2024 – present

Member, Vice Chancellor for Sustainability Search Committee 2024-2025

Member, Executive Director for Sustainability Research Initiative 2024-2025

Departmental Service

Member, Department of Chemistry Organizing Committee for the Marvel Symposium, University of Arizona (2000)

Member, Committee for new Chemistry Building, University of Arizona (2000 – 2003)

Member, NMR Committee, University of Arizona (1999 – 2003)

Co-authored a brief presenting the need for and projecting impacts of the Chemistry Research Annex for Dean Levy (2000)

Member, Proposition 301 Initiative (2001)

Chemistry Department Head's Cabinet Committee (2001)

Proposition 301 Polymer Optics Search Committee (2001)

Development Committee, Chairman (2002)

Department of Chemistry Executive Committee (2002 – 2003)

Member, School of Chemistry and Biochemistry Awards Committee, Georgia Institute of Technology (2003 – 2005)

Chair, School of Chemistry and Biochemistry New “MS&E” Building Committee, Georgia Institute of Technology (2003 – 2007)

Member, School of Chemistry and Biochemistry Faculty Search Committee, Georgia Institute of Technology (2004 – 2007, 2010-2011, 2013-2014, 2014-2015, 2016-2017, 2016-2017, 2017-2018, 2018-2019, 2019-2020)

School of Chemistry and Biochemistry's representative to the General Faculty Assembly/Academic Senate (2006 – 2008)

Member, School of Materials Science and Engineering Faculty Search Committee, Georgia Institute of Technology (2006 – 2008)

Member, School of Materials Science and Engineering Faculty Chair Advisory Committee, Georgia Institute of Technology (2006 – 2007)

Member, School of Chemistry and Biochemistry Reappointment, Promotion and Tenure Committee (2007 – 2008)

Chair, School of Chemistry and Biochemistry Development Committee (2007 – 2010)

Member, School of Chemistry and Biochemistry Development Committee (2010 – 2016)

Member, School of Chemistry and Biochemistry Services Committee (2008 – 2010)

Member, School of Chemistry and Biochemistry Executive Committee (2008 – 2012)

Member, School of Chemistry and Biochemistry Safety and Security Committee (2010 – 2016)

Chair, School of Chemistry and Biochemistry Organic Division Committee (2010 – 2012)

Member, School of Chemistry and Biochemistry Seminar Committee (2014 – 2016)

Member, School of Chemical & Biomolecular Engineering Area Committee (2014)

Member, School of Chemistry and Biochemistry Safety and Sustainability Committee (2016 – 2019)

Member, Mentoring Committee for Junior Faculty; Amanda Stockton, 2015-present; Pamela Peralta-Yahya, 2015-present; Will Gutekunst, 2016-present; Henry La Pierre, 2016-present; Vinayak Agarwal, 2017-present

Member, School of Chemistry and Biochemistry Retention Promotion Tenure Committee (2017 – present; served as Chair (elected) in 2019-2020)

Member, School of Chemistry and Biochemistry Strategic Planning Committee (2017- 2018)

Member, School of Chemistry and Biochemistry Safety and Risk Management Committee (2019 – 2020)

Member, MSE Assistant and Associate Professor Mentoring Program; Juan-Pablo Correa-Baena, 2019-2021; Dong Qin, 2019-present; Faisal Alamgir, 2019-2021

Member, SEEL Safety Committee, 2021- present

Community Service

Speaker, South Pasadena High School, Science Club (1990)

Reviewer, EUREKA Undergraduate Student Research Conference, California Institute of Technology (1990)

Member, American Chemical Society, Division of Inorganic Chemistry Nominations Committee (1997)

Speaker for forum at Arizona Legislature on Advances in Science and Technology (October 2001)

Speaker, University of Arizona - Science Teacher Lecture Series, "21st Century Plastics: A New Frontier for Electronics and Photonics" (March 21, 2002)

Speaker Georgia Institute of Technology- President's Retreat (August 2003)

Seimans Science Fair Competition, Dinner Speaker (November 2004)

Tri-Cities High School Guest Speaker for 50 students from Chemistry, AP Chemistry and AP Physics (November 2004)

Seminar Speaker at Tri-Cities High School (Atlanta, GA) on Opportunities in Science (November 2005)

Lecture on Opportunities Organic Photonics and Electronics for Norfolk State and Georgia Tech REU students (June 2005)

Presentation to Langston Hughes High School (LHHS) students, "Research with-in STEM areas and how they are interdisciplinary" (December 2010)

Advisory Service

Member, NASA Steering Committee to review the "High Performance Polymers and Ceramics" Center at Clark Atlanta University as part of NASA's program to enhance research competitiveness at historically black colleges and universities (1992, 1993)

Member, Department of Energy peer review panel for the "Materials Sciences Program" of The Energy's Office of Basic Sciences (October 19-21, 1993)

Member National Assessment Governing Board Discussion Forum (May 2005)

Member of Board of Governors, National GEM Consortium (2005 – 2012)

Member, Advisory Committee, Ph.D. program for Advanced Materials Science, Norfolk State University (2007 – 2012)

Member External Review Panel, Cornell University MRSEC (2007)

Member, Advisory Board, Georgia Center for Ethics and Technology (2007 – 2020)

Member, Scientific Advisory Board, Lumera Corporation (2003 – 2007)

Member, US Department of Commerce Emerging Technology and Research Advisory Committee (ETRAC) (2008 – 2012), appointed by the Secretary of Commerce

Member, Advisory Committee, DOE Energy Frontier Research Center, Center for Excitonics, MIT (2010 – 2016)

Chair, Panel 2, MRSEC Reverse Site Visit (2011)

Member, Optics and Photonics Subcommittee of the Mathematics and Physical Sciences Advisory Committee (2013-2015)

Member, Scientific Advisory Board, Innovative Training Network (ITN) EXCILIGHT funded by the Horizon 2020 program, University of Strathclyde (2016-present)

Member, MRS Award Nomination Subcommittee of the Member Engagement Committee (2016-2019)

Chair, AQAD External Review Committee, Department of Chemistry at University of Massachusetts, Amherst (2017)

Member External Review Committee, Department of Chemistry at University of North Carolina, Chapel Hill (2019)

Interdisciplinary Committee of the World Cultural Council (years are intentionally not defined)

Member, Alliance for Energy Science and Technology Committee (to review scientific and technological progress at NREL), 2022 – present

Member External Review Committee, Department of Chemistry at University of Kentucky Lexington, KY (2023)

CU-representative for Alliance for Sustainable Energy, Scientific Advisory Committee for NREL (2021-present)

COMMITTEES AND REVIEW ACTIVITIES

Meetings Organized

1. New Materials for Nonlinear Optics: American Chemical Society National Meeting in Boston, MA, April 22-27, 1990. Co-Organizers: G. Stucky, J. Sohn and S. R. Marder
2. Molecular and Biomolecular Electronics: American Chemical Society National Meeting in New York, NY, August 25-30, 1991. Organized Session on Nonlinear Optics. Overall symposium organized by R. Birge
3. Organic Materials for Nonlinear Optical Applications: Materials Research Society in San Francisco, CA, April 1993. Co-Organizers: C. Moylen, R. Lytel and S. R. Marder
4. The First NSF-Sponsored Materials Chemistry Workshop in Albuquerque, NM, October 21-24, 1993. Member of the Selection Committee. Co-Organizers: M. J. Hampden-Smith and W. E. Buhro
5. Organic, Metalloorganic and Polymeric Materials for Nonlinear Optical Applications. OE LASE Meeting in Los Angeles, CA, January 1994. Co-Organizers: J. W. Perry and S. R. Marder
6. Optical Interactions with Condensed Matter and Ultrafast Phenomena: IQEC Meeting in Anaheim, CA, May 1994. Member of the Program Committee. Chairman: N. Peyghambarian
7. Polymeric Thin Films for Photonic Applications: American Chemical Society National Meeting in Washington, DC, August 21-24, 1994. Member of the Technical Program Committee. Chairman: G. Lindsay

8. The Second NSF-Sponsored Materials Chemistry Workshop: St. Louis, MO, October 13-16, 1994. Member of the Selection Committee and discussion leader. Co-Organizers: M. J. Hampden-Smith and W. E. Buhro
9. Thin Films for Integrated Optics Applications: Materials Research Society: San Francisco, CA, April 1995. Co-Organizers: D. M. Walba, B. W. Wessels and S. R. Marder
10. Polymeric and Organic Materials: Solid State Properties and Smart Materials: American Chemical Society National Meeting in Anaheim, CA, April 1995. Member of the Technical Committee. Organizers: C. Lee, R. Singler, A. K.-Y. Jen and J. Reynolds
11. Polymeric Thin Films for Photonic Applications: Optical Society of America National Meeting in Portland, OR, September 4-7, 1995. Member of the Technical Program Committee. Chairman: G. Stegeman
12. The Third NSF-Sponsored Materials Chemistry Workshop: San Jose, CA, October 19-22, 1995. Principal Investigator. Co-Chairman: R. Twieg and T. Swager
13. Polymeric Thin Films for Photonic Applications: American Chemical Society National Meeting in Orlando, FL, August 25-30, 1996. Member of the Technical Program Committee. Chairman: H. Lackritz
14. The Fourth NSF-Sponsored Materials Chemistry Workshop: Philadelphia, PA, October 17-20, 1996. Principal Investigator. Co-Chairman: R. Twieg and T. Swager
15. Third International Conference on Organic Nonlinear Optics: Marco Island, FL, December 15- 20, 1996. Member of the Program Committee. Chair: K. Singer
16. The Fifth NSF-Sponsored Materials Chemistry Workshop: Pasadena, CA, October 16-19, 1997. Principal Investigator. Co-Chairman: R. Twieg and T. Swager
17. Polymer/Photonic Devices Symposium, Photonics West 1998: San Jose, CA, January 1998, Member of the Program Committee. Chair: B. Kippelen
18. Micro- and Nano-photonic Materials and Devices (OE02): San Jose, CA, January 2000, Member of the Program Committee. Co-Chairs: J. W. Perry and A. Scherer
19. Polymer/Photonic Devices Symposium, Photonics West 2000: San Jose, CA, January 2000, Member of the Program Committee. Chair: B. Kippelen
20. Polymer/Photonic Devices Symposium, Photonics West 2001: San Jose, CA, January 2001, Member of the Program Committee. Chair: B. Kippelen
21. International Forum on Nanotechnology: Toward the Organic Photonics: Hokkaido, Japan, September 2001, Member of the International Advisory Board
22. Sixth International Conference on Organic Nonlinear Optics: Tucson, AZ, December 16-19, 2001, Member of the Organizing Committee, Chair
23. Polymer/Photonic Devices Symposium, Photonics West 2002: San Jose, CA, January 2002, Member of the Program Committee. Chair: B. Kippelen
24. Organic Photonic Materials and Devices V Conference, Photonics West 2003: San Jose, CA, January 2003, Member of the Program Committee. Chair: T. Kaino
25. Third International Conference of Optical Power Limiting: Sedona, AZ, September 2003, Member of the Organizing Committee. Chair: J. Perry

26. Seventh International Conference on Organic Nonlinear Optics/International Conference on Organic Photonics and Electronics: Sorak National Park, Korea, November 2003, Member of the Scientific Advisory Committee. Chair: N. Kim
27. Symposia on Multiphoton Absorption, Nonlinear Transmission at the Annual International Society for Optical Engineering Meeting, August 2003, San Diego, CA, Scientific Committee, F. Kajzar, Chair
28. Organic Photonic Materials and Devices V Conference, Photonics West 2004: San Jose, CA, January 2004, Member of the Program Committee. Co-Chairs: T. Kaino and J. Grote
29. Symposia on Multiphoton Absorption, Nonlinear Transmission at the Annual International Society for Optical Engineering Meeting, August 2004, Denver, CO, Member of the Scientific Committee. Co-Chairs: F. Kajzar, K. Belfield, and C. M. Lawson
30. International Conference on Organic Photonics and Electronics 2005/ Eighth International Conference on Organic Nonlinear Optics/Sorak Matsushima Japan, March 7 - 11, 2005, Member of the Scientific Advisory Committee, T. Kaino, Chair
31. SPIE Conference on Nonlinear Optical Transmission and Multiphoton Processes in Organics III, SPIE International Symposium on Optics and Photonics 2005, (formerly the International Symposium on Optical Science and Technology, SPIE's Annual Meeting), San Diego Convention Center, San Diego, CA, July 31 - August 4, 2005, Member of the 2005 Program Committee
32. 2005 Optics Valley of China International Symposium on Optoelectronics, Wuhan Science & Technology Convention and Exhibition Center, Optics Valley of China, Wuhan, Hubei, P.R. China, November 2005, Member of the Program Committee
33. Third International Conference on Photonic Materials and Devices: Val-Thorens, France, January 15 - 18, 2006, Two-Photon Absorption II, Chair
34. Photonics West, Organic Photonic Materials and Devices VIII (OE03), San Jose, CA, January 21-26, 2006, Member of the Program Committee
35. International Symposium on Optical Power Limiting and Intensity Dependent Optical Processes: Dingle, Co. Kerry, Ireland, July 2 - July 7, 2006, Member of the Scientific Program Committee
36. SPIE Conference on Organic Photonics and Electronics: San Diego, CA, August 13 - 17, 2006, Member of the Program Committee. Chair: A. Todd Yeates
37. Ninth International Conference on Organic Nonlinear Optics/International Conference on Organic Photonics and Electronics: Brugges, Belgium, September 2006, Member of the Scientific Advisory Committee. Chair: A. Persoons
38. The First Solvay-COPE Symposium on Organic Electronics, May 2007, Atlanta GA. Co-Chairs: J. L. Brédas and S. R. Marder
39. Photonics West, Organic Photonic Materials and Devices X: San Jose, CA, January 2008, Member of the Program Committee. Chair: R. L. Nelson
40. Tenth International Conference on Organic Nonlinear Optics/International Conference on Organic Photonics and Electronics 2008: Santa Fe, NM, May 2008, Member of the Local Organizing Committee. Co-Chairs: R. Tweig and K. Singer

41. The Second Solvay-COPE Symposium on Organic Electronics: May 2008, Atlanta GA. Co-Chairs: J. L. Brédas and S. R. Marder
42. SPIE Organic Photonic Materials and Devices XI (OPTO) Conference (OE103) Photonics West 2009 Conference: January 24-29, 2009, San Jose, CA, Member of the Program Committee. Co-Chairs: R. L. Nelson, F. Kajzar and T. Kaino
43. 5th International Symposium on Materials and Devices for Nonlinear Optics (ISOPL'5): June 2009, Ile de Porquerolles, France, Member of the International Advisory Committee. Co-Chairs: C. Andraud, F. Charra, and F. Kajzar
44. International Conference on Organic Photonics and Electronics/ Eleventh International Conference on Organic and Nonlinear Optics (ICOPE 2009/ICONO'11): September 2009, Beijing, China, Member of the International Scientific Advisory Board. Co-Chairs: X.-M. Duan, X.-T. Tao, and Y.-Q. Liu
45. 9th International Symposium on Functional π -Electron Systems (F- π -9), Georgia Institute of Technology, Atlanta, GA, May 23-28, 2010. Co-Chairs: S. R. Marder and J. L. Bredas
46. SPIE International Symposium on SPIE OPTO: Optoelectronic Materials, Devices and Applications, January 22-27, 2011, San Francisco, CA. Member of the Program Committee: Organic Photonic Materials and Devices XIII (OE 103). Conference Chairs: R. L. Nelson, F. Kajzar, T. Kaino, and Y. Koike
47. AAAS Symposium on "Frontiers in Organic Materials for Information Processing, Energy and Sensors", Washington DC, USA, February 17-21, 2011. Co-Chairs: S. R. Marder, J. L. Brédas, and T. Marks
48. 10th International Symposium on Functional π -Electron Systems (F- π -10): October 2011, Beijing, China. Member of the International Advisory Board. Co-Chairs: X. Zhang and D. Zhang
49. International Workshop on Nano and Bio-Photonics (IWNBP) organized jointly with French-Korean Meeting on Functional Material for Organic Optics, Electronics and Devices (FUNMOOD), St Germain au Mont d'Or, France, October 23-28, 2011, Member of the International Scientific Committee. Co-Chairs: C. Andraud and F. Kazjar, Chairs, F. Charra and I. Rau
50. International Symposium on Electronic/Optic Functional Molecules (ISEOFM), held in Shanghai, China, March 11-13, 2012, member of the International Advisory Board. Co-Chairman: He Tian
51. The Electronic Processes in Organic Materials Gordon Research Conference, June 3-8, 2012, Lucca (Barga), Italy. Co-Chairs: S. R. Marder and R. Janssen. Co-Vice Chairs: G. G. Malliaras and R. H. Friend
52. IEEE Photovoltaic Specialist Conference, Austin, TX, June 3-8, 2012, member of the OPV sessions organizational team, Chair: B. J. Stanbery
53. OSA Nonlinear Photonics Conference 2012, Colorado Springs, CO, June 17-21, 2012. Member of the NLO Materials Subcommittee.
54. International Conference on Science and Technology of Synthetic Metals 2012 (ICSM 2012), Atlanta, GA, July 8-13, 2012. Co-Chairs: J. L. Bredas and S. R. Marder

55. Excitonic Solar Cells Conference, Queensland, Australia, September 4-7, 2012. Member of the International Advisory Committee. Co-Chairs: Ming Chen, Scott Watkins and Paul Burn.
56. International Conference on Bioinspired and Biobased Chemistry & Materials, Nice, France, October 3-5, 2012. Member of the Scientific Committee. Chair: Frederic Guittard
57. Photonics West 2013 OPTO OE104 Organic Photonic Materials and Devices XV conference, San Francisco, CA, February 2-7, 2013. Member of the Program Committee. Conference Chairs: Christopher E. Tabor, Francois Kajzar, Toshikuni Kaino, and Yasuhiro Koike
58. First Annual Southeast Regional Energy Symposium (SERES), July 14-15, 2013, Atlanta, GA. Member of the Local Organizing Committee. Conference Chair: Elsa Reichmanis
59. The 15th IUPAC International Symposium on Macromolecular Complexes (MMC-15:2013), Clemson, SC, August 13-16, 2013. Member of the Local Organizing Committee. Conference Chairs: Anthony (Tony) Guiseppi-Elie and Stephen (Steve) E. Creager
60. The 12th European Conference on Molecular Electronics (ECME), London, UK, September 3-7, 2013. Member of the International Advisory Board. Conference Chairs: Natalie Stingelin, Sandrine Heutz and Sophie Armstrong-Brown
61. SPIE Photonics West 2014 OPTO OE104 Organic Photonic Materials and Devices XVI conference on Virtual Track: Solid State Lighting and Displays, San Francisco, CA, February 1-6, 2014. Member of the Program Organizing Committee. Conference Chairs: Christopher Tabor, Francois Kajzar, Toshikuni Kaino, and Yasuhiro Koike
62. Electronic Processes in Organic Materials Gordon Research Conference, May 4-9, 2014, Lucca (Barga), Italy. Conference Chairs: Seth R. Marder and Rene A. Janssen. Co-Vice Chairs: Natalie Stingelin-Stutzmann and David Ginger
63. International Conference on Science and Technology of Synthetic Metals 2014 (ICSM 2014), Turku, Finland, June 30–July 6, 2014. Member of the International Advisory Committee
64. Photonics West, 2015 OE104 Organic Photonic Materials and Devices XVII, San Francisco, CA, February 7-12, 2015. Member of the Program Committee. Conference Chairs: Christopher Tabor, Francois Kajzar, Toshikuni Kaino, Yasuhiro Koike
65. Symposium AA: Organic Semiconductors: Surface, Interface, and Bulk Doping, 2015 MRS Fall Meeting, November 29 – December 4, 2015. Symposium Organizer. Conference Chairs: John Balk, Ram Devanathan, George Malliaras, Larry Nagahara, Luisa Torsi
66. SPIE Photonics West OPTO 2016 Organic Photonic Materials and Devices XVIII conference (OE104), San Francisco, CA, February 13-18, 2016. Member of the Program Committee. Conference Chairs: Christopher Tabor, Francois Kajzar, Toshikuni Kaino, Yasuhiro Koike
67. International Conference on Science and Technology of Synthetic Metals 2016 (ICSM 2016), Guangzhou, China, June 26 – July 1, 2016. Member of the International Advisory Board. Chair: Yingjun Wang
68. SPIE Photonics West OPTO 2017 Organic Photonic Materials and Devices XIX conference (OE104), San Francisco, CA, January 28 – February 2, 2017. Member of the Program

- Committee. Conference Chairs: Christopher Tabor, Francois Kajzar, Toshikuni Kaino, Yasuhiro Koike
69. International Symposium of Materials Horizons, Beijing, China, June 2-4, 2017. Co-Chairs: Deqing Zhang, Lanqun Mao and Seth Marder
 70. 13th International Symposium on Functional π -Electron Systems (F- π -13): June 4-9, 2017, Hong Kong. Member of the International Advisory Board. Co-Chairs: H. Yan and B. Z. Tang
 71. International Symposium of Materials Horizons, Tsukuba, Japan, November 15-17, 2017. Co-Chairs: Deqing Zhang, Lanqun Mao and Seth Marder
 72. Symposium EM1: Organic Semiconductors - Surface, Interface, Bulk Doping and Charge Transport, 2017 MRS Fall Meeting, November 26 – December 1, 2017. Symposium Organizer. Conference Chairs: Ilke Arslan, Jason Burdick, Tao Deng, James Hannon, Sanjay Mathur
 73. International Conference on Science and Technology of Synthetic Metals 2018 (ICSM 2018), Busan, Korea, July 1-7, 2018. Member of the International Advisory Board (IAB). Chair: Yung Woo Park
 74. Photovoltaics Workshop. Monash University – Georgia Tech Photovoltaic workshop series, held at Georgia Tech (June 13-14, 2019) and Monash University (December 12-13, 2019). Workshop Organizer, along with Giovanni Deluca and Udo Bach.
 75. 93rd American Chemical Society (ACS) Colloid & Surface Science Symposium, Atlanta, GA, June 16-19, 2019. Co-Chairs: Sven Behrens, Valeria Milam, Seth Marder
 76. Symposium EL07: Coulomb Interactions in Functional Organic Materials and Devices—A Curse or a Blessing? 2020 MRS Fall Meeting, held virtually, November 29 – December 4, 2020. Symposium Organizer, along with Frank Ortmann, Thuc-Quyen Nguyen, and Lay Lay Chua.
 77. International Conference on Organic Photonics and Electronics / Thirteenth International Conference on Organic and Nonlinear Optics (ICOPE2020 / ICONO13): Originally scheduled for May 19-22, 2020 but was postponed, to be held at the Nara Kasugano International Forum, Nara, Japan, Member of the International Committee. Chair: Akira Otomo
 78. 9th Annual 21st Century Energy Transition Symposium hosted by the Colorado Energy Research Collaboratory, held virtually, May 4-5, 2021. Steering Committee member, along with Bryan Willson, Mary McInnis-Efaw, Mike Kruger, Peter Eberle, Ellen Morris, Roy Hartstein, Gregor Henze, Carrie Eckert, Thomas Bradley, David Mooney, Ryan Richards, Kipp Coddington
 79. 15th International Symposium on Functional π -Electron Systems (F- π -15): June 17-21, 2023, Raleigh, North Carolina. Member of the International Advisory Board. Co-Chairs: H. Ade, O. Jurchescu, and W. You

Journal Editorship

Member, Board of Reviewing Editors, *Science*, 1995-1999

Member, Editorial Board, *Chemistry of Materials*, 1995-2000

Guest Editor (with N. Peyghambarian, Y. Koike, A. Persoons), "Special Issue on Organic for Photonics" eds., *IEEE Journal of Selected Topics in Quantum Electronics* 7, 757 (2001)

Guest Editor (with J.L. Brédas), *Advanced Functional Materials*, 2002 issue dedicated to *Nonlinear Optics*

Member, Editorial Board, *Nonlinear Optics, Quantum Optics*, 2003 – present

Member, Editorial Advisory Board, *Chemical Communications*, 2006 – 2009

Member, Editorial International Board, *Journal of Materials Chemistry*, 2007 – 2011

Member, Editorial Advisory Board, *Advanced Functional Materials*, 2008 – 2018

Guest Editor, *Journal of Material Chemistry*, 2009 issue dedicated to *Nonlinear Optics*

Member, Editorial Advisory Board, *Chemistry of Materials*, 2010 – 2015

Co-Editor, *Chemistry of Materials*, Special Issue on π -Functional Materials, 2011

Chair, Editorial Board, *Royal Society of Chemistry, Journal of Materials Chemistry*, 2011

Member, Editorial Advisory Board, *Journal of Organic Photonics and Photovoltaics*, 2012 – 2018

Chair, Editorial Board, *Royal Society of Chemistry, Materials Horizons*, 2013 – 2021

Member, Advisory Board, *Royal Society of Chemistry, Journal of Materials Chemistry C*, 2013 – present

Guest Editor, *Journal of Polymer Science Part A: Polymer Chemistry*, 2017 Special Issue dedicated in Honor of Professor Ben Zhong Tang

Member, Editorial Board, World Scientific Publishing Company Materials and Energy Series, 2017 – present

Advisory Board Member, *Royal Society of Chemistry, Materials Advances*, 2020 – present

Member, Advisory Board, *Royal Society of Chemistry, Materials Horizons*, 2021 – present

Editorial Reviewer

Science; Nature Materials; Journal of the American Chemical Society; Angewandte Chemie; Chemische Berichte; Journal of Physical Chemistry; Chemistry of Materials; Organometallics; Journal of Organic Chemistry; Chemical Reviews; Chemical Physics; Journal of the Chemical Society, Faraday Transactions; Macromolecules; Optics Letters; Advanced Materials; American Chemical Society Books Department; Trends in Polymer Science; International Journal of Quantum Chemistry; Oxford University Press; Nonlinear Optics; Journal of the Optical Society of America; New Journal of Chemistry; Chemical Physics Letters; Advanced Functional Materials; Chemistry, A European Journal; Journal of the Chemical Society, Chemical Communications; Synthetic Metals; Optics Communications; Synthetic Metals; Organic Letters; Langmuir; Tetrahedron Letters; Molecular Crystals, Liquid Crystals; Organic Electronics; ACS Applied Materials and Interfaces; Materials Horizons; Crystal Growth & Design

Proposal/Program Reviewer

National Science Foundation, Department of Energy, NASA, Keck Foundation, Petroleum Research Fund, International Science Foundation, Research Corporation, Research Grants Council of Hong Kong, Air Force Office of Scientific Research, National Institutes of Health, Stanford University (Global Climate Energy Project), DFG Review Panel for German Excellence Initiative, Gordon Research Conferences, Cariplo Foundation,

Consulting

6/12 – 7/12	TIF Management LLC
8/11 – 9/11	Osram GmbH
8/10 – 12/11	Nitto Denko Technical Corporation
2/10 – 4/10	Nitto Denko Technical Corporation
1/08 – 12/12	Solvay, SA
3/07 – 3/08	Nitto Denko Technical Corporation
5/04 – 2013	LumoFlex (founder)
5/03 – 8/08	Vice President, Focal Point Microsystems (founder)
6/03 – 4/08	Scientific Advisory Board, Lumera Corporation
6/00 – 8/08	Arizona Microsystems, L.L.C. Tucson, AZ (founder)
5/98 – 7/99	SIROS Corporation, San Jose, CA
3/97 – 3/98	Gemfire Inc., Palo Alto, CA
11/95 – 11/96	Hewlett-Packard Corporation, San Diego, CA
9/95 – 9/96	ROITechnologies, Monmouth Junction, NJ
5/95 – 12/96	Anteon (Lawrence Associates Inc.), Dayton, OH
9/94 – 8/95	Akzo Nobel, Electronic Products, Arnhem, The Netherlands
1/94 – 1/96	Scientific Advisor for Electronic Optic and Magnetic Consortium, MSI Incorporated, San Diego, CA

PUBLICATIONS

Journals

1. "HPLC Determination of Erthyorbate in Cured Meats." K. Lee, S. R. Marder, *J. Food Sci.* **48**, 306-307 (1983, DOI: [10.1111/j.1365-2621.1983.tb14863.x](https://doi.org/10.1111/j.1365-2621.1983.tb14863.x))
2. "Reactions of a Cationic Bridging Methylidyne-Iron Complex with Carbon Monoxide and with Alkenes." C. P. Casey, P. J. Fagan, W. M. Miles, S. R. Marder, *J. Mol. Catal.* **21**, 173-188 (1983, DOI: [10.1016/0304-5102\(93\)80118-E](https://doi.org/10.1016/0304-5102(93)80118-E))
3. "Rearrangement of Bridging Alkylidyneiron Complexes to Bridging Alkenyliron Complexes." C. P. Casey, S. R. Marder, P. J. Fagan, *J. Am. Chem. Soc.* **105**, 7197-7198 (1983, DOI: [10.1021/ja00362a044](https://doi.org/10.1021/ja00362a044))

4. "Mechanism of Carbon-Carbon Bond Formation in the Reaction of 1,2-Disubstituted Alkenes with a Cationic Bridging Methylidyne Iron Complex." C. P. Casey, M. W. Meszaros, S. R. Marder, P. J. Fagan, *J. Am. Chem. Soc.* **106**, 3680-3681 (1984, DOI: [10.1021/ja00324a050](https://doi.org/10.1021/ja00324a050))
5. "Synthesis and Reactions of Bridging (Vinylcarbyne)diiron Complexes." C. P. Casey, S. R. Marder, *Organometallics* **4**, 411-413 (1985, DOI: [10.1021/om00121a044](https://doi.org/10.1021/om00121a044))
6. "Interconversion of μ -Alkylidyne and μ -Alkenyl Diiron Complexes." C. P. Casey, S. R. Marder, B. R. Adams, *J. Am. Chem. Soc.* **107**, 7700-7705 (1985, DOI: [10.1021/ja00311a079](https://doi.org/10.1021/ja00311a079))
7. "Synthesis of $\{[(C_5H_5)_2(CO)_2Fe_2(\mu-CO)]_2(\mu-C_3H_3)\}^+PF_6^-$ by Reaction of a Diiron Bridging Methylidyne Complex with a Diiron Bridging Ethenylidene Complex." C. P. Casey, S. R. Marder, A. L. Rheingold, *Organometallics* **4**, 762-766 (1985, DOI: [10.1021/om00123a025](https://doi.org/10.1021/om00123a025))
8. "Conversion of Diiron Bridging Alkenyl Complexes to Monoiron Alkenyl Compounds and to Alkenes." C. P. Casey, S. R. Marder, R. E. Colborn, P. A. Goodson, *Organometallics* **5**, 199-203 (1986, DOI: [10.1021/om00133a004](https://doi.org/10.1021/om00133a004))
9. "Hydrocarbation-Formation of Diiron μ -Alkylidyne Complexes from the Addition of the Carbon-Hydrogen Bond of a μ -Methylidyne Complex Across Alkenes." C. P. Casey, M. W. Meszaros, P. J. Fagan, R. K. Bly, S. R. Marder, E. A. Austin, *J. Am. Chem. Soc.* **108**, 4043-4053 (1986, DOI: [10.1021/ja00274a032](https://doi.org/10.1021/ja00274a032))
10. "Reaction of a Diiron μ -Methylidyne Complex with 1,2-Disubstituted Alkenes." C. P. Casey, M. W. Meszaros, S. R. Marder, R. K. Bly, P. J. Fagan, *Organometallics* **5**, 1873-1879 (1986, DOI: [10.1021/om00140a020](https://doi.org/10.1021/om00140a020))
11. "Synthesis and Structure of (*cis*)-[1-ferrocenyl-2-(4-nitrophenyl)ethylene], an Organotransition Metal Compound with a Large Second-Order Optical Nonlinearity." M. L. H. Green, S. R. Marder, M. E. Thompson, J. A. Bandy, D. Bloor, P. V. Kolinsky, R. J. Jones, *Nature* **330**, 360-362 (1987, DOI: [10.1038/330360a0](https://doi.org/10.1038/330360a0))
12. "Synthesis and Electrochemistry of Di- η^5 -cyclopentadienyl-tungsten(IV) and Molybdenum-(IV) Crown Ether Complexes." E. Fu, M. L. H. Green, V. J. Lowe, S. R. Marder, *J. Organomet. Chem.* **341**, C39-C44 (1988, DOI: [10.1016/0022-328X\(88\)89120-4](https://doi.org/10.1016/0022-328X(88)89120-4))
13. "Synthesis of Cationic Diiron μ -Vinylcarbyne Complexes." C. P. Casey, M. S. Konings, S. R. Marder, *Polyhedron* **7**, 881-902 (1988, DOI: [10.1016/S0277-5387\(00\)86310-X](https://doi.org/10.1016/S0277-5387(00)86310-X))
14. "Addition of Nucleophiles to Cationic Diiron μ -Vinylcarbyne Complexes; Synthesis of Functionalized Diiron μ -Alkenylidene Complexes." C. P. Casey, M. S. Konings, S. R. Marder, *J. Organomet. Chem.* **345**, 125-134 (1988, DOI: [10.1016/0022-328X\(88\)80241-9](https://doi.org/10.1016/0022-328X(88)80241-9))
15. "Reactions of Heteroatom and Carbon Nucleophiles with the Cationic Bridging Methylidyne Complex $\{[(C_5H_5)(CO)Fe]_2(\mu-CO)(\mu-CH)\}^+PF_6^-$." C. P. Casey, M. Crocker, P. C. Vosejka, P. J. Fagan, S. R. Marder, M. A. Gohdes, *Organometallics* **7**, 670-675 (1988, DOI: [10.1021/om00093a016](https://doi.org/10.1021/om00093a016))

16. "Effects of Sodium Ions on the Molecular Dynamics of Bis(aza-15-crown-5)thiuram Disulphide." M. L. H. Green, S. R. Marder, G. C. Saunders, N. W. Walker, *J. Chem. Soc., Dalton Trans.* **6**, 1697-1699 (1988, DOI: [10.1039/DT9880001697](https://doi.org/10.1039/DT9880001697))
17. "Polymer Synthesis Through Stable Organometallic Complexes." R. H. Grubbs, F. L. Klavetter, B. M. Novak, W. K. Risse, S. R. Marder, *Polym. Mater. Sci. Eng.* **58**, 90-91 (1988)
18. "Diiron μ -Vinylcarbyne Complexes Have Unusually Low Barriers to Vinyl Rotation Because Conjugation is Maintained Throughout Rotation." C. P. Casey, M. S. Konings, S. R. Marder, Y. Takezawa, *J. Organomet. Chem.* **358** (1-3), 347-361 (1988, DOI: [10.1016/0022-328X\(88\)87089-X](https://doi.org/10.1016/0022-328X(88)87089-X))
19. "Synthetic and Electrochemical Studies on Electroactive Ionophores Based on the Di- η -cyclopentadienyl-molybdenum and -Tungsten Fragments." E. Fu, J. Granell, M. L. H. Green, V. J. Lowe, S. R. Marder, G. C. Saunders, M. Tuddenham, *J. Organomet. Chem.* **355** (1-3), 205-217 (1988, DOI: [10.1016/0022-328X\(88\)89023-5](https://doi.org/10.1016/0022-328X(88)89023-5))
20. "Synthesis of Organic Salts with Large Second-Order Optical Nonlinearities." S. R. Marder, J. W. Perry, W. P. Schaefer, *Science* **245** (4918), 626-628 (1989, DOI: [10.1126/science.245.4918.626](https://doi.org/10.1126/science.245.4918.626))
21. "Poly(trimethylsilylcyclooctatetraene): A Soluble Conjugated Polyacetylene via Olefin Metathesis." E. J. Ginsburg, C. B. Gorman, S. R. Marder, R. H. Grubbs, *J. Am. Chem. Soc.* **111** (19), 7621-7622 (1989, DOI: [10.1021/ja00201a057](https://doi.org/10.1021/ja00201a057))
22. "Highly Conjugated, Substituted Polyacetylenes via the Ring-Opening Metathesis Polymerization of Substituted Cyclooctatetraenes." C. B. Gorman, E. J. Ginsburg, S. R. Marder, R. H. Grubbs, *Angew. Chem.- International Edition in English*, **28** (11), 1571-1574 (1989, DOI: [10.1002/adma.19890011106](https://doi.org/10.1002/adma.19890011106))
23. "Third-Order Susceptibilities of Soluble Polymers Derived from the Ring-Opening Metathesis Copolymerization of Cyclooctatetraene and 1,5-Cyclooctadiene." S. R. Marder, J. W. Perry, F. L. Klavetter, R. H. Grubbs, *Chem. Mater.* **1** (2), 171-173 (1989, DOI: [10.1021/cm00002a003](https://doi.org/10.1021/cm00002a003))
24. "Studies on the Synthesis and Electrochemistry of Crown Ether Dithiocarbamates and the Molecular Dynamics of Bis(aza-15-crown-5)thiuram Disulfide. Crystal Structure of Cobalt Tris[(aza-15-crown-5)dithiocarbamate]." J. Granell, M. L. H. Green, V. J. Lowe, S. R. Marder, P. Mountford, G. C. Saunders, N. M. Walker, *J. Chem. Soc. Dalton Trans.* **2**, 605 - 614 (1990, DOI: [10.1039/dt9900000605](https://doi.org/10.1039/dt9900000605))
25. "Quadratic Hyperpolarizabilities of Some Organometallic Compounds." L.-T. Cheng, W. Tam, G. R. Meredith, S. R. Marder, *Mol. Cryst. Liq. Cryst.* **189**, 137-153 (1990, DOI: [10.1080/00268949008037228](https://doi.org/10.1080/00268949008037228))
26. "Second-Order Optical Nonlinearities and Photostabilities of 2-*N*-Methylstilbazolium Salts." S. R. Marder, J. W. Perry, B. G. Tiemann, R. E. Marsh, W. P. Schaefer, *Chem. Mater.* **2** (6), 685-690 (1990, DOI: [10.1021/cm00012a017](https://doi.org/10.1021/cm00012a017))
27. "Molecular and Macroscopic Second-Order Optical Nonlinearities of Substituted Dinitrostilbenes and Related Compounds." B. G. Tiemann, S. R. Marder, J. W. Perry, L.-T. Cheng, *Chem. Mater.* **2** (6), 690-695 (1990, DOI: [10.1021/cm00012a018](https://doi.org/10.1021/cm00012a018))

28. "Second-Order Nonlinearities and Crystal Structure of 2-Methoxy-4'-nitro-(*E*)-stilbene." R. B. Grubbs, S. R. Marder, J. W. Perry, W. P. Schaefer, *Chem. Mater.* **3** (91), 3-4 (1991, DOI: [10.1021/cm00013a001](https://doi.org/10.1021/cm00013a001))
29. "Approaches for Optimizing the First Electronic Hyperpolarizability of Conjugated Organic Molecules." S. R. Marder, D. N. Beratan, L.-T. Cheng, *Science* **252** (5002), 103-106 (1991, DOI: [10.1126/science.252.5002.103](https://doi.org/10.1126/science.252.5002.103))
30. "Organometallic Salts with Large Second-Harmonic-Generation Powder Efficiencies: (*E*)-1-Ferrocenyl-2-(1-methyl-4-pyridiniumyl)ethylene Salts." S. R. Marder, J. W. Perry, B. G. Tiemann, W. P. Schaefer, *Organometallics* **10** (6), 1896-1901 (1991, DOI: [10.1021/om00052a039](https://doi.org/10.1021/om00052a039))
31. "Molecular Second-Order Optical Nonlinearities of Metallocenes." J. C. Calabrese, L.-T. Cheng, J. C. Green, S. R. Marder, W. Tam, *J. Am. Chem. Soc.* **113** (19), 7227-7232 (1991, DOI: [10.1021/ja00019a020](https://doi.org/10.1021/ja00019a020))
32. "Substituted Polyacetylenes Through the Ring-Opening Metathesis Polymerization (ROMP) of Substituted Cyclooctatetraenes: A Route Into Soluble Polyacetylene." C. B. Gorman, E. J. Ginsburg, M. J. Sailor, J. S. Moore, T. H. Jozefiak, N. S. Lewis, R. H. Grubbs, S. R. Marder, J. W. Perry, *Syn. Met.* **41** (3), 1033-1038 (1991, DOI: [10.1016/0379-6779\(91\)91550-T](https://doi.org/10.1016/0379-6779(91)91550-T))
33. "Experimental Investigations of Organic Molecular Nonlinear Optical Polarizabilities 1. Methods and Results on Benzene and Stilbene Derivatives." L.-T. Cheng, W. Tam, S. H. Stevenson, G. R. Meredith, G. Rikken, S. R. Marder, *J. Phys. Chem.* **95** (26), 10631-10643 (1991, DOI: [10.1021/j100179a026](https://doi.org/10.1021/j100179a026))
34. "Experimental Investigations of Organic Molecular Nonlinear Optical Polarizabilities 2. A Study of Conjugation Dependences." L.-T. Cheng, W. Tam, S. R. Marder, A. E. Stiegman, G. Rikken, C. W. Spangler, *J. Phys. Chem.* **95** (26), 10643-10652 (1991, DOI: [10.1021/j100179a027](https://doi.org/10.1021/j100179a027))
35. "The Synthesis and Spectroscopic Properties of Organometallic Cyanine Analogues" J. M. Spotts, W. P. Schaefer, S. R. Marder, *Adv. Mater.* **4** (2), 100-102 (1992, DOI: [10.1002/adma.19920040208](https://doi.org/10.1002/adma.19920040208))
36. "The First Molecular Electronic Hyperpolarizabilities of Highly Polarizable Organic Molecules: 2,6-Di-*tert*-butylindoanilines." S. R. Marder, L.-T. Cheng, B. G. Tiemann, *J. Chem. Soc., Chem. Commun.* (9), 672-674 (1992, DOI: [10.1039/C39920000672](https://doi.org/10.1039/C39920000672))
37. "An Organometallic Cyanine: μ -1,3,5-Heptatriene-1,7-diylidene-bis[μ^2 -carbonyl-dicarbonyl-bis(η^5 -cyclopentadienyl)diiron] Tetrafluoroborate." W. P. Schaefer, J. M. Spotts, S. R. Marder, *Acta Crystallogr.* **C48**, 811-814 (1992, DOI: [10.1107/S010827019101199X](https://doi.org/10.1107/S010827019101199X))
38. "Second-Order Non-Linear Optical Properties of Diironalkenylidyne Complexes: Crystal Structure of $\{(\eta\text{-C}_5\text{H}_5)_2\text{Fe}_2(\text{CO})_2(\mu\text{-CO})(\mu\text{-}(E)\text{-CCH=CHC}_6\text{H}_4\text{-}(p)\text{-NMe}_2)\}^+\text{BF}_4^-$." J. A. Bandy, H. E. Bunting, M.-H. Garcia, M. L. H. Green, S. R. Marder, M. E. Thompson, D. Bloor, P. V. Kolinsky, R. J. Jones, J. W. Perry, *Polyhedron* **11** (12), 1429-1435 (1992, DOI: [10.1016/S0277-5387\(00\)83135-6](https://doi.org/10.1016/S0277-5387(00)83135-6))

39. "The Synthesis of Ferrocenyl Compounds with Second-Order Optical Non-Linearities." H. E. Bunting, M. L. H. Green, S. R. Marder, M. E. Thompson, D. Bloor, P. V. Kolinsky, R. J. Jones, *Polyhedron* **11** (12), 1489-1499 (1992, DOI: 10.1016/S0277-5387(00)83142-3)
40. "4-*N*-Methylstilbazolium Toluene-*p*-Sulfonate Salts with Large Second-Order Optical Non-Linearities." S. R. Marder, J. W. Perry, W. P. Schaefer, *J. Mater. Chem.* **2** (9), 985-986 (1992, DOI: 10.1039/JM9920200985)
41. "Synthesis and First Hyperpolarizabilities of Acceptor-Substituted β -apo-8'-Carotenal Derived Compounds." S. Gilmour, S. R. Marder, B. G. Tiemann, L.-T. Cheng, *J. Chem. Soc., Chem. Commun.* (5), 432-433 (1993, DOI: 10.1039/C39930000432)
42. "Direct Observation of Reduced Bond Length Alternation in Donor / Acceptor Polyenes." S. R. Marder, J. W. Perry, B. G. Tiemann, C. B. Gorman, S. Gilmour, S. L. Biddle, G. Bourhill, *J. Am. Chem. Soc.* **115** (6), 2524-2526 (1993, DOI: 10.1021/ja00059a067)
43. "Stronger Acceptors Can Diminish Nonlinear Optical Response in Simple Donor-Acceptor Polyenes." S. R. Marder, G. B. Gorman, B. G. Tiemann, L.-T. Cheng, *J. Am. Chem. Soc.* **115** (7), 3006-3007 (1993, DOI: 10.1021/ja00060a071)
44. "The Effect of Varying Ground-State Aromaticity on the First Molecular Electronic Hyperpolarizabilities of Organic Donor-Acceptor Molecules" B. G. Tiemann, L.-T. Cheng, S. R. Marder, *J. Chem. Soc., Chem. Commun.* (9), 735-737 (1993, DOI: 10.1039/C39930000735)
45. "Relation Between Bond-Length Alternation and Second Electronic Hyperpolarizability of Conjugated Organic Molecules." S. R. Marder, J. W. Perry, G. Bourhill, C. B. Gorman, B. G. Tiemann, K. Mansour, *Science* **261** (5118), 186-189 (1993, DOI: [10.1126/science.261.5118.186](https://doi.org/10.1126/science.261.5118.186))
46. "Structure-Function Relationships for β , the First Molecular Hyperpolarizability." S. M. Risser, D. N. Beratan, S. R. Marder, *J. Am. Chem. Soc.* **115** (17), 7719-7728 (1993, DOI: 10.1021/ja00070a016)
47. "An Investigation of the Interrelationships between Linear and Nonlinear Polarizabilities and Bond-Length Alternation in Conjugated Organic Molecules." C. B. Gorman, S. R. Marder, *Proc. Natl. Acad. Sci.* **90** (23), 11297-11301 (1993)
48. "Molecular Materials for Second-Order Nonlinear Optical Applications." S. R. Marder, J. W. Perry, *Adv. Mater.* **5** (11), 804-815 (1993, DOI: 10.1002/adma.19930051104)
49. "Molecular First Hyperpolarizabilities of a New Class of Asymmetric Squaraine Dyes." C.-T. Chen, S. R. Marder, L.-T. Cheng, *J. Chem. Soc., Chem. Commun.* (3), 259-260 (1994, DOI: 10.1039/C39940000259)
50. "Experimental Demonstration of the Dependence of the First Hyperpolarizability of Donor-Acceptor-Substituted Polyenes on the Ground-State Polarization and Bond Length Alternation." G. Bourhill, J.-L. Brédas, L.-T. Cheng, S. R. Marder, F. Meyers, J. W. Perry, B. G. Tiemann, *J. Am. Chem. Soc.* **116** (6), 2619-2620 (1994, DOI: 10.1021/ja00085a052)
51. "Syntheses and Linear and Nonlinear Optical Properties of Unsymmetrical Squaraines with Extended Conjugation." C.-T. Chen, S. R. Marder, L.-T. Cheng, *J. Am. Chem. Soc.* **116** (7), 3117-3118 (1994, DOI: 10.1021/ja00086a049)

52. "Large First Hyperpolarizabilities in Push-Pull Polyenes by Tuning of the Bond Length Alternation and Aromaticity." S. R. Marder, L.-T. Cheng, B. G. Tiemann, A. C. Friedli, M. Blanchard-Desce, J. W. Perry, J. Skindhøj, *Science* **263** (5146), 511-514 (1994, DOI: [10.1126/science.263.5146.511](https://doi.org/10.1126/science.263.5146.511))
53. "Enhanced Reverse Saturable Absorption and Optical Limiting in Heavy-Atom-Substituted Phthalocyanines." J. W. Perry, K. Mansour, S. R. Marder, K. J. Perry, D. Alvarez, Jr., I. Choong, *Optics Lett.* **19** (9), 625-627 (1994, DOI: 10.1364/OL.19.000625)
54. "Large Second-Order Optical Nonlinearities and Enhanced Thermal Stabilities in Extended Thiophene-Containing Compounds." S. Gilmour, S. R. Marder, J. W. Perry, L.-T. Cheng, *Adv. Mater.* **6** (6), 494-496 (1994, DOI: 10.1002/adma.19940060613)
55. "A Unified Description of Linear and Nonlinear Polarization in Organic Polymethine Dyes." S. R. Marder, C. B. Gorman, F. Meyers, J. W. Perry, G. Bourhill, J.-L. Brédas, B. M. Pierce, *Science* **265** (5172), 632-635 (1994, DOI: 10.1126/science.265.5172.632)
56. "Tuning of Large Second Hyperpolarizabilities in Organic Conjugated Compounds." F. Meyers, S. R. Marder, B. Pierce, J.-L. Brédas, *Chem. Phys. Lett.* **228** (1-3), 171-176 (1994, DOI: 10.1016/0009-2614(94)00905-8)
57. "Synthesis of Diarylthiobarbituric Acid Chromophores with Enhanced Second-Order Optical Nonlinearities and Thermal Stability." S. Gilmour, R. A. Montgomery, S. R. Marder, L.-T. Cheng, A. K.-Y. Jen, Y. M. Cai, J. W. Perry, L. R. Dalton, *Chem. Mater.* **6** (10), 1603-1604 (1994, DOI: 10.1021/cm00046a007)
58. "The Dependence of the Molecular First Hyperpolarizabilities of Merocyanines on Ground-State Polarization and Length." R. Ortiz, S. R. Marder, L.-T. Cheng, B. G. Tiemann, S. Cavagnero, J. W. Ziller, *J. Chem. Soc. Chem. Commun.* (19), 2263-2264 (1994, DOI: 10.1039/c39940002263)
59. "Electric Field Modulated Nonlinear Optical Properties of Donor-Acceptor Polyenes: Sum-Over-States Investigation of the Relationship Between Molecular Polarizabilities (α , β , and γ) and Bond Length Alternation." F. Meyers, S. R. Marder, B. M. Pierce, J.-L. Brédas, *J. Am. Chem. Soc.* **116** (23), 10703-10714 (1994, DOI: 10.1021/ja00102a040)
60. "Nonlinear Optical Polymers: Discovery to Market in 10 Years?" S. R. Marder, J. W. Perry, *Science* **263** (5154), 1706-1707 (1994, DOI: 10.1126/science.263.5154.1706)
61. "Organic Salts with Large Second-Order Optical Nonlinearities." S. R. Marder, J. W. Perry, C. P. Yakymyshyn, *Chem. Mater.* **6** (8), 1137-1147 (1994, DOI: 10.1021/cm00044a012)
62. "Effect of Molecular Polarization on Bond-Length Alternation, Linear Polarizability, First and Second Hyperpolarizability in Donor-Acceptor Polyenes as a Function of Chain Length." C. B. Gorman, S. R. Marder, *Chem. Mater.* **7**(1), 215-220 (1995, DOI: 10.1021/cm00049a033)
63. "Electric-Field Modulated Nonlinear Optical Properties of Conjugated Organic Chromophores: Influence of the Nature of the Conjugated Bridge." F. Meyers, S. R. Marder, J. W. Perry, G. Bourhill, S. Gilmour, L.-T. Cheng, B. M. Pierce, J.-L. Brédas, *Nonlinear Optics* **9** (1-4), 59-66 (1995)

64. "Large First Hyperpolarizabilities of Push-Pull Polyenes with Strong Acceptors." S. R. Marder, B. G. Tiemann, A. C. Friedli, E. Yang, L.-T. Cheng, *Nonlinear Optics* **9**, 213-221 (1995)
65. "The Effect of Aromaticity on the Second Hyperpolarizability of Conjugated Donor-Acceptor Molecules." G. Bourhill, B. G. Tiemann, J. W. Perry, S. R. Marder, *Nonlinear Optics* **10**, 49-60 (1995)
66. "Solvent Effects on the Second-Order Nonlinear Optical Response of π -Conjugated Molecules: A Combined Evaluation Through Self-Consistent Reaction Field Calculations and Hyper-Rayleigh Scattering Measurements." C. Dehu, F. Meyers, E. Hendrickx, K. Clays, A. Persoons, S. R. Marder, J.-L. Brédas, *J. Am. Chem. Soc.* **117** (40), 10127-10128 (1995, DOI: 10.1021/ja00145a030)
67. "Synthesis and Linear Optical Spectroscopy of Thioflavylium Near-Infrared Absorbing Dyes." C.-T. Chen and S. R. Marder, *Adv. Mater.* **7** (12), 1030-1044 (1995, DOI: 10.1002/adma.19950071214)
68. "Solvent Effects on First-Order Molecular Hyperpolarizability: A Study Based on Vibrational Observables." P. Zuliani, M. Del Zoppo, C. Castiglioni, G. Zerbi, S. R. Marder, J. W. Perry, *J. Chem. Phys.* **103** (23), 9935-9940 (1995, DOI: 10.1063/1.469882)
69. "Nonlinear Optical Properties of Donor-Acceptor Polyenes: Frequency-Dependent Calculations of the Relationship Among Molecular Polarizabilities μ , α , β and γ and Bond-Length Alternation." F. Meyers, J.-L. Brédas, B. M. Pierce, S. R. Marder, *Nonlinear Optics* **14**, 61-71 (1995)
70. "The Linear and Non-Linear Optical Properties of Some Conjugated Ferrocene Compounds with Potent Heterocyclic Acceptors." V. Alain, A. Fort, M. Barzoukas, C.-T. Chen, M. Blanchard-Desce, S. R. Marder, J. W. Perry, (Invited paper for the H. B. Gray 60th birthday issue) *Inorg. Chim. Acta* **242** (1-2), 43-49 (1996, DOI: 10.1016/0020-1693(95)04847-2)
71. "Chromophores with Strong Heterocyclic Acceptors: A Poled Polymer with a Large Electro-Optic Coefficient." M. Ahlheim, M. Barzoukas, P. V. Bedworth, M. Blanchard-Desce, A. Fort, Z.-Y. Hu, S. R. Marder, J. W. Perry, C. Runser, M. Staehelin, B. Zysset, *Science* **271** (5247), 335-337 (1996, DOI: 10.1126/science.271.5247.335)
72. "Synthesis and Relative Thermal Stabilities of Diphenylamino- vs. Piperidinyl-Substituted Bithiophene Chromophores for Nonlinear Optical Materials." P. V. Bedworth, Y.-M. Cai, A. K.-Y. Jen, S. R. Marder, *J. Org. Chem.* **61** (6), 2242-2246 (1996, DOI: 10.1021/jo9517555)
73. "Organic Optical Limiter with a Strong Nonlinear Absorptive Response." J. W. Perry, K. Mansour, I.-Y. S. Lee, X.-L. Wu, P. V. Bedworth, C.-T. Chen, D. Ng, S. R. Marder, P. Miles, T. Wada, M. Tian, H. Sasabe, *Science* **273** (5281), 1533-1536 (1996, DOI: 10.1126/science.273.5281.1533)
74. "Nonlinear Optical Properties of Push-Pull Polyenes for Electro-Optics." M. Stähelin, B. Zysset, M. Ahlheim, S. R. Marder, P. V. Bedworth, C. Runser, M. Barzoukas, A. Fort, *J. Opt. Soc. Am. B.* **13** (11), 2401-2407 (1996, DOI:10.1364/JOSAB.13.002401)

75. "Large Optical Nonlinearities with Conjugated Ferrocene and Ruthenocene Derivatives." V. Alain, M. Blanchard-Desce, C.-T. Chen, S. R. Marder, A. Fort, M. Barzoukas, *Synth. Met.* **81** (2-3), 133-136 (1996, DOI : 10.1016/S0379-6779(96)03743-5)
76. "A Convenient Synthetic Entry into Aldehydes with Extended Conjugation." A.C. Friedli, E. Yang, S. R. Marder, *Tetrahedron* **53** (8), 2717-2730 (1997, DOI: 10.1016/S0040-4020(97)00047-1)
77. "Synthesis and Optical Properties of a New Class of Organometallic Compounds: Organometallic Merocyanines." Z. Wu, R. Ortiz, A. Fort, M. Barzoukas, S. R. Marder, *J. Organomet. Chem.* **528** (1-2), 217-219 (1997, DOI: 10.1016/S0022-328X(96)06575-8)
78. "Electronic Structure and Linear and Nonlinear Optical Properties of Symmetrical and Unsymmetrical Squaraine Dyes." F. Meyers, C.-T. Chen, S. R. Marder, J.-L. Brédas, *Chem. Eur. J.* **3** (4), 530-537 (1997, DOI: 10.1002/chem.19970030408)
79. "Large Quadratic Hyperpolarizabilities with Donor-Acceptor Polyenes Exhibiting Optimum Bond Length Alternation: Correlation Between Structure and Hyperpolarizability." M. Blanchard-Desce, V. Alain, P. V. Bedworth, S. R. Marder, A. Fort, C. Runser, M. Barzoukas, S. Lebus, R. Wortmann, *Chem. Eur. J.* **3** (7), 1091-1104 (1997, DOI: 10.1002/chem.19970030717)
80. "Stark Spectroscopy of Donor-Acceptor Polyenes: Correlation with Nonlinear Optical Measurements." G. U. Bublitz, R. Ortiz, C. Runser, A. Fort, M. Barzoukas, S. R. Marder, S. G. Boxer, *J. Am. Chem. Soc.* **119** (9), 2311-2312 (1997 DOI: 10.1021/ja963672r)
81. "Stark Spectroscopy of Donor/Acceptor Substituted Polyenes." G. U. Bublitz, R. Ortiz, S. R. Marder, S. G. Boxer, *J. Am. Chem. Soc.* **119** (14), 3365-3376 (1997, DOI: 10.1021/ja9640814)
82. "Chromophore Design for Photorefractive Applications." B. Kippelen, F. Meyers, N. Peyghambarian, S. R. Marder, *J. Am. Chem. Soc.* **119** (19), 4559-4560 (1997, DOI: 10.1021/ja9643477)
83. "Nonlinear Optical Properties of π -Conjugated Compounds Incorporating a Saturated Spacer Group." T. Kogej, S. R. Marder, R. Silbey, J.-L. Brédas, *Synth. Met.* **85** (1-3), 1141-1142 (1997, DOI: 10.1016/S0379-6779(97)80185-3)
84. "Synthesis and Characterization of Highly Efficient and Thermally Stable Diphenylamino-Substituted Thiophene Stilbene Chromophores for Nonlinear Optical Applications." A. K.-Y. Jen, Y. Cai, P. V. Bedworth, S. R. Marder, *Adv. Mater.* **9** (2), 132-135 (1997, DOI: 10.1002/adma.19970090207)
85. "Large Molecular Third-Order Optical Nonlinearities in Polarized Carotenoids." S. R. Marder, W. E. Torruellas, M. Blanchard-Desce, V. Ricci, G. I. Stegeman, S. Gilmour, J.-L. Brédas, J. Li, G. Bublitz, S. G. Boxer, *Science* **276** (5316), 1233-1236 (1997, DOI: 10.1126/science.276.5316.1233)
86. "The Synthesis of Symmetrically Substituted α -Octa(isopentoxy)anthralocyanine." P. V. Bedworth, J. W. Perry, S. R. Marder, *Chem. Commun.* (15), 1353-1364 (1997, DOI: 10.1039/a703454g)

87. "Synthesis of Unsymmetrical Triarylamine for Photonic Applications via One-Pot Palladium-Catalyzed Aminations." S. Thayumanavan, S. Barlow, S. R. Marder, *Chem. Mater.* **9** (12), 3231-3235 (1997, DOI: 10.1021/cm970567n)
88. "Design and Synthesis of Chromophores and Polymers for Electro-Optic and Photorefractive Applications." S. R. Marder, B. Kippelen, A. K.-Y. Jen, N. Peyghambarian, *Nature* **388** (6645), 845-851 (1997, DOI: [10.1038/42190](https://doi.org/10.1038/42190))
89. "Two-Photon Absorption and Broadband Optical Limiting with Bis-Donor Stilbenes." J. E. Ehrlich, X. L. Wu, I.-Y. S. Lee, Z.-Y. Hu, H. Röckel, S. R. Marder, J. W. Perry, *Opt. Lett.* **22** (24), 1843-1845 (1997, DOI: 10.1364/OL.22.001843)
90. "Synthesis of N-Vinylcarbazole Derivatives with Acceptor Groups." Y. D. Zhang, H. Hokari, T. Wada, Y. Shang, S. R. Marder, H. Sasabe. *Tetrahedron Lett.* **38** (50), 8721-8722 (1997, DOI: 10.1016/S0040-4039(97)10318-5, DOI: 10.1016/S0040-4039(97)10318-5)
91. "Electrochemistry and Electrogenenerated Chemiluminescence Processes of the Components of Aluminum Quinolate/Triarylamine, and Related Organic Light-Emitting Diodes." J. D. Anderson, E. M. McDonald, P. A. Lee, M. L. Anderson, E. L. Ritchie, H. K. Hall, T. Hopkins, E. A. Mash, J. Wang, A. Padias, S. Thayumanavan, S. Barlow, S. R. Marder, G. E. Jabbour, S. Shaheen, B. Kippelen, N. Peyghambarian, R. M. Wightman, N. R. Armstrong, *J. Am. Chem. Soc.* **120** (37), 9646-9655 (1998, DOI: 10.1021/ja980707+)
92. "New Triarylamine-Containing Polymers as Hole Transport Materials in Organic Light-Emitting Diodes: Effect of Polymer Structure and Cross-Linking on Device Characteristics." E. Bellmann, S. E. Shaheen, S. Thayumanavan, S. Barlow, R. Grubbs, S. R. Marder, B. Kippelen, N. Peyghambarian, *Chem. Mater.* **10** (6), 1668-1676 (1998, DOI: 10.1021/cm980030p)
93. "Transillumination Imaging Through Scattering Media by Use of Photorefractive Polymers." D. D. Steele, B. L. Volodin, O. Savina, B. Kippelen, N. Peyghambarian, H. Röckel, S. R. Marder, *Opt. Lett.* **23** (3), 153-155 (1998, DOI: 10.1364/OL.23.000153)
94. "Infrared Photorefractive Polymers and Their Applications for Imaging." B. Kippelen, S. R. Marder, E. Hendrickx, J.-L. Maldonado, G. Guillemet, B. L. Volodin, D. D. Steele, Y. Enami, D. Sandalphon, Y. J. Yao, J. F. Wang, H. Röckel, L. Erskine, N. Peyghambarian, *Science* **279** (5347), 54-57 (1998, DOI: 10.1126/science.279.5347.54)
95. "High Dielectric Dopants for Low Voltage Liquid Crystal Operation." S.-T. Wu, Q. T. Zhang, S. R. Marder, *Jpn. J. Appl. Phys.* **37**, L1254-L1256 (1998, DOI: 10.1143/JJAP.37.L1254)
96. "Thermally Stable High-Gain Photorefractive Polymer Composites Based on a Tri-functional Chromophore." E. Hendrickx, J. Herlocker, J.-L. Maldonado, S. R. Marder, B. Kippelen, A. Persoons, N. Peyghambarian, *Appl. Phys. Lett.* **72** (14), 1679-1681 (1998, DOI: 10.1063/1.121187)
97. "Mechanisms for Enhancement of Two-Photon Absorption in Donor-Acceptor Conjugated Chromophores." T. Kogej, D. Beljonne, F. Meyers, J. W. Perry, S. R. Marder, J.-L. Brédas, *Chem. Phys. Lett.* **298**, 1-6 (1998, DOI: 10.1016/S0009-2614(98)01196-8)

98. "Design of Organic Molecules with Large Two-Photon Absorption Cross Sections." M. Albota, D. Beljonne, J.-L. Brédas, J. E. Ehrlich, J.-Y. Fu, A. A. Heikal, S. E. Hess, T. Kogej, M. D. Levin, S. R. Marder, D. McCord-Maughon, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, W. W. Webb, X.-L. Wu, C. Xu, *Science* **281** (5383), 1653-1656 (1998, DOI: [10.1126/science.281.5383.1653](https://doi.org/10.1126/science.281.5383.1653))
99. "Organic Light-Emitting Diode with 20 lm/W Efficiency Using a Triphenyldiamine Side-Goup Polymer as the Hole Transport Layer." S. E. Shaheen, G. E. Jabbour, B. Kippelen, N. Peyghambarian, J. D. Anderson, S. R. Marder, N. R. Armstrong, E. Bellmann, R. H. Grubbs, *Appl. Phys. Lett.* **74** (21), 3212-3214 (1999, DOI: 10.1063/1.124108)
100. "Ellipsometric Determination of the Electric-Field-Induced Birefringence of Photorefractive Dyes in a Liquid Carbazole Derivative." E. Hendrickx, B. D. Guenther, Y. Zhang, J. F. Wang, K. Staub, Q. Zhang, S. R. Marder, B. Kippelen, N. Peyghambarian, *Chem. Phys.* **245**, 407-415 (1999, DOI: 10.1016/S0301-0104(99)00049-X)
101. "Studies of the Electronic Structure of Metallocene-Based Second-Order Nonlinear Optical Dyes." S. Barlow, H. E. Bunting, C. Ringham, J. C. Green, G. U. Bublitz, S. G. Boxer, J. W. Perry, S. R. Marder, *J. Am. Chem. Soc.* **121**, 3715-3723 (1999, DOI: 10.1021/ja9830896)
102. "Synthesis of Functionalized Organic Second-Order Nonlinear Optical Chromophores for Electrooptic Applications." S. Thayumanavan, J. Mendez, S. R. Marder, *J. Org. Chem.* **64**, 4289-4297 (1999, DOI: 10.1021/jo981707v)
103. "Two-Photon and Higher Order Absorptions and Optical Limiting Properties of Bis-Donor Substituted Conjugated Organic Chromophores." J. W. Perry, S. Barlow, J. E. Ehrlich, A. A. Heikal, Z.-Y. Hu, I.-Y. Lee, K. Mansour, S. R. Marder, H. Röckel, M. Rumi, S. Thayumanavan, X. L. Wu, *Nonlinear Optics* **21**, 225-243 (1999)
104. "Synthesis and Properties of a (Diaryl amino)ferrocene and its Radical Cation." A. Mendiratta, S. Barlow, M. W. Day, S. R. Marder, *Organometallics* **18**, 454-456 (1999, DOI: 10.1021/om980733g)
105. "Two-Photon Polymerization Initiators for Three-Dimensional Optical Data Storage and Microfabrication." B. H. Cumpston, S. P. Ananthavel, S. Barlow, D. L. Dyer, J. E. Ehrlich, L. L. Erskine, A. A. Heikal, S. M. Kuebler, I.-Y. S. Lee, D. McCord-Maughon, J. Qin, H. Röckel, M. Rumi, X.-L. Wu, S. R. Marder, J. W. Perry, *Nature* **398**, 51-54 (1999, DOI: [10.1038/17989](https://doi.org/10.1038/17989))
106. "Photorefractive Polymer Composites with Short Response Times." B. Kippelen, E. Hendrickx, K. B. Ferrio, J. Herlocker, Y. Zhang, N. Peyghambarian, S. R. Marder, J. Anderson, N. R. Armstrong, S. Mery, *J. Imaging Sci. Technol.* (Special Memorial Issue for Paul Borsenberger) **43**, 405-412 (1999)
107. "Organic Two-Layer Light-Emitting Diodes Based on High-T_g Hole Transporting Polymers with Different Redox Potentials." E. Bellmann, S. E. Shaheen, R. H. Grubbs, S. R. Marder, B. Kippelen, N. Peyghambarian, *Chem. Mater.* **11**, 399-407 (1999, DOI: 10.1021/cm980614r)

108. "Effect of the End-Groups upon Delocalisation in Polymethines: The First Crystallographically Characterised Bond-Alternated Cyanine." S. Barlow, L. M. Henling, M. W. Day, S. R. Marder, *Chem. Commun.* (16), 1567-1568 (1999, DOI: 10.1039/A903868J)
109. "Recent Development of Highly Efficient Chromophores and Polymers for Electrooptic Device Applications." A. K.-Y. Jen, H. Ma, X. Wu, J. Wu, S. Liu, S. R. Marder, L. R. Dalton, C.-F. Shu, *Nonlinear Optics* **22**, 9-14 (1999, DOI: 10.1117/12.348388)
110. "A Convenient Modular Approach of Functionalizing Aromatic Polyquinolines for Electrooptic Devices," H. Ma, A. K.-Y. Jen, J. Wu, X. Wu, S. Liu, C.-F. Shu, L. R. Dalton, S. R. Marder, S. Thayumanavan, *Chem. Mater.* **11**, 2218-2225 (1999, DOI: 10.1021/cm9901818)
111. "Theoretical Design of Organic Chromophores With Large Two-Photon Absorption Cross-Sections." D. Beljonne, T. Kogej, S. R. Marder, J. W. Perry, J.-L. Brédas, *Nonlinear Optics* **21**, 461-480 (1999, DOI: 10.1007/978-94-011-4056-0_5)
112. "Progress Toward Device-Quality Second-Order NLO Materials: 3. Electrooptic Activity of Polymers Containing E,E,E,-[4-(N,N-dialkylamino)-phenyl]pentadienyldiene-3-phenyl-5-isoxazolone Chromophores." F. Wang, A. W. Harper, M. S. Lee, L. R. Dalton, H. Zhang, A. Chen, W. H. Steier, S. R. Marder, *Chem. Mater.* **11** (9), 2285-2288 (1999, DOI: 10.1021/cm990254n)
113. "Nonlinear Optical Response in Acceptor-Substituted Carotenoids: A Theoretical Study." M. Balakina, J. Li, V. M. Geskin, S. R. Marder, J.-L. Brédas, *J. Chem. Phys.* **113** (21), 9598-9609 (2000, DOI:10.1063/1.1321297)
114. "Stabilization of the Response Time in Photorefractive Polymers." J.A. Herlocker, C. Fuentes-Hernandez, K. B. Ferrio, E. Hendrickx, P.-A. Blanche, N. Peyghambarian, B. Kippelen, Y. Zhang, J. F. Wang, S. R. Marder, *Appl. Phys. Lett.* **77** (15), 2292-2294 (2000, DOI:10.1063/1.1316077)
115. "Poling of Soda-Lime Glass for Hybrid Glass/Polymer Electro-Optic Modulators." Y. Enami, P. Poyhonen, D. L. Mathine, A. Bashar, P. Madasamy, S. Honkanen, B. Kippelen, N. Peygahambarian, S. R. Marder, A. K.-Y. Jen, J. Wu, *Appl. Phys. Lett.* **76** (9), 1086-1088 (2000, DOI:10.1063/1.125947)
116. "Systematic Behavior of Electro-Optic Chromophore Photostability." A. Galvan-Gonzalez, M. Canva, G. I. Stegeman, R. Twieg, K. P. Chan, T. C. Kowalczyk, X. Q. Zhang, H. S. Lackritz, S. R. Marder, S. Thayumanavan, *Opt. Lett.* **25** (5), 332-334 (2000, DOI: 10.1364/OL.25.000332)
117. "The One-Electron Oxidation Product of a Metallocenyl-Terminated Cyanine." S. Barlow, M. Day, S. R. Marder, *Acta Crystallog.* **C56**, 303-304 (2000, DOI: 10.1107/S0108270199015462)

118. "Electrogenerated Chemiluminescence from Derivatives of Aluminum Quinolate and Quinacridones: Cross-Reactions with Triarylamines Lead to Singlet Emission Through Triplet-Triplet Annihilation Pathways." E. M. Gross, J. D. Anderson, A. F. Slaterbeck, S. Thayumanavan, S. Barlow, Y. Zhang, S. R. Marder, H. K. Hall, M. Flore Nabor, J.-F. Wang, E. A. Mash, N. R. Armstrong, R. M. Wightman, *J. Am. Chem. Soc.* **122**, 4972-4979 (2000, DOI: 10.1021/ja0005993)
119. "Electronic and Optical Properties of Conjugated Group 8 Metallocene Derivatives." S. Barlow and S. R. Marder, *Chem. Commun.* (17), 1555-1562 (2000, DOI: 10.1039/B004907G)
120. "Structure-Property Relationships for Two-Photon Absorbing Chromophores: Bis-Donor Diphenylpolyene and Bis(stryl)benzene Derivatives." M. Rumi, J. E. Ehrlich, A. A. Heikal, J. W. Perry, S. Barlow, Z. Hu, D. McCord-Maughon, T. C. Parker, H. Röckel, S. Thayumanavan, S. R. Marder, D. Beljonne, J.-L. Brédas, *J. Am. Chem. Soc.* **122**, 9500-9510 (2000, DOI: [10.1021/ja994497s](https://doi.org/10.1021/ja994497s))
121. "High Photogeneration Efficiency of Charge-Transfer Complexes Formed Between Low Ionization Potential Arylamines and C₆₀." E. Hendrickx, B. Kippelen, S. Thayumanavan, S. R. Marder, A. P. Persoons, N. Peyghambarian, *J. Chem. Phys.* **112** (21), 9557-9561 (2000, DOI: 10.1063/1.481572)
122. "High Tg Hole Transport Polymers for the Fabrication of Bright and Efficient Organic Light-Emitting Devices with an Air-Stable Cathode." G. E. Jabbour, S. E. Shaheen, M. M. Morrell, J. D. Anderson, P. Lee, S. Thayumanavan, S. Barlow, E. Bellmann, R. H. Grubbs, B. Kippelen, S. R. Marder, N. R. Armstrong, N. Peyghambarian, *IEEE J. Quantum Elect.* **36** (1), 12-17 (2000, DOI:10.1109/3.817633)
123. "Photodegradation of Various Electro-Optic Polymer Families." G. I. Stegeman, A. Galvan-Gonzales, M. Canva, R. Twieg, A. C. Kowalczyk, X. Q. Zhang, H. S. Lackritz, S. R. Marder, S. Thayumanavan, K. P. Chan, A. K.-Y. Jen, X. Wu, *Nonlinear Optics* **25**, 57-66 (2000)
124. "Improved Photogeneration Efficiency of Charge-Transfer Complexes Between C₆₀ and Low Ionization Potential Arylamines." E. Hendrickx, B. Kippelen, S. Thayumanavan, S. R. Marder, A. P. Persoons, N. Peyghambarian, *Nonlinear Optics* **25**, 303-308 (2000,)
125. "Theoretical Investigation of the Origin of the Large Non-Linear Optical Response in Acceptor-Substituted Carotenoids." V. N. Geskin, M. Y. Balakina, J. Li, S. R. Marder, J.-L. Brédas, *Synth. Met.* **116**, 263-267 (2001, DOI: 10.1016/S0379-6779(00)00464-1)
126. "Optimizing Two-Photon Initiators and Exposure Conditions for Three-Dimensional Lithographic Microfabrication." S. M. Kuebler, M. Rumi, T. Watanabe, K. Braun, B. H. Cumpston, A. A. Heikal, L. L. Erskine, S. Thayumanavan, S. Barlow, S. R. Marder, J. W. Perry, *J. Photopolym. Sci. Technol.* **14**, 657-668 (2001, DOI:10.2494/photopolymer.14.657)
127. "Joint Experimental and Theoretical Characterization of the Electronic Structure of 4,4'-Bis(N-m-tolyl-N-phenylamino)biphenyl (TPD) and Substituted Derivatives." J. Cornil, N. E. Gruhn, D. A. dos Santos, M. Malagoli, P. A. Lee, S. Barlow, S. Thayumanavan, S. R. Marder, N. R. Armstrong, J. L. Bredas. *J. Phys. Chem. A* **105** (21), 5206-5211 (2001, DOI: 10.1021/jp003142o)

128. "Nonlinear Optical Absorption Properties of Bis-Diarylamino-biphenyl Chromophores." J. E. Ehrlich, S. P. Ananthavel, S. Barlow, K. Mansour, K. Mohanalingam, S. R. Marder, J. W. Perry, M. Rumi, S. Thayumanavan, *Nonlinear Optics* **27**, 121-131 (2001, DOI: 10.1021/ol016064b)
129. "Characterization of Bis(1,2,5-thiadiazolo)-*p*-quinobis(1,3-dithiole) Thin Films Grown by Organic Molecular Beam Deposition." J. Xue, J. Qin, P. V. Bedworth, K. Kustedjo, S. R. Marder, S. R. Forrest, *Org. Electron.* **2** (3-4), 143-154 (2001, DOI: 10.1016/S1566-1199(01)00020-9)
130. "Quantum-Chemical Design of Two-Photon Absorbing Organic Chromophores." D. Beljonne, J. W. Perry, S. R. Marder, J.-L. Brédas, *Nonlinear Optics* **27**, 47-63 (2001)
131. "Photostability of Electro-Optic Polymers Possessing Chromophores with Efficient Amino Donors and Cyano-Containing Acceptors." A. Galvan-Gonzalez, G. I. Stegeman, A. K.-Y. Jen, X. Wu, M. Canva, A. C. Kowalczyk, X. Q. Zhang, H. S. Lackritz, S. Marder, S. Thayumanavan, G. Levina, *J. Opt. Soc. Am. B.* **18** (12), 1846-1853 (2001, DOI: 10.1364/JOSAB.18.001846)
132. "Five Orders-of-Magnitude Enhancement of Two-Photon Absorption for Dyes on Silver Nanoparticle Fractal Clusters." W. Wenseleers, F. Stellacci, T. Meyer-Friedrichsen, T. Mangel, C. A. Bauer, S. J. K. Pond, S. R. Marder, J. W. Perry, *J. Phys. Chem. B.* **106**, 6853-6863 (2002, DOI: 10.1021/jp014675f)
133. "Efficient Photoacids Based Upon Triarylamine Dialkylsulfonium Salts." W. Zhou, S. M. Kuebler, D. Carrig, J. W. Perry, S. R. Marder, *J. Am. Chem. Soc.* **124** (9), 1897-1901 (2002, DOI: 10.1021/ja011186k)
134. "Laser and Electron-Beam Induced Growth of Nanoparticles for 2D and 3D Metal Patterning." F. Stellacci, C. A. Bauer, T. Meyer-Friedrichsen, W. Wenseleers, V. Alain, S. M. Kuebler, S. J. K. Pond, Y. Zhang, S. R. Marder, J. W. Perry, *Adv. Mater.* **14** (3), 194-198 (2002, DOI: 10.1002/1521-4095(20020205)14:3<194::AID-ADMA194>3.0.CO;2-W)
135. "Metallocene-Terminated Allylium Salts: The Effect of End Group on Localization in Polymethines." S. Barlow, L. M. Henling, M. W. Day, W. P. Schaefer, J. C. Green, T. Hascall, S. R. Marder, *J. Am. Chem. Soc.* **124** (22), 6285-6296 (2002, DOI: 10.1021/ja012472z)
136. "An Efficient Two-Photon-Generated Photoacid Applied to Positive-Tone 3D Microfabrication." W. Zhou, S. M. Kuebler, K. L. Braun, T. Yu, J. K. Cammack, C. K. Ober, J. W. Perry, S. R. Marder, *Science* **296**, 1106-1109 (2002, DOI: 10.1126/science.296.5570.1106)
137. "Tuning the Two-Photon Absorption Response of Quadrupolar Organic Molecules." E. Zojer, D. Beljonne, T. Kogej, H. Vogel, S. R. Marder, J. W. Perry, J.-L. Brédas, *J. Chem. Phys.* **116** (9), 3646-3658 (2002, DOI:10.1063/1.1445118)
138. "Photorefractive Polymer Composites Fabricated by Injection Molding." J. A. Herlocker, C. Fuentes-Hernandez, J. F. Wang, N. Peyghambarian, B. Kippelen, Q. Zhang, S. R. Marder, *Appl. Phys. Lett.* **80** (7), 1156-1158 (2002, DOI: 10.1109/CLEO.2001.947968)

139. "Synthesis of Photo-Crosslinkable Hole-Transport Polymers with Tunable Oxidation Potentials and Their Use in Organic Light-Emitting Diodes." R. D. Hreha, Y-D. Zhang, B. Domercq, N. Larribeau, J. N. Haddock, B. Kippelen, S. R. Marder, *Synthesis* **9**, 1201-1212 (2002, DOI:10.1002/chin.200237241)
140. "Photorefractive Polymers Sensitized by Two-Photon Absorption." P. A. Blanche, B. Kippelen, A. Schülzgen, C. Fuentes-Hernandez, G. Ramos-Ortiz, J. F. Wang, E. Hendrickx, N. Peyghambarian, S. R. Marder, *Opt. Lett.* **27** (1), 19-21 (2002, DOI: 10.1364/OL.27.000019)
141. "Photo-Crosslinkable Polymers as Hole-Transport Materials for Organic Light-Emitting Diodes." Y-D. Zhang, R. D. Hreha, S. R. Marder, G. E. Jabbour, B. Kippelen, N. Peyghambarian, *J. Mater. Chem.* **12**, 1703-1708 (2002, DOI: 10.1039/B110088M)
142. "Photoresponsive Hydrogel Microstructure Fabricated by Two-Photon Initiated Polymerization." T. Watanabe, M. Akiyama, K. Totani, S. M. Kuebler, F. Stellacci, W. Wenseleers, K. L. Braun, S. R. Marder, J. W. Perry, *Adv. Funct. Mater.* **12** (9), 611-614 (2002, DOI: 10.1002/1616-3028(20020916)12:9<611::AID-ADFM611>3.0.CO;2-3)
143. "Photorefractive Polymers with Non-Destructive Readout." B. Kippelen, P.-A. Blanche, A. Schülzgen, C. Fuentes-Hernandez, G. Ramos-Ortiz, J.-F. Wang, N. Peyghambarian, S. R. Marder, A. Leclercq, D. Beljonne, J.-L. Brédas, *Adv. Funct. Mater.* **12** (9), 615-620 (2002, DOI: 10.1002/1616-3028(20020916)12:9<615::AID-ADFM615>3.0.CO;2-O)
144. "Role of Dimensionality on the Two-Photon Absorption Response of Conjugated Molecules: The Case of Octupolar Compounds." D. Beljonne, W. Wenseleers, E. Zojer, Z. Shuai, H. Vogel, S. J. K. Pond, J. W. Perry, S. R. Marder, J.-L. Brédas, *Adv. Funct. Mater.* **12** (9), 631-641 (2002, DOI: 10.1002/1616-3028(20020916)12:9<631::AID-ADFM631>3.0.CO;2-W)
145. "One- and Two-Photon Spectroscopy of Donor-Acceptor-Donor Distyrylbenzene Derivatives: Effect of Cyano Substitution and Distortion from Planarity." S. J. K. Pond, M. Rumi, M. D. Levin, T. C. Parker, D. Beljonne, M. W. Day, J.-L. Brédas, S. R. Marder, J. W. Perry, *J. Phys. Chem. A* **106**, 11470-11480 (2002, DOI: 10.1021/jp0267104)
146. "Polymerized Bicontinuous Cubic Nanoparticles (Cubosomes) from a Reactive Monoacylglycerol." D. Yang, D. F. O'Brien, S. R. Marder, *J. Am. Chem. Soc.* **124**, 13388-13389 (2002, DOI: 10.1021/ja026085g)
147. "Ultrabright Supramolecular Beacons Based on Self-Assembly of Two-Photon Chromophores on Metal Nanoparticles." F. Stellacci, C. A. Bauer, T. Meyer-Friedrichsen, W. Wenseleers, S. R. Marder, J. W. Perry, *J. Am. Chem. Soc.* **125**, 328-329 (2003, DOI:10.1021/ja0281277)
148. "Effect of Substitution on the Hole Mobility of Bis(diarylamino)biphenyl Derivatives Doped into Poly(Styrene)." J.-L. Maldonado, M. Bishop, C. Fuentes-Hernandez, P. Caron, B. Domercq, Y. Zhang, S. Barlow, S. Thayumanavan, M. Malagoli, J.-L. Brédas, S. R. Marder, B. Kippelen, *Chem. Mater.* **15** (4), 994-999 (2003, DOI: 10.1021/cm0207907)

149. "Design and Application of High-Sensitivity Two-Photon Initiators for Three-Dimensional Microfabrication." S. M. Kuebler, K. L. Braun, W. Zhou, J. K. Cammack, T. Yu, C. K. Ober, S. R. Marder, J. W. Perry, *J. Photochem. Photobiol. A* **158**, 163-170 (2003, DOI: 10.1016/S1010-6030(03)00030-3)
150. "Chemically-Amplified Positive Resists for Two-Photon Three-Dimensional Microfabrication." T. Yu, C. K. Ober, S. M. Kuebler, W. Zhou, S. R. Marder, J. W. Perry, *Adv. Mater.* **15** (6), 517-521 (2003, DOI: 10.1002/adma.200390120)
151. "Synthesis and Stability Studies of Conformationally Locked 4-(Diaryl-amino)aryl- and 4-(Dialkylamino)phenyl-Substituted Second-Order Nonlinear Optical Polyene Chromophores." K. Staub, G. A. Galina, S. Barlow, T. C. Kowalczyk, H. S. Lackritz, M. Barzoukas, A. Fort, S. R. Marder, *J. Mater. Chem.* **13**, 825-833 (2003, DOI: 10.1039/B208024A)
152. "N,N-Dimethyl-N'-[(1*E*,2*E*)-3-(4-nitrophenyl)prop-2-enylidene]benzene-1,4-diamine and N,N-dimethyl-4-[(1*E*,3*E*)-4-(4-nitrophenyl)buta-1,3-dienyl]-1-naphthylamine." V. V. Nesterov, A. Suina, M. Y. Antipin, T. V. Timofeeva, S. Barlow, S. R. Marder, *Acta Crystallogr.* **C59**, o625-o628 (2003, DOI: 10.1107/S0108270103020985)
153. "Organic Light-Emitting Diodes with Multiple Photocrosslinkable Hole-Transport Layers." B. Domercq, R. D. Hreha, Y.-D. Zhang, A. Haldi, S. Barlow, S. R. Marder, B. Kippelen, *J. Polym. Sci. Part B: Polymer Physics* **41** (21), 2726-2732 (2003, DOI: 10.1002/polb.10649)
154. "2,7-Bis(diaryl-amino)-9,9-dimethylfluorenes as Hole-Transport Materials for Organic Light-Emitting Diodes." R. D. Hreha, C. P. George, A. Haldi, B. Domercq, M. Malagoli, S. Barlow, J.-L. Brédas, B. Kippelen, S. R. Marder, *Adv. Funct. Mater.* **13** (12), 967-973 (2003, DOI: 10.1002/adfm.200304464)
155. "An Anionic Organic Mixed-Valence System with a Remarkably Well-Resolved Vibrational Structure in its Intervalence Band." C. Risko, S. Barlow, V. Coropceanu, M. Halik, J.-L. Brédas, S. R. Marder, *Chem. Commun.* (2), 194-195 (2003, DOI: 10.1039/B210429F)
156. "Photo-Patternable Hole-Transport Polymers for Organic Light-Emitting Diodes." B. Domercq, R. D. Hreha, Y. -D. Zhang, N. Larribeau, J. N. Haddock, C. Schultz, S. R. Marder, B. Kippelen, *Chem. Mater.* **15**, 1491-1496 (2003, DOI: 10.1021/cm020862u)
157. "Bis(Dioxaborine) Compounds with Large Two-Photon Cross Sections, and Their Use in the Photodeposition of Silver." M. Halik, W. Wenseleers, C. Grasso, F. Stellacci, E. Zojer, S. Barlow, J.-L. Brédas, J. W. Perry, S. R. Marder, *Chem. Commun.* (13), 1490-1491 (2003, DOI: 10.1039/B303135G)
158. "Photodegradation of Selected π -Conjugated Electro-Optic Chromophores." A. Galvan-Gonzalez, K. D. Belfield, G. I. Stegeman, M. Canva, S. R. Marder, K. Staub, G. Levina, R. J. Twieg, *J. Appl. Phys.* **94** (1), 756-763 (2003, DOI: 10.1063/1.1578703)
159. "Single-Mode Microwave Synthesis in Organic Materials Chemistry." S. Barlow, S. R. Marder, *Adv. Funct. Mater.* **13** (7), 517-518 (2003, DOI: 10.1002/adfm.200301006)

160. "Columnar Discotic Liquid-Crystalline Oxadiazoles as Electron-Transport Materials." Y.-D. Zhang, K. G. Jespersen, M. Kempe, J. A. Kornfield, S. Barlow, B. Kippelen, S. R. Marder, *Langmuir* **19**, 6534-6536 (2003, DOI: 10.1021/la0341456)
161. "A Convenient Method for the Synthesis of Electron-Rich Phosphonates." S. Zheng, S. Barlow, T. C. Parker, S. R. Marder, *Tetrahedron Lett.* **44**, 7989-7992 (2003, DOI: 10.1016/j.tetlet.2003.08.110)
162. "Electron-Transport Properties and Use in Organic Light-Emitting Diodes of a Bis(dioxaborine)fluorene Derivative." B. Domercq, C. Grasso, J.-L. Maldonado, M. Halik, S. Barlow, S. R. Marder, B. Kippelen, *J. Phys. Chem. B* **108** (25), 8647-8651 (2004, DOI: 10.1021/jp036779r)
163. "Synthesis of Acrylate and Norbornene Polymers with Pendant 2,7-Bis(diarylamino)fluorene Hole-Transport Groups." R. D. Hreha, A. Haldi, B. Domercq, S. Barlow, B. Kippelen, S. R. Marder, *Tetrahedron Lett.* **60** (34), 7169-7176 (2004, DOI: 10.1016/j.tet.2004.06.069)
164. "Trends in Optical Nonlinearity and Thermal Stability in Electrooptic Chromophores Based upon the 3-(Dicyanomethylene)-2, 3-dihydrobenzothiophene-1, 1-dioxide Acceptor." Z.-Y. Hu, A. Fort, M. Barzoukas, A. K.-Y. Jen, S. Barlow and S. R. Marder, *J. Phys. Chem. B.* **108** (25) 8626-8630 (2004, DOI: 10.1021/jp036728u)
165. "High-Performance Photorefractive Polymer Operating at 975 nm." M. Eralp, J. Thomas, S. Tay, G. Li, G. Meredith, A. Schülzgen, N. Peyghambarian, G. A. Walker, S. Barlow and S. R. Marder, *Appl. Phys. Lett.* **85** (7), 1095-1097 (2004, DOI: 10.1063/1.1780591)
166. "Electronic Couplings in Organic Mixed-Valence Compounds: The Contribution of Photoelectron Spectroscopy." V. Coropceanu, N. E. Gruhn, S. Barlow, C. H. Lambert, J. C. Durivage, T. G. Bill, G. Noell, S. R. Marder, J.-L. Brédas, *J. Am. Chem. Soc.* **126** (9), 2727-2731 (2004, DOI: 10.1021/ja039263u)
167. "High-Performance Photorefractive Polymers Sensitized by Cadmium Selenide Nanoparticles." C. Fuentes-Hernandez, D. J. Suh, B. Kippelen, S. R. Marder, *Appl. Phys. Lett.* **85** (4), 534-536 (2004, DOI: 10.1063/1.1771451)
168. "Third-Order Optical Autocorrelator for Time-Domain Operation at Telecommunication Wavelengths." G. Ramos-Ortiz, M. Cha, M. S. Thayumanavan, J. C. Mendez, S. R. Marder, B. Kippelen, *Appl. Phys. Lett.* **85** (2), 179-181 (2004, DOI: 10.1063/1.1771809)
169. "Metal-Ion Sensing Fluorophores with Large Two-Photon Absorption Cross Sections: Aza-Crown Ether Substituted Donor-Acceptor-Donor Distyrylbenzenes." S. J. K. Pond, O. Tsutsumi, M. Rumi, O. Kwon, E. Zojer, J. L. Brédas, S. R. Marder, J. W. Perry, *J. Am. Chem. Soc.* **126** (30), 9291-9306 (2004, DOI: 10.1021/ja049013t)
170. "Two-Photon Absorption in Linear Bis-dioxaborine Compounds – The Impact of Correlation-Induced Oscillator-Strength Redistribution." E. Zojer, W. Wenseleers, M. Halik, C. Grasso, S. Barlow, J. W. Perry, S. R. Marder, J.-L. Brédas, *ChemPhysChem* **5** (7), 982-988 (2004, DOI: 10.1002/cphc.200301023)

171. "Turning on Fluorescence by Two-photon Excitation and Polymerization: Toward a 3-D Optical Memory Device." D. J. Dyer, B. H. Cumpston, D. McCord-Maughon, S. Thayumanavan, S. Barlow, J. W. Perry, S. R. Marder, *Nonlinear Optics, Quantum Optics* **31** (1-4), 175-184 (2004)
172. "Delocalization in Platinum-Alkynyl Systems: A Metal-Bridged Organic Mixed-Valence Compound." S. C. Jones, V. Coropceanu, S. Barlow, T. Kinnibrugh, T. Timofeeva, J.-L. Brédas, S. R. Marder, *J. Am. Chem. Soc.* **126** (38), 11782-11783 (2004, DOI: 10.1021/ja045869m)
173. "Limitations of Essential-State Models for the Description of Two-Photon Absorption Processes: The Example of Bis(dioxaborine)-Substituted Chromophores." E. Zojer, W. Wenseleers, P. Pacher, S. Barlow, M. Halik, C. Grasso, J. W. Perry, S. R. Marder, J.-L. Brédas, *J. Phys. Chem. B* **108** (25), 8641-8646 (2004, DOI: 10.1021/jp036754s)
174. "Bistriarylamine Polymer-Based Composites for Photorefractive Applications." J. Thomas, C. Fuentes-Hernandez, M. Yamamoto, K. Cammack, K. Matsumoto, G. A. Walker, S. Barlow, B. Kippelen, G. Meredith, S. R. Marder, N. N. Peyghambarian, *Adv. Mater.* **16** (22), 2032-2036 (2004, DOI: 10.1002/adma.200400102)
175. "Photorefractive Polymer Composite Operating at the Optical Communication Wavelength of 1550 nm." S. Tay, J. Thomas, M. Erlep, G. Li, B. Kippelen, S. R. Marder, G. Meredith, A. Schulzgen, N. N. Peyghambarian, *Appl. Phys. Lett.* **85** (20), 4561-4563 (2004, DOI: 10.1063/1.1826224)
176. "Direct Imaging Through Scattering Media by Use of Efficient Third-Harmonic Generation in Organic Materials." G. Ramos-Ortiz, M. Cha, B. Kippelen, G. A. Walker, S. Barlow, S. R. Marder, *Opt. Lett.* **29** (21), 2515-2517 (2004, DOI: 10.1364/OL.29.002515)
177. "Cubic Liquid-Crystalline Nanoparticles." D. Yang B. Armitage S. R. Marder, *Angew. Chem. Int. Ed. Engl.* **43** (34), 4402-4409 (2004, DOI: 10.1021/la010161w)
178. "Photoprocessable Polymer Opals." B. Lange, R. Zentel, C. Ober, S. R. Marder, *Chem. Mater.* **16** (25), 5286-5292 (2004, DOI: 10.1021/cm048834u)
179. "Ultrafast-Pulse Diagnostic Using Third-Order Frequency-Resolved Optical Gating in Organic Films." G. Ramos-Ortiz, M. Cha, S. Thayumanavan, J. Mendez, S. R. Marder, B. Kippelen, *Appl. Phys. Lett.* **85** (16), 3348-3350 (2004, DOI: 10.1063/1.1807952)
180. "Video-Rate Compatible Photorefractive Polymers with Stable Dynamic Properties Under Continuous Operation." C. Fuentes-Hernandez, J. Thomas, R. Termine, G. Meredith, N. N. Peyghambarian, B. Kippelen, S. Barlow, G. Walker, S. R. Marder, M. Yamamoto, K. Cammack, K. Matsumoto, *Appl. Phys. Lett.* **85** (11), 1877-1879 (2004, DOI: 10.1063/1.1787956)
181. "A Mixed-Valence Bis(diarylamino)stilbene: Crystal Structure and Comparison of Electronic Coupling with Biphenyl and Tolane Analogues." S. Barlow, C. Risko, V. Coropceanu, N. M. Tucker, S. C. Jones, Z. Levi, V. N. Khrustalev, M. Y. Antipin, T. L. Kinnibrugh, T. Timofeeva, S. R. Marder, J.-L. Brédas, *Chem. Commun.* (6), 764-766 (2005, DOI: 10.1039/B415018J)

182. "Bis-Aryl Substituted Dioxaborines as Electron-Transport Materials: A Comparative Density Functional Theory Investigation with Oxadiazoles and Siloles." C. Risko, E. Zojer, P. Brocorens, S. R. Marder, J.-L. Brédas, *Chem. Phys.* **313** (1-3), 151-157 (2005, DOI: 10.1016/j.chemphys.2004.12.020)
183. "Colorless Molecular Dopants for Low-Operating-Voltage Nematic Liquid Crystals." J. Haddock, B. Kippelen, D. Mathine, J. Schmidtke, S. Kumaraswamy, O. Kwon, E. Zojer, J.-L. Brédas, S. R. Marder, *Mol. Cryst. Liq. Cryst.* **428**, 17-32 (2005, DOI: 10.1080/154214090892609)
184. "Electron Affinities of 1,1-Diaryl-2,3,4,5-tetraphenylsiloles: Direct Measurements and Comparison with Experimental and Theoretical Estimates." X. Zhan, C. Risko, F. Amy, C. Chan, W. Zhao, S. Barlow, A. Kahn, J.-L. Brédas, S. R. Marder, *J. Am. Chem. Soc.* **127** (25), 9021-9029 (2005, DOI: 10.1021/ja051139i)
185. "Two-Photon Absorption at Telecommunications Wavelengths in a Dipolar Chromophore with a Pyrrole Auxiliary Donor and Thiazole Auxiliary Acceptor." L. Beverina, J. Fu, A. Leclercq, E. Zojer, P. Pacher, S. Barlow, E. W. Van Stryland, D. J. Hagan, J.-L. Brédas, S. R. Marder, *J. Am. Chem. Soc.* **127** (20), 7282-7283 (2005, DOI: 10.1021/ja050688l)
186. "Aromatic Amines: A Comparison of Electron-Donor Strengths." O. Kwon, S. Barlow, S. A. Odom, L. Beverina, N. J. Thompson, E. Zojer, J.-L. Brédas, S. R. Marder, *J. Phys. Chem. A* **109** (41), 9346-9352 (2005, DOI: 10.1021/jp054334s)
187. "Intervalence Transitions in the Mixed-Valence Monocations of Bis(triarylaminers) Linked with Vinylene and Phenylene-Vinylene Bridges." S. Barlow, C. Risko, S.-J. Chung, N. M. Tucker, V. Coropceanu, S. C. Jones, Z. Levi, J.-L. Brédas, S. R. Marder, *J. Am. Chem. Soc.* **127** (48), 16900-16911 (2005, DOI: 10.1021/ja054136e)
188. "High Charge-Carrier Mobility in an Amorphous Hexaazatrinaphthylene Derivative." B. R. Kaafarani, T. Kondo, J. Z. Yu, Q. Zhang, D. Dattilo, C. Risko, S. C. Jones, S. Barlow, B. Domercq, F. Amy, A. Kahn, J.-L. Brédas, B. Kippelen, S. R. Marder, *J. Am. Chem. Soc.* **127** (47), 16358-16359 (2005, DOI: 10.1021/ja0553147)
189. "Strong, Low-Energy Two-Photon Absorption in Extended Amine-Terminated Cyano-Substituted Phenylenevinylene Oligomers." S.-J. Chung, M. Rumi, V. Alain, S. Barlow, J. W. Perry, S. R. Marder, *J. Am. Chem. Soc.* **127** (31), 10844-10845 (2005, DOI: 10.1021/ja052926i)
190. "A Fluorine-Substituted Hexakisdecycloxy-hexa-peri-hexabenzocoronene." Q. Zhang, P. Prins, S. C. Jones, S. Barlow, T. Kondo, Z. An, L. D. A. Siebbeles, S. R. Marder, *Org. Lett.* **7** (22), 5019-5022 (2005, DOI: 10.1021/ol051972k)
191. "High-Performance Photorefractive Polymer Operating at 1550 nm with Near-Video-Rate Response Time." S. Tay, J. Thomas, M. Erlep, G. Li, R. A. Norwood, A. Schulzgen, M. Yamamoto, S. Barlow, G. A. Walker, S. R. Marder, N. N. Peyghambarian, *Appl. Phys. Lett.* **87** (17), 171105-171107 (2005, DOI: 10.1063/1.2117610)
192. "High Electron Mobility in Room-Temperature Discotic Liquid-Crystalline Perylene Diimides." Z. An, J. Yu, S. C. Jones, S. Barlow, S. Yoo, B. Domercq, P. Prins, L. D. A. Siebbeles, B. Kippelen, S. R. Marder, *Adv. Mater.* **17** (21), 2580-2583 (2005, DOI: 10.1002/adma.200500027)

193. "Cyclometalated Platinum Complexes: High-Yield Synthesis, Characterization, and a Crystal Structure." J.-Y. Cho, K.Y. Suponitsky, J. Li, T. Timofeeva, S. Barlow, S. R. Marder, *J. Org. Chem.* **690** (17), 4090-4093 (2005, DOI: 10.1016/j.jorgchem.2005.05.042)
194. "Solvent Effects on the Vibronic One-Photon Absorption Profiles of Dioxaborine Heterocycles." Y.-H. Wang, M. Halik, C.-K. Wang, S. R. Marder, Y. Luo, *J. Chem. Phys.* **123** (19), 194311-194317 (2005, DOI: 10.1063/1.2121590)
195. "A Comprehensive Study of Short Channel Effects in Organic Field-Effect Transistors." J. N. Haddock, X. H. Zhang, S. Zheng, Q. Zhang, S. R. Marder, B. Kippelen, *Organic Electronics* **7** (1), 45-54 (2006, DOI: 10.1016/j.orgel.2005.11.002)
196. "Isolation and Crystal Structures of Two Singlet Bis(Triarylamine) Dications with Nonquinoidal Geometries." S. Zheng, S. Barlow, C. Risko, T. L. Kinnibrugh, V. N. Khrustalev, S.C. Jones, M. Y. Antipin, N. M. Tucker, T. V. Timofeeva, V. Coropceanu, J.-L. Brédas, S. R. Marder, *J. Am. Chem. Soc.* **128** (6), 1812-1817 (2006, DOI: 10.1021/ja0541534)
197. "Quantum-Chemical Investigation of Second-Order Nonlinear Optical Chromophores: Comparison of Strong Nitrile-Based Acceptor End Groups and Role of Auxiliary Donors and Acceptors." A. Leclercq, E. Zojer, S.-H. Jang, S. Barlow, V. Geskin, A. K.-Y. Jen, S. R. Marder, J.-L. Brédas, *J. Chem. Phys.* **124** (4), 044510/1-044510/7 (2006, DOI: 10.1063/1.2155385)
198. "One- and Two-Photon Induced Phase Transition Behavior of Nematic Crystals Containing Bis-Styryl Benzene as a Photoresponsive Chromophore." O. Tsutsumi, A. Ohashi, T. Ikeda, S. R. Marder, J. W. Perry, *Thin Solid Films*, **509** (1-2), 118-122 (2006, DOI: 10.1016/j.tsf.2005.09.118)
199. "Ultrafast Energy Migration in Chromophore Shell-Metal Nanoparticle Assemblies." O. P. Varnavski, M. Ranasinghe, X. Yan, C. A. Bauer, S.-J. Chung, J. W. Perry, S. R. Marder, T. Goodson III, *J. Am. Chem. Soc.* **128** (34), 10988-10989 (2006, DOI: 10.1021/ja061378l)
200. "Bisdioxaborine Polymethines with Large Third-Order Nonlinearities for All-Optical Signal Processing." J. M. Hales, S. Zheng, S. Barlow, S. R. Marder, J. W. Perry, *J. Am. Chem. Soc.* **128** (35), 11362-11363 (2006, DOI: 10.1039/B605343B)
201. "Comparative Studies of the Geometric and Electronic Properties of 1,1-Disubstituted-2,3,4,5-tetraphenylsiloles and 1,1,2,2-Tetramethyl-3,4,5,6-tetraphenyl-1,2-disila-3,5-cyclohexadiene." X. Zhan, C. Risko, A. Korlyukov, F. Sena, T. V. Timofeeva, M. Y. Antipin, S. Barlow, J.-L. Brédas, S. R. Marder, *J. Mater. Chem.*, **16** (39), 3814-3822 (2006, DOI: 10.1039/B605343B)
202. "Extended Squaraine Dyes with Large Two-Photon Absorption Cross-Sections." S.-J. Chung, S. Zheng, T. Odani, L. Beverina, J. Fu, L. A. Padilha, A. Biesso, J. M. Hales, X. Zhan, K. Schmidt, A. Ye, E. Zojer, S. Barlow, D. J. Hagan, E. W. Van Stryland, Y. Yi, Z. Shuai, G. A. Pagani, J.-L. Brédas, J. W. Perry, S. R. Marder, *J. Am. Chem. Soc.* **128** (45), 14444-14445 (2006, DOI: 10.1021/ja065556m)

203. "N-Type Doping of an Electron-Transport Material by Controlled Gas-Phase Incorporation of Cobaltocene." C. K. Chan, F. Amy, Q. Zhang, S. Barlow, S. R. Marder, A. Kahn, *Chem. Phys. Lett.* **431** (1-3), 67-71 (2006, DOI: 10.1021/jp064061g)
204. "Small Molecule Chemisorption on Indium-Tin Oxide Surfaces: Enhancing Probe Molecule Electron-Transfer Rates and the Performance of Organic Light-Emitting Diodes." C. Carter, M. Brumbach, C. Donley, R. D. Hreha, S. R. Marder, B. Domercq, S. Yoo, B. Kippelen, N. R. Armstrong, *J. Phys. Chem. B* **110** (50), 25191-25202 (2006, DOI: 10.1021/jp064061g)
205. "Organic Nonlinear Optical Materials: Where We Have Been and Where We Are Going." S. R. Marder, *Chem. Commun.* (2), 131-134 (2006, DOI: 10.1039/B512646K)
206. "Measurements of Complex $\chi^{(3)}$ Using Degenerate Four-Wave Mixing with an Imaged 2-D Phase Grating." S. Tseng, W. L. Cao, Y. H. Peng, J. Hales, S. H. Chi, J. W. Perry, S. R. Marder, C. H. Lee, W. N. Herman, J. Goldhar, *Opt. Express*, **14** (19), 8737-8744 (2006, DOI: 10.1364/OE.14.008737)
207. "Two-Photon Absorption in Quadrupolar Bis(acceptor)-Terminated Chromophores with Electron-Rich Bis(heterocycle)vinylene Bridges." S. Zheng, A. Leclercq, J. Fu, L. Beverina, L. A. Padilha, E. Zojer, K. Schmidt, S. Barlow, J. Luo, S.-H. Jiang, A. K.-Y. Jen, Y. Yi, Z. Shuai, E. W. Van Stryland, D. J. Hagan, J.-L. Brédas, S. R. Marder, *Chem. Mater.* **19** (3), 432-442 (2007, DOI: 10.1021/cm061681l)
208. "High Two-Photon Cross-Sections in Bis(diarylamino)styryl Chromophores with Electron-Rich Heterocycle and Bis(heterocycle)vinylene Bridges." S. Zheng, L. Beverina, S. Barlow, E. Zojer, J. Fu, L. A. Padilha, C. Fink, O. Kwon, Y. Yi, Z. Shuai, E. W. Van Stryland, D. J. Hagan, J.-L. Brédas, S. R. Marder, *Chem. Commun.* (13), 1372-1374 (2007, DOI: 10.1039/b618265h)
209. "Materials for Multiphoton 3D Microfabrication." S. R. Marder, J.-L. Bredas, J. W. Perry, *MRS Bulletin*, **32** (7), 561-565 (2007, DOI: 10.1557/mrs2007.107)
210. "High-Speed, Sub-15nm Feature Size Thermochemical Nanolithography." R. Szooskiewicz, T. Okada, S. C. Jones, T.-D. Li, W. P. King, S. R. Marder, E. Riedo, *Nano Letters* **7** (4), 1064-1069 (2007, DOI: 10.1021/nl070300f)
211. "Strong Two-Photon Absorption at Telecommunications Wavelengths in Nickel Bis(dithiolene) Complexes." J.-Y. Cho, S. Barlow, S. R. Marder, J. Fu, L. A. Padilha, E. W. Van Stryland, D. J. Hagan, M. Bishop, *Opt. Lett.* **32** (6), 671-673 (2007, DOI: 10.1364/OL.32.000671)
212. "65 nm Feature Sizes Using Visible Wavelength 3-D Multiphoton Lithography." W. Haske, V. W. Chen, J. M. Hales, W. Dong, S. Barlow, S. R. Marder, J. W. Perry, *Opt. Express* **15** (6), 3426-3436 (2007, DOI: 10.1364/OE.15.003426)
213. "Phosphonic Acid-Modified Barium Titanate Polymer Nanocomposites with High Permittivity and Dielectric Strength." P. Kim, S. C. Jones, P. J. Hotchkiss, J. N. Haddock, B. Kippelen, S. R. Marder, J. W. Perry, *Adv. Mater.* **19**, 1001-1005 (2007, DOI: 10.1002/adma.200602422)

214. "Synthesis, Ionisation Potentials and Electron Affinities of Hexaazatrinaphthylene Derivatives." S. Barlow, Q. Zhang, B. R. Kaafarani, C. Risko, F. Amy, C. K. Chan, B. Domercq, Z. A. Starikova, M. Y. Antipin, T. V. Timofeeva, B. Kippelen, J.-L. Bredas, A. Kahn, S. R. Marder, *Chem. Eur. J.* **13**, 3537-3547 (2007, DOI: 10.1002/chem.200601298)
215. "Thin, Conformal and Continuous SnO₂ Coatings on Three-Dimensional Biosilica Templates through Hydroxy-Group Amplification and Layer-by-Layer Alkoxide Deposition." M. R. Weatherspoon, M. B. Dickerson, G. Wang, Y. Cai, S. Shian, S. Jones, S. R. Marder, K. H. Sandhage, *Angew. Chem. Int. Ed.* **46** (30), 5724-5727 (2007, DOI: 10.1002/anie.200701297)
216. "Efficient Acceptor Groups for NLO Chromophores: Competing Inductive and Resonance Contributions in Heterocyclic Acceptors Derived from 2-Dicyanomethylidene-3-cyano-4,5,5-trimethyl-2-5-dihydrofuran." K. Schmidt, S. Barlow, A. Leclercq, E. Zojer, S.-H. Jang, S. R. Marder, A. K.-Y. Jen, J.-L. Brédas, *J. Mater. Chem.* **17** (28), 2944-2949 (2007, DOI: 10.1039/B702699D)
217. "Multiphase Growth and Electronic Structure of Ultrathin Hexaazatrinaphthylene on Au(111)." S. D. Ha, B. R. Kaafarani, S. Barlow, S. R. Marder, A. Kahn, *J. Phys. Chem. C* **111** (28), 10493-10497 (2007, DOI: 10.1021/jp0718404)
218. "High Electron Mobility in Nickel Bis(dithiolene) Complexes." J.-Y. Cho, B. Domercq, S. Jones, J. Yu, X. Zhang, Z. An, M. Bishop, S. Barlow, S. R. Marder, B. Kippelen, *J. Mater. Chem.* **17** (25), 2642-2647 (2007, DOI: 10.1039/B701036B)
219. "A High-Mobility Electron-Transport Polymer with Broad Absorption and its Use in Field-Effect Transistors and All-Polymer Solar Cells." X. Zhan, Z. Tan, B. Domercq, Z. An, X. Zhang, S. Barlow, Y. Li, D. Zhu, B. Kippelen, S. R. Marder, *J. Am. Chem. Soc.* **129** (23), 7246-7247 (2007, DOI: 10.1021/ja071760d)
220. "Local Wettability Modification by Thermochemical Nanolithography with Write-Read-Overwrite Capability." D. B. Wang, R. Szoszkiewicz, M. Lucas, E. Riedo, T. Okada, S. C. Jones, S. R. Marder, J. Lee, W. P. King, *Appl. Phys. Lett.* **91** (24), 243104/1-243104/3 (2007, DOI: 10.1063/1.2816401)
221. "Modification of BaTiO₃ Thin Films: Adjustment of the Effective Surface Work Function." T. Schulmeyer, S. A. Paniagua, P. A. Veneman, S. C. Jones, P. J. Hotchkiss, A. Mudalige, J. E. Pemberton, S. R. Marder, N. R. Armstrong, *J. Mater. Chem.* **17** (43), 4563-4570 (2007, DOI: 10.1039/b706949a)
222. "Photorefractive Polymers with Superior Performance." N. Peyghambarian, M. Eralp, S. Tay, G. Li, J. Thomas, A. Schulzgen, S. R. Marder, M. Yamamoto, R. A. Norwood, *Nonlinear Optics, Quantum Optics* **36** (3-4), 309-318 (2007, DOI: 10.1364/OPN.16.12.000028)
223. "Planar Phototonic Crystals Infiltrated with Nanoparticle/Polymer Composites." S. Tay, J. Thomas, B. Momeni, M. Askari, A. Adibi, P. J. Hotchkiss, S. C. Jones, S. R. Marder, R. A. Norwood, N. Peyghambarian, *Appl. Phys. Lett.* **91**, 221109/1-221109/3 (2007, DOI: 10.1063/1.2817964)

224. "Bis[bis-(4-alkoxyphenyl)amino] Derivatives of Dithienylethene, Bithiophene, Dithienothiophene and Dithienopyrrole: Palladium-Catalysed Synthesis and Highly Delocalised Radical Cations." S. A. Odom, K. Lancaster, L. Beverina, K. Lefler, N. J. Thompson, V. Coropceanu, J.-L. Brédas, S. R. Marder, S. Barlow, *Chem-Eur. J.* **13** (34), 9637-9646 (2007, DOI: 10.1002/chem.200700668)
225. "Highly Ordered Thin Films of a Bis(dithienothiophene) Derivative." C. Hunziker, X. Zhan, P. A. Losio, H. Figi, O-P. Kwon, S. Barlow, P. Guenter, S. R. Marder, *J. Mater. Chem.* **17** (47), 4972-4979 (2007, DOI: 10.1039/B711483D)
226. "Norbornene-Based Copolymers with Iridium Complexes and Bis(carbazolyl)fluorene Groups in Their Side-Chains and Their Use in Light-Emitting Diodes." A. Kimyonok, B. Domercq, A. Haldi, J.-Y. Cho, J. R. Carlise, X.-Y. Wang, L. E. Hayden, S. C. Jones, S. Barlow, S. R. Marder, B. Kippelen, M. Weck, *Chem. Mater.* **19** (23), 5602-5608 (2007, DOI: 10.1021/cm0717357)
227. "Incorporation of Cobaltocene as an *n*-Dopant in Organic Molecular Films." C. K. Chan, A. Kahn, Q. Zhang, S. Barlow, S. R. Marder, *J. Appl. Phys.* **102** (1), 014906/1-014906/6 (2007, DOI: 10.1063/1.2752145)
228. "Synthesis and Characterization of Polymerizable Phosphorescent Platinum(II) Complexes for Solution-Processible Organic Light-Emitting Diodes." J.-Y. Cho, B. Domercq, S. Barlow, K. Y. Suponitsky, J. Li, T. V. Timofeeva, S. C. Jones, L. E. Hayden, A. Kimyonok, C. R. South, M. Weck, B. Kippelen, S. R. Marder, *Organometallics* **26** (19), 4816-4829 (2007, DOI: 10.1021/om700373c)
229. "Analysis of Improved Photovoltaic Properties of Pentacene/C₆₀ Organic Solar Cells: Effects of Exciton Blocking Layer Thickness and Thermal Annealing." S. Yoo, W. J. Potscavage, Jr., B. Domercq, S.-H. Han, T.-D. Li, S. C. Jones, R. Szoszkiewicz, D. Levi, E. Riedo, S. R. Marder, B. Kippelen, *Solid-State Electronics* **51** (10), 1367-1375 (2007, DOI: 10.1016/j.sse.2007.07.038)
230. "Commensurate Growth and Diminishing Substrate Influence in a Multilayer Film of a Tris(thieno)hexaazatriphenylene Derivative on Au(111) Studied by Scanning Tunneling Microscopy." S. D. Ha, Q. Zhang, S. Barlow, S. R. Marder, A. Kahn, *Phys. Rev. B* **77** (8), 085433/1-085433/7 (2008, DOI:10.1103/PhysRevB.77.085433)
231. "Decamethylcobaltocene as an Efficient *n*-Dopant in Organic Electronic Materials and Devices." C. K. Chan, S. Barlow, S. R. Marder, A. Kahn, W. Zhao, *Organic Electronics* **9** (5), 575-581 (2008, DOI: 10.1016/j.orgel.2008.03.003)
232. "A Comparative Study of Charge Mobility Measurements in a Diamine and in a Hexaazatrinaphthylene Using Different Techniques." B. Domercq, J. Yu, B. Kaafarani, T. Kondo, S. Yoo, J. N. Haddock, S. Barlow, S. R. Marder, B. Kippelen, *Mol. Cryst. Liq. Cryst.* **481** (1), 80-93 (2008 DOI: 10.1080/15421400701834120)
233. "Broadband Z-scan Characterization Using a High-Spectral-Irradiance, High-Quality Supercontinuum." M. Balu, L. A. Padilha, D. J. Hagan, E. W. Van Stryland, S. Yao, K. Belfield, S. Zheng, S. Barlow, S. R. Marder, *J. Opt. Soc. Am. B* **25** (2), 159-165 (2008, DOI: 10.1364/JOSAB.25.000159)

234. "Thick Optical-Quality Films of Substituted Polyacetylenes with Large, Ultrafast Third-Order Nonlinearities and Application to Image Correlation." S.-H. Chi, J. M. Hales, C. Fuentes-Hernandez, S.-Y. Tseng, J.-Y. Cho, S. Odom, Q. Zhang, S. Barlow, R. R. Schrock, S. R. Marder, B. Kippelen, J. W. Perry, *Adv. Mater.* **20** (17), 3199-3203 (2008, DOI: 10.1002/adma.200800664)
235. "Stabilisation of a Heptamethine Cyanine Dye by Rotaxane Encapsulation." C. M. S. Yau, S. Pascu, S. A. Odom, J. E. Warren, E. J. Klotz, M. J. Frampton, C. C. Williams, V. Coropceanu, M. K. Kuimova, D. Phillips, S. Barlow, J.-L. Brédas, S. R. Marder, V. Millar, H. L. Anderson, *Chem. Commun.* (25), 2897-2899 (2008, DOI: 10.1039/B802728E)
236. "Tetrastyrilarene Derivatives: Comparison of One- and Two-Photon Spectroscopic Properties with Distyrilarene Analogues." M. Rumi, S. J. K. Pond, T. Meyer-Friedrichsen, Q. Zhang, M. Bishop, Y. Zhang, S. Barlow, S. R. Marder, J. W. Perry, *J. Phys. Chem. C* **112** (21), 8061-8071 (2008, DOI: 10.1021/jp710682z)
237. "Fluorenyl-Substituted Silole Molecules: Geometric, Electronic, Optical, and Device Properties." X. Zhan, A. Haldi, C. Risko, C. K. Chan, W. Zhao, T. Timofeeva, A. Korlyukov, M. Y. Antipin, S. Montgomery, E. Thompson, Z. An, B. Domercq, S. Barlow, A. Kahn, B. Kippelen, J.-L. Brédas, S. R. Marder, *J. Mater. Chem.* **18** (26), 3157-3166 (2008, DOI: 10.1039/B803470B)
238. "Synthesis of a Nickel Bis(dithiolene) Complex with Strong Near-Infrared Two-Photon Absorption." J. Y. Cho, J. Fu, L. A. Padilha, S. Barlow, E. W. Van Stryland, D. J. Hagan, M. Bishop, S. R. Marder, *Mol. Cryst. Liq. Cryst.* **485**, 915-927 (2008, DOI: 10.1080/15421400801924979)
239. "Quasi-Epitaxy of a Tris(thieno)hexaazatriphenylene Derivative Absorbed on Ag(110): Structural and Electronic Properties Probed by Scanning Tunneling Microscopy." E. Salomon, Q. Zhang, S. Barlow, S. R. Marder, A. Kahn, *J. Phys. Chem. C* **112** (26), 9803-9807 (2008, DOI: 10.1021/jp800858u)
240. "Are *N,N*-Dihydrodiazatetracene Derivatives Antiaromatic?" S. Miao, S. M. Brombosz, P. V. R. Schleyer, J. I. Wu, S. Barlow, S. R. Marder, K. I. Hardcastle, U. H. F. Bunz, *J. Am. Chem. Soc.* **130** (23), 7339-7344 (2008, DOI: 10.1021/ja077614p)
241. "Substrate-Dependent Electronic Structure of an Organic Heterojunction." W. Zhao, E. Salomon, Q. Zhang, S. Barlow, S. R. Marder, A. Kahn, *Phys. Rev. B* **77** (16), 165336/1-165336/6 (2008, DOI:10.1103/PhysRevB.77.165336)
242. "A Nonvolatile Organic Memory Device Using ITO Surfaces Modified by Ag-Nanodots." T. Kondo, S. M. Lee, M. Malicki, B. Domercq, S. R. Marder, B. Kippelen, *Adv. Funct. Mater.* **18** (7), 1112-1118 (2008, DOI: 10.1002/adfm.200700567)
243. "Phosphonic Acid Modification of Indium-Tin Oxide Electrodes: Combined XPS/UPS/Contact Angle Studies." S. A. Paniagua, P. J. Hotchkiss, S. C. Jones, S. R. Marder, A. Mudalige, F. S. Marrikar, J. E. Pemberton, N. R. Armstrong, *J. Phys. Chem. C* **112** (21), 7809-7817 (2008, DOI: 10.1021/jp710893k)

244. "Trends in Electron-Vibration and Electronic Interactions in Bis(dimethylamino) Mixed-Valence Systems: A Joint Experimental and Theoretical Investigation." C. Risko, V. Coropceanu, S. Barlow, V. Geskin, K. Schmidt, N. E. Gruhn, S. R. Marder, J.-L. Brédas, *J. Phys. Chem. C* **112** (21), 7959-7967 (2008, DOI: 10.1021/jp711954j)
245. "Order of Magnitude Effects of Thiazole Regioisomerism on the Near-IR Two-Photon Cross-Sections of Dipolar Chromophores." K. Schmidt, A. Leclercq, E. Zojer, P. V. Lawson, S.-H. Jang, S. Barlow, A. K.-Y. Jen, S. R. Marder, J.-L. Brédas, *Adv. Funct. Mater.* **18** (5), 794-801 (2008, DOI:10.1002/adfm.200701177)
246. "Inter Versus Intra-Molecular Photoinduced Charge Separation in Solid Films of Donor-Acceptor Molecules." S. Shoaee, M. P. Eng, Z. An, X. Zhang, S. Barlow, S. R. Marder, J. R. Durrant, *Chem. Commun.* (40), 4915-4917 (2008, DOI: 10.1039/B808704K)
247. "Optimization of Orange-Emitting Electrophosphorescent Copolymers for Organic Light-Emitting Diodes." A. Haldi, A. Kimyonok, B. Domercq, L. E. Hayden, S. C. Jones, S. R. Marder, M. Weck, B. Kippelen, *Adv. Funct. Mater.* **18** (19), 3056-3062 (2008, DOI: 10.1002/adfm.200800446)
248. "Stabilization of the Work Function of Indium Tin Oxide Using Organic Surface Modifiers in Organic Light-Emitting Diodes." A. Sharma, B. Kippelen, P. J. Hotchkiss, S. R. Marder, *Appl. Phys. Lett.* **93** (16), 163308/1-163308/3 (2008, DOI: 10.1063/1.2998599)
249. "Photoemission Studies of Interfaces Between a Tris(thieno)hexaazatriphenylene Derivative and Metals." E. Salomon, Q. Zhang, S. Barlow, S. R. Marder, A. Kahn, *Org. Electron.* **9** (6), 944-951 (2008, DOI: 10.1016/j.orgel.2008.06.015)
250. "Efficient All-Polymer Solar Cells Based on Blend of Tris(thienylenevinylene)-substituted Polythiophene and Poly[perylene diimide-*alt*-bis(dithienothiophene)]." Z. Tan, E. Zhou, X. Zhan, X. Wang, Y. Li, S. Barlow, S. R. Marder, *Appl. Phys. Lett.* **93** (7), 073309/1-073309/3 (2008, DOI: [10.1063/1.2975160](https://doi.org/10.1063/1.2975160))
251. "Poly(glycidyl methacrylate)s with Controlled Molecular Weights as Low-Shrinkage Resins for 3D Multibeam Interference Lithography." A. Hayek, Y. Xu, T. Okada, S. Barlow, X. Zhu, J. H. Moon, S. R. Marder, S. Yang, *J. Mater. Chem.* **18** (28), 3316-3318 (2008, DOI: [10.1039/B809656B](https://doi.org/10.1039/B809656B))
252. "Highly Efficient Green Phosphorescent Organic Light-Emitting Diodes with Simplified Device Geometry." A. Haldi, B. Domercq, B. Kippelen, R. D. Hreha, J. Y. Cho, S. R. Marder, *Appl. Phys. Lett.* **92**, 253502-1/253502-3 (2008, DOI: [10.1063/1.2952452](https://doi.org/10.1063/1.2952452))
253. "Solution-Processible High-Permittivity Nanocomposite Gate Insulators for Organic Field-Effect Transistors." P. Kim, X.-H. Zhang, B. Domercq, S. C. Jones, P. J. Hotchkiss, S. R. Marder, B. Kippelen, J. W. Perry, *Appl. Phys. Lett.* **93**, 013302/1-013302/3 (2008, DOI: [10.1063/1.2949320](https://doi.org/10.1063/1.2949320))
254. "Theoretical Characterization of the Indium Tin Oxide Surface and of its Binding Sites for Adsorption of Phosphonic Acid Monolayers." P. B. Paramonov, S. A. Paniagua, P. J. Hotchkiss, S. C. Jones, N. R. Armstrong, S. R. Marder, J. L. Brédas, *Chem. Mater.* **20** (16), 5131-5133 (2008, DOI: [10.1021/cm8014622](https://doi.org/10.1021/cm8014622))

255. "Electronic and Vibronic Contributions to Two-Photon Absorption in Donor-Acceptor-Donor Squaraine Chromophores." S. Ohira, I. Rudra, K. Schmidt, S. Barlow, S. J. Chung, Q. Zhang, J. Matichak, S. R. Marder, J. L. Bredas, *Chem. Eur. J.* **14** (35), 11082-11091 (2008, DOI: [10.1002/chem.200801055](https://doi.org/10.1002/chem.200801055))
256. "Intramolecular Electron-Transfer Rates in Mixed-Valence Triarylamines: Measurement by Variable-Temperature ESR Spectroscopy and Comparison with Optical Data." K. Lancaster, S. A. Odom, S. C. Jones, S. Thayumanavan, S. R. Marder, J.-L. Brédas, V. Coropceanu, S. Barlow, *J. Am. Chem. Soc.* **131** (5), 1717–1723 (February 2009, DOI: [10.1021/ja808465c](https://doi.org/10.1021/ja808465c))
257. "Synthesis, Electron Mobility, and Electroluminescence of a Polynorbornene-Supported Silole." X. Zhan, A. Haldi, J. Yu, T. Kondo, B. Domercq, J.-Y. Cho, S. Barlow, B. Kippelen, S. R. Marder, *Polymer* **50** (2), 397-403 (January 2009, DOI: [10.1016/j.polymer.2008.11.035](https://doi.org/10.1016/j.polymer.2008.11.035))
258. "Growing "Nanofruit" Textures on Photo-Crosslinked SU-8 Surfaces through Layer-by-Layer Grafting of Hyperbranched Poly(Ethyleneimine)." J. Ford, S. Marder and S. Yang, *Chem. Mat.* **21** (3), 476-483 (February 2009, DOI: [10.1021/cm801913q](https://doi.org/10.1021/cm801913q))
259. "Room-Temperature Discotic Liquid-Crystalline Coronene Diimides Exhibiting High Charge-Carrier Mobility in Air." Z. An, J. Yu, B. Domercq, S. C. Jones, S. Barlow, B. Kippelen, S. R. Marder, *J. Mater. Chem.* **19** (37), 6688-6698 (2009, DOI: [10.1039/B910898J](https://doi.org/10.1039/B910898J))
260. "Layer-By-Layer Dendritic Growth of Hyperbranched Thin Films for Surface Sol-Gel Syntheses of Conformal, Functional, Nanocrystalline Oxide Coatings on Complex 3D (Bio)silica Templates." G. Wang, Y. Fang, P. Kim, A. Hayek, M. R. Weatherspoon, J. W. Perry, K. H. Sandhage, S. R. Marder, S. C. Jones, *Adv. Funct. Mater.* **19** (17), 2768-2776 (September 2009, DOI: [10.1002/adfm.200900402](https://doi.org/10.1002/adfm.200900402))
261. "Charge Photogeneration in Polythiophene-Perylene Diimide Blend Films." S. Shoaee, Z. An, X. Zhang, S. Barlow, S. R. Marder, W. Duffy, M. Heeney, I. McCulloch, J. R. Durrant, *Chem. Commun.* (36), 5445-5447 (2009, DOI: [10.1039/B909071A](https://doi.org/10.1039/B909071A))
262. "Broadband Z-Scan Characterization Using a High-Spectral-Irradiance, High-Quality Supercontinuum." (Erratum to *J. Opt. Soc. Am. B*, **25** (2), 159-165 (2008)), M. Balu, L. A. Padilha, D. J. Hagan, E. W. Van Stryland, S. Yao, K. Belfield, S. Zheng, S. Barlow, S. R. Marder, *J. Opt. Soc. Am. B* **26** (8), 1663 (August 2009, DOI: [10.1364/JOSAB.25.000159](https://doi.org/10.1364/JOSAB.25.000159))
263. "Norbornene-Based Copolymers Containing Platinum Complexes and Bis(carbazolyl)benzene Groups in Their Side-Chains." K. Feng, C. Zuniga, Y. Zhang, D. Kim, S. Barlow, S. R. Marder, J.-L. Bredas, M. Weck, *Macromolecules* **42** (18), 6855-6864 (September 2009, DOI: [10.1021/ma901280x](https://doi.org/10.1021/ma901280x))
264. "Use of a High Electron-Affinity Molybdenum Dithiolene Complex to p-Dope Hole-Transport Layers." Y. Qi, T. Sajoto, S. Barlow, E. G. Kim, J.-L. Brédas, S. R. Marder, A. Kahn, *J. Am. Chem. Soc.* **131** (35), 12530-12531 (August 2009, DOI: [10.1021/ja904939g](https://doi.org/10.1021/ja904939g))

265. "High Energy Density Nanocomposites Based on Surface-Modified BaTiO₃ and a Ferroelectric Polymer." P. Kim, N. M. Doss, J. P. Tillotson, P. J. Hotchkiss, M. J. Pan, S. R. Marder, J. Li, J. P. Calame, J. W. Perry, *ACS Nano* **3** (9), 2581-2592 (September 2009, DOI: [10.1021/nm9006412](https://doi.org/10.1021/nm9006412))
266. "Copolymers of Perylene Diimide with Dithienothiophene and Dithienopyrrole as Electron-Transport Materials for All-Polymer Solar Cells and Field-Effect Transistors." X. Zhan, Z. Tan, E. Zhou, Y. Li, R. Misra, A. Grant, B. Domercq, X. H. Zhang, Z. An, X. Zhang, S. Barlow, B. Kippelen, S. R. Marder, *J. Mater. Chem.* **19** (32), 5794-5803 (2009, DOI: [10.1039/B907163F](https://doi.org/10.1039/B907163F))
267. "Fluorescent Pluronic Nanodots for *In Vivo* Two-Photon Imaging." M. Maurin, L. Vurth, J. C. Vial, P. Baldeck, S. R. Marder, B. Van der Sanden, O. Stephan, *Nanotechnology* **20** (23), 235102/1-235102/5 (June 2009, DOI: [10.1088/0957-4484/20/23/235102](https://doi.org/10.1088/0957-4484/20/23/235102))
268. "Effects of Surface Modification of Indium Tin Oxide Electrodes on the Performance of Molecular Multilayer Organic Photovoltaic Devices." A. Sharma, A. Haldi, W. J. Potscavage Jr., P. J. Hotchkiss, S.R. Marder, B. Kippelen, *J. Mater. Chem.* **19** (30), 5298-5302 (August 2009, DOI: [10.1039/B823148F](https://doi.org/10.1039/B823148F))
269. "Linear Ripples and Traveling Circular Ripples Produced on Polymers by Thermal AFM Probes." E. Gnecco, E. Riedo, W. P. King, S. R. Marder, R. Szoszkiewicz, *Phys. Rev. B* **79** (23), 235421/1-235421/7 (June 2009, DOI: [10.1103/PhysRevB.79.235421](https://doi.org/10.1103/PhysRevB.79.235421))
270. "Substituent Effects on the Electronic Structure of Siloles." X. Zhan, S. Barlow, S. R. Marder, *Chem. Commun.* (15), 1948-1955 (April 2009, DOI: [10.1039/B822760H](https://doi.org/10.1039/B822760H))
271. "Fabrication of a Blue $M \times N$ Pixel Organic Light-Emitting Diode Video Display Incorporating a Thermally Stable Emitter." A. Haldi, J. B. Kim, B. Domercq, A. P. Kulkarni, S. Barlow, A. P. Gifford, S. A. Jenekhe, S. R. Marder, B. Kippelen, *J. Disp. Technol.* **5** (4), 120-125 (April 2009, DOI: [10.1109/JDT.2008.2004782](https://doi.org/10.1109/JDT.2008.2004782))
272. "Synthesis and Two-Photon Spectrum of a Bis(Porphyrin)-Substituted Squaraine." S. A. Odom, S. Webster, L.A. Padilha, D. Peceli, H. Hu, G. Nootz, S. J. Chung, S. Ohira, J. D. Matichak, O. V. Przhonska, A. D. Kachkovski, S. Barlow, J. L. Bredas, H. L. Anderson, D. J. Hagan, E. W. Van Stryland, S. R. Marder, *J. Am. Chem. Soc.* **131** (22), 7510-7511 (June 2009, DOI: [10.1021/ja901244e](https://doi.org/10.1021/ja901244e))
273. "6,13-Diethynyl-5,7,12,14-tetraazapentacene." S. Miao, A. L. Appleton, N. Berger, S. Barlow, S. R. Marder, K. I. Hardcastle, U. H. F. Bunz, *Chem. Eur. J.* **15** (20), 4990-4993 (May 2009, DOI: [10.1002/chem.200900324](https://doi.org/10.1002/chem.200900324))
274. "Preparation and Characterization of 4'-Donor Substituted Stilbene-4-Thiolate Monolayers and Their Influence on the Work Function of Gold." M. Malicki, Z. Guan, S. D. Ha, G. Heimel, S. Barlow, M. Rumi, A. Kahn, S. R. Marder, *Langmuir* **25** (14), 7967-7975 (July 2009, DOI: [10.1021/la9004104](https://doi.org/10.1021/la9004104))
275. "Tailoring the Work Function of Indium Tin Oxide Electrodes in Electrophosphorescent Organic Light-Emitting Diodes." A. Sharma, P. J. Hotchkiss, S. R. Marder, B. Kippelen, *J. Appl. Phys.* **105** (8), 084507/1-084507/6 (April 2009, DOI: [10.1063/1.3095492](https://doi.org/10.1063/1.3095492))

276. "Synthesis and Photophysical Properties of Donor- and Acceptor-Substituted 1,7-Bis(arylalkynyl)perylene-3,4:9,10-bis(dicarboximide)s." Z. An, S. A. Odom, R. F. Kelley, C. Huang, X. Zhang, S. Barlow, L. A. Padilha, J. Fu, S. Webster, D. J. Hagan, E. W. Van Stryland, M. R. Wasielewski, S. R. Marder, *J. Phys. Chem. A* **113** (19), 5585-5593 (May 2009, DOI: [10.1021/jp900152r](https://doi.org/10.1021/jp900152r))
277. "Photoinduced Intramolecular Electron Transfer in Conjugated Perylene Bisimide-Dithienothiophene Systems: A Comparative Study of a Small Molecule and a Polymer." J. Huang, Y. Wu, H. Fu, X. Zhan, J. Yao, S. Barlow, S. R. Marder, *J. Phys. Chem. A* **113** (17), 5039-5046 (April 2009, DOI: [10.1021/jp8107655](https://doi.org/10.1021/jp8107655))
278. "Effect of Phosphonic Acid Surface Modifiers on the Work Function of Indium Tin Oxide and on the Charge Injection Barrier into Organic Single-Layer Diodes." A. Sharma, A. Haldi, P.J. Hotchkiss, S. R. Marder, B. Kippelen, *J. App. Phys.* **105** (7, Pt. 1), 074511/1-074511/6 (April 2009, DOI: [10.1063/1.3095490](https://doi.org/10.1063/1.3095490))
279. "Photophysical Properties of an Alkyne-Bridged Bis(zinc porphyrin)-Perylene Bis(dicarboximide) Derivative." S. A. Odom, R. F. Kelley, S. Ohira, T. R. Ensley, C. Huang, L. A. Padilha, S. Webster, V. Coropceanu, S. Barlow, D. J. Hagan, E. W. Van Stryland, J.-L. Brédas, H. L. Anderson, M. R. Wasielewski, S. R. Marder, *J. Phys. Chem. A* **113** (40), 10826-10832 (October 2009, DOI: [10.1021/jp905214g](https://doi.org/10.1021/jp905214g))
280. "Dipolar Second-Order Nonlinear Optical Chromophores Containing Ferrocene, Octamethylferrocene, and Ruthenocene Donors and Strong π -Acceptors: Crystal Structures and Comparison of π -Donor Strengths." T. L. Kinnibrugh, S. Salman, Y. A. Getmanenko, V. Coropceanu, W.W. Porter, III, T. V. Timofeeva, A. J. Matzger, J.-L. Bredas, S. R. Marder and S. Barlow, *Organomet.* **28** (5), 1350-1357 (March 2009, DOI: [10.1021/om800986s](https://doi.org/10.1021/om800986s))
281. "A Spray-Processable, Low Bandgap, and Ambipolar Donor-Acceptor Conjugated Polymer." T. T. Steckler, X. Zhang, J. Hwang, R. Honeyager, S. Ohira, X.-H. Zhang, A. Grant, S. Ellinger, S. A. Odom, D. Sweat, D. B. Tanner, A. G. Rinzler, S. Barlow, J. -L. Bredas, B. Kippelen, S. R. Marder and J. R. Reynolds, *J. Am. Chem. Soc.* **131** (8), 2824-2826 (March 2009, DOI: [10.1021/ja809372u](https://doi.org/10.1021/ja809372u))
282. "Modification of the Surface Properties of Indium Tin Oxide with Benzylphosphonic Acids: A Joint Experimental and Theoretical Study." P. J. Hotchkiss, H. Li, P. B. Paramonov, S. A. Paniagua, S. C. Jones, N. R. Armstrong, J.-L. Bredas and S. R. Marder, *Adv. Mat.* **21** (44), 4496-4501 (November 2009, DOI: [10.1002/adma.200900502](https://doi.org/10.1002/adma.200900502))
283. "Alkynylated Aceno[2,1,3]thiadiazoles." A. L. Appleton, S. Miao, S. M. Brombosz, N. J. Berger, S. Barlow, S. R. Marder, B. M. Lawrence, K. I. Hardcastle, U. H. Bunz, *Org. Lett.* **11** (22), 5222-5225 (November 2009, DOI: [10.1021/ol902156x](https://doi.org/10.1021/ol902156x))
284. "Thermochemical Nanolithography of Multifunctional Nanotemplates for Assembling Nano-Objects." D. Wang, V. K. Kodali, W. D. Underwood II, J. E. Jarvholm, T. Okada, S. C. Jones, M. Rumi, Z. T. Dai, W. P. King, S. R. Marder, J. E. Curtis, E. Riedo, *Adv. Funct. Mater.* **19** (23), 3696-3702 (December 2009, DOI: [10.1002/adfm.200901057](https://doi.org/10.1002/adfm.200901057))

285. "Linear and Nonlinear Spectroscopy of a Porphyrin–Squaraine–Porphyrin Conjugated System." S. Webster, S. A. Odom, L. A. Padilha, O. V. Przhonska, D. Peceli, H. Hu, G. Nootz, A. D. Kachkovski, J. Matichak, S. Barlow, H. L. Anderson, S. R. Marder, D. J. Hagan, E. W. Van Stryland, *J. Phys. Chem. B* **113** (45), 14854–14867 (November 2009, DOI: [10.1021/jp904460f](https://doi.org/10.1021/jp904460f))
286. "Direct Writing and Characterization of Poly(p-phenylene vinylene) Nanostructures." D. Wang, S. Kim, W. D. Underwood II, A. J. Giordano, C. L. Henderson, Z. Dai, W. P. King, S. R. Marder, E. Riedo, *Appl. Phys. Lett.* **95** (23), 233108/1-233108/3 (December 2009, DOI: [10.1063/1.3271178](https://doi.org/10.1063/1.3271178))
287. "Electronic Properties of the 2,6-Diiododithieno[3,2-*b*:2',3'-*d*]thiophene Molecule and Crystal: A Joint Experimental and Theoretical Study." R. S. Sanchez-Carrera, S. A. Odom, T. L. Kinnibrugh, T. Sajoto, E. G. Kim, T. V. Timofeeva, S. Barlow, V. Coropceanu, S. R. Marder, J.-L. Bredas, *J. Phys. Chem. B.* **114** (2), 749-755 (January 2010, DOI: [10.1021/jp909164w](https://doi.org/10.1021/jp909164w))
288. "A Molybdenum Dithiolene Complex as *p*-Dopant for Hole-Transport Materials: A Multitechnique Experimental and Theoretical Investigation." Y. B. Qi, T. Sajoto, M. Kröger, A. M. Kandabarow, W. Park, S. Barlow, E. G. Kim, L. Wielunski, L. C. Feldman, R. A. Bartynski, J.-L. Bredas, S. R. Marder, A. Kahn, *Chem. Mater.* **22** (2), 524-531 (January 2010, DOI: [10.1021/cm9031623](https://doi.org/10.1021/cm9031623))
289. "Dithienopyrrole-Based Donor-Acceptor Copolymers: Low Band-Gap Materials for Charge Transport, Photovoltaics and Electrochromism." X. Zhang, T. T. Steckler, R. R. Dasari, S. Ohira, W. J. Potscavage, S. P. Tiwari, S. Coppee, S. Ellinger, S. Barlow, J.-L. Bredas, B. Kippelen, J. R. Reynolds, S. R. Marder. *J. Mater. Chem.* **20** (1), 123-134 (January 2010, DOI: [10.1039/b915940a](https://doi.org/10.1039/b915940a))
290. "Using End Groups to Tune the Linear and Nonlinear Optical Properties of Bis(dioxaborine)-Terminated Polymethine Dyes." J. D. Matichak, J. M. Hales, S. Ohira, S. Barlow, S. H. Jang, A. K. Y. Jen, J. L. Bredas, J. W. Perry, S. R. Marder, *ChemPhysChem* **11** (1), 130-138 (January 2010, DOI: [10.1002/cphc.200900635](https://doi.org/10.1002/cphc.200900635))
291. "High-Strain Shape-Memory Polymers." W. Voit, T. Ware, R. R. Dasari, P. Smith, L. Danz, D. Simon, S. Barlow, S. R. Marder, K. Gall, *Adv. Funct. Mater.* **20** (1), 162-171 (January 2010, DOI: [10.1002/adfm.200901409](https://doi.org/10.1002/adfm.200901409))
292. "Design of Polymethine Dyes with Large Third-Order Optical Nonlinearities and Loss Figures of Merit." J. M. Hales, J. Matichak, S. Barlow, S. Ohira, K. Yesudas, J.-L. Brédas, J. W. Perry, S. R. Marder, *Science* **327** (5972), 1485-1488 (March 2010, DOI: [10.1126/science.1185117](https://doi.org/10.1126/science.1185117))
293. "Electronic and Optical Properties of 4*H*-Cyclopenta[2,1-*b*:3,4-*b'*]bithiophene Derivatives and Their 4-Heteroatom-Substituted Analogues: A Joint Theoretical and Experimental Comparison." S. Barlow, S. A. Odom, K. Lancaster, Y. A. Getmanenko, R. Mason, V. Coropceanu, J.-L. Brédas and S. R. Marder, *J. Phys. Chem. B.*, **114** (45), 14397-14407 (April 2010, DOI: [10.1021/jp100774r](https://doi.org/10.1021/jp100774r))

294. "Excited-State Dynamics and Dye–Dye Interactions in Dye-Coated Gold Nanoparticles with Varying Alkyl Spacer Lengths." M. Malicki, J. M. Hales, M. Rumi, S. Barlow, L. McClary, S. R. Marder and J. W. Perry, *Phys. Chem. Chem. Phys.* **12**, 6267-6277 (June 2010, DOI: [10.1039/b926938j](https://doi.org/10.1039/b926938j))
295. "Pentacene Organic Field-Effect Transistors with Doped Electrode-Semiconductor Contacts." S. P. Tiwari, W. J. Potscavage Jr., T. Sajoto, S. Barlow, S. R. Marder, B. Kippelen. *Org. Electron.* **11** (5), 860-863, (May 2010, DOI: [10.1016/j.orgel.2010.01.029](https://doi.org/10.1016/j.orgel.2010.01.029))
296. "Base-Catalyzed Halogen Dance Reaction and Oxidative Coupling Sequence as a Convenient Method for the Preparation of Dihalo-Bisheteroarenes." Y. A. Getmanenko, P. Tongwa, T. V. Timofeeva, S. R. Marder, *Org. Lett.* **12** (9), 2136-2139 (May 2010, DOI: [10.1021/o11006423](https://doi.org/10.1021/o11006423))
297. "Nanoscale Tunable Reduction of Graphene Oxide for Graphene Electronics." Z. Q. Wei, D. B. Wang, S. Kim, S. Y. Kim, Y. K. Hu, M. K. Yakes, A. R. Laracuenta, Z. T. Dai, S. R. Marder, C. Berger, W. P. King, W. A. de Heer, P. E. Sheehan, E. Riedo, *Science* **328** (5984), 1373-1376 (June 2010, DOI: [10.1126/science.1188119](https://doi.org/10.1126/science.1188119))
298. "Nonlinear Absorption Spectroscopy of Organic Dyes." E. W. Van Stryland, D. J. Hagan, O. V. Przhonska, S. R. Marder, S. Webster, L. A. Padilha, *Nonlinear Optics, Quantum Optics*, **40** (1-4, Pt. 1), 95-113 (2010)
299. "Pluronic Organic Fluorescent Probes for Two-Photon Vascularisation Imaging." M. Maurin, L. Vurth, J. C. Vial, P. Baldeck, S. R. Marder, B. Van der Saden, O. Stephan, *Nonlinear Optics, Quantum Optics*, **40** (1-4, Pt.1), 175-181 (2010),
300. "n-Type Organic Semiconductors in Organic Electronics," J. E. Anthony, A. Facchetti, M. Heeney, S. R. Marder, X. Zhan, *Adv. Mater.* **22** (34), 3876-3892 (September 2010, DOI: [10.1002/adma.200903628](https://doi.org/10.1002/adma.200903628)).
301. "Acceptor Energy Level Control of Charge Photogeneration in Organic Donor/Acceptor Blends," S. Shoaee, T. M. Clarke, C. Huang, S. Barlow, S. R. Marder, M. Henney, I. McCulloch, J. R. Durrant, *J. Am. Chem. Soc.* **132** (37), 12919-12926 (September 2010, DOI: [10.1021/ja1042726](https://doi.org/10.1021/ja1042726))
302. "Remote Doping of a Pentacene Transistor: Control of Charge Transfer by Molecular-Level Engineering," W. Zhao, Y. Qi, T. Sajoto, S. Barlow, S. R. Marder, A. Kahn, *Appl. Phys. Lett.* **97** (12), 123305/1-3 (Pub. Online Sept. 22, 2010, DOI: [10.1063/1.3491429](https://doi.org/10.1063/1.3491429))
303. "Effects of electronegative substitution on the optical and electronic properties of acenes and diazaacenes," A. L. Appleton, S. M. Brombosz, S. Barlow, J. S. Sears, J. L. Bredas, S. R. Marder, U. H.F. Bunz, *Nat. Commun.* **1** (91), (October 19, 2010, DOI: [10.1038/ncomms1088](https://doi.org/10.1038/ncomms1088))
304. "Approaches to Solution-Processed Multilayer Organic Light-Emitting Diodes Based on Cross-Linking," C. Zuniga, S. Barlow, S. R. Marder, *Chem. Mater.* **23** (3), 658-681 (December 2010, DOI: [10.1021/cm102401k](https://doi.org/10.1021/cm102401k))
305. "Synthesis And Linear And Nonlinear Optical Properties of Metal-Terminated Bis(Dioxaborine) Polymethines," H.-C. Lin,; H. Kim, S. Barlow, J. M. Hales, J. W. Perry, S. R. Marder, *Chem. Commun.*, **47** (2), 782-784 (January 2011, DOI: [10.1039/C0CC02003F](https://doi.org/10.1039/C0CC02003F))

306. "Rylene and Related Diimides for Organic Electronics," X. Zhan, A. Facchetti, S. Barlow, T. J. Marks, M. A. Ratner, M. R. Wasielewski, S. R. Marder, *Adv. Mater.* **23** (2), 268-284 (January 2011, DOI: [10.1002/adma.201001402](https://doi.org/10.1002/adma.201001402))
307. "Steric Effects of the Initiator Substituent Position on the Externally Initiated Polymerization of 2-Bromo-5-iodo-3-hexylthiophen," N. Doubina, S. A. Paniagua, A. V. Soldatova, A-K. Y. Jen, S. R. Marder, C. K. Luscombe, *Macromolecules*, **44** (4), 512-520 (February 2011, DOI: [10.1021/ma1024494](https://doi.org/10.1021/ma1024494))
308. "Efficient green OLED devices with an emissive layer comprised of phosphor-doped carbazole/bis-oxadiazole side-chain polymer blends," S. J. Kim, Y. Zhang, C. Zuniga, S. Barlow, S. R. Marder, B. Kippelen, *Org. Electron.* **12** (3), 492-496 (March 2011, DOI: [10.1016/j.orgel.2010.12.006](https://doi.org/10.1016/j.orgel.2010.12.006))
309. "Dithienopyrrole–quinoxaline/pyridopyrazine donor–acceptor polymers: synthesis and electrochemical, optical, charge-transport, and photovoltaic properties," X. Zhang, J. W. Shim, S. P. Tiwari, Q. Zhang, J. E. Norton, P-T. Wu, S. Barlow, S. A. Jenekhe, B. Kippelen, J. L. Bredas, S. R. Marder, *J. Mater. Chem.* **21**, 4971-4982 (March 2011, DOI: [10.1039/C0JM04290K](https://doi.org/10.1039/C0JM04290K))
310. "Dioxaborine- and Indole-Terminated Polymethines: Effects of Bridge Substitution on Absorption Spectra and Third-Order Polarizabilities," J. D. Matichak, J. M. Hales, S. Barlow, J. W. Perry, S. R. Marder, *J. Phys. Chem. A* **115** (11), 2160-2168 (March 2011, DOI: [10.1021/jp110425r](https://doi.org/10.1021/jp110425r))
311. "Deep *in vivo* two-photon imaging of blood vessels with a new dye encapsulated in pluronic nanomicelles," M. Maurin, O. Stéphan, J.-C. Vial, S. R. Marder and B. van der Sanden, *J. Biomed. Opt.* **16** (3), 036001/1-036001/6 (March 2011, DOI: [10.1117/1.3548879](https://doi.org/10.1117/1.3548879))
312. "Characterization of phosphonic acid binding to zinc oxide," P. J. Hotchkiss, M. Malicki, A. J. Giordano, N. R. Armstrong, S. R. Marder, *J. Mater. Chem.* **21** (9), 3107-3112 (March 2011, DOI: [10.1039/C0JM02829K](https://doi.org/10.1039/C0JM02829K))
313. "Perylene-3,4,9,10-tetracarboxylic Acid Diimides: Synthesis, Physical Properties, and Use in Organic Electronics," C. Huang, S. Barlow, S. R. Marder, *J. Org. Chem.* **76** (8), 2386-2407 (April 2011, DOI: [10.1021/jo2001963](https://doi.org/10.1021/jo2001963))
314. "Energy-Level Alignment in 4'-Substituted Stilbene-4-thiolate Self-Assembled Monolayers on Gold," M. Malicki, G. Heimel, Z.-L. Guan, S. D. Ha, S. Barlow, A. Kahn, S. R. Marder, *J. Phys. Chem. C* **115** (15), 7487-7495 (April 2011, DOI: [10.1021/jp111900g](https://doi.org/10.1021/jp111900g))
315. "Synthesis and linear and nonlinear absorption properties of dendronised ruthenium(ii) phthalocyanine and naphthalocyanine," R. R. Dasari, M. M. Sartin, M. Cozzuol, S. Barlow, J. W. Perry, S. R. Marder, *Chem. Comm.* **47** (11), 4547-4549 (April 2011, DOI: [10.1039/c0cc05688j](https://doi.org/10.1039/c0cc05688j))
316. "Mono- and Dicarbonyl-Bridged Tricyclic Heterocyclic Acceptors: Synthesis and Electronic Properties," Y. A. Getmanenko, C. Risko, P. Twonga, E.-G. Kim, B. Sandhu, T. Timofeeva, J. L. Brédas, S. R. Marder, *J. Org. Chem.* **76** (8), 2660-2671 (April 2011, DOI: [10.1021/jo102502u](https://doi.org/10.1021/jo102502u))

317. "Energy levels, charge injection, charge recombination and dye regeneration dynamics for donor-acceptor pi-conjugated organic dyes in mesoscopic TiO₂ sensitized solar cells," M. Planells, L. Pelleja, J. N. Clifford, M. Pastore, F. De Angelis, N. Lopez, S. R. Marder, E. Palomares, *Energy and Environ. Sci.* **4** (5), 1820-1829 (May 2011, DOI: [10.1039/C1EE01060C](https://doi.org/10.1039/C1EE01060C))
318. "High-efficiency blue-green electrophosphorescent light-emitting devices using a bis-sulfone as host in the emitting layer," S. J. Kim, J. Leroy, C. Zuniga, Y. Zhang, L. Zhu, J. S. Sears, S. Barlow, J. L. Bredas, S. R. Marder, B. Kippelen, *Org. Electron.* **12** (8), 1314-1318 (August 2011, DOI: [10.1016/j.orgel.2011.04.015](https://doi.org/10.1016/j.orgel.2011.04.015))
319. "Direct Fabrication of Arbitrary-Shaped Ferroelectric Nanostructures on Plastic, Glass, and Silicon Substrates". S. Kim, Y. Bastani, H. Lu, W. P. King, S. R. Marder, K. H. Sandhage, A. Gruverman, E. Riedo, N. Bassiri-Gharb, *Adv. Mater.* **23** (33), 3786-3790 (July 2011, DOI: [10.1002/adma.201101991](https://doi.org/10.1002/adma.201101991))
320. "Solution-Processed Molecular Bis(Naphthalene Diimide) Derivatives with High Electron Mobility". L. E. Polander, S. P. Tiwari, L. Pandey, B. M. Seifried, Q. Zhang, S. Barlow, C. Risko, J. L. Bredas, B. Kippelen, S. R. Marder. *Chem. Mater.* **23** (15), 3408-3410 (July 2011, DOI: [10.1021/cm201729s](https://doi.org/10.1021/cm201729s))
321. "A High-Efficiency Panchromatic Squaraine Sensitizer for Dye-Sensitized Solar Cells," Y. Shi, R. B. M. Hill, J.-H. Yum, A. Dualeh, S. Barlow, M. Graetzel, S. R. Marder, M. K. Nazeeruddin, *Angew. Chem. Int. Ed.* **50** (29), 6619-6621 (July 2011, DOI: [10.1002/anie.201101362](https://doi.org/10.1002/anie.201101362))
322. "*N,N*-Dihydrotetraazaheptacene: A Synthetic Strategy towards Larger Acenes with Ambient Stability," A. L. Appleton, S. Barlow, S. R. Marder, K. I. Hardcastle, U. H. F. Bunz, *Syn. Lett.* **14**, 1983-1986 (August 2011, DOI: [10.1055/s-0030-1261176](https://doi.org/10.1055/s-0030-1261176))
323. "Photo-induced charge transfer and nonlinear absorption in dyads composed of a two-photon-absorbing donor and a perylene diimide acceptor". C. Huang, M. M. Sartin, N. Siegel, M. Cozzuol, Y. Zhang, J. M. Hales, S. Barlow, J. W. Perry, S. R. Marder, *J. Mater. Chem.* **21** (40), 16119-16128 (August 2011, DOI: [10.1039/C1JM12566D](https://doi.org/10.1039/C1JM12566D))
324. "Benzothiadiazole-Dithienopyrrole Donor-Acceptor-Donor and Acceptor-Donor-Acceptor Triads: Synthesis and Optical, Electrochemical, and Charge-Transport Properties," L. E. Polander, L. Pandey, S. Barlow, S. P. Tiwari, C. Risko, B. Kippelen, J. L. Brédas, S. R. Marder, *J. Phys. Chem. C* **115** (46), 23149-23163 (October 2011, DOI: [10.1021/jp208643k](https://doi.org/10.1021/jp208643k))
325. "Syntheses of nanostructured Cu- and Ni-based micro-assemblies with selectable 3-D hierarchical biogenic morphologies," Y. Fang, J. D. Berrigan, Y. Cai, S. R. Marder, K. H. Sandhage, *J. Mater. Chem.* **22** (4), 1305-1312 (January 2012, DOI: [10.1039/C1JM13884G](https://doi.org/10.1039/C1JM13884G))
326. "Fluorescent Detection of Anions by Dibenzophenazine-based Donors," A. O. El-Ballouli, Y. Zhang, S. Barlow, S. R. Marder, M. H. El-Sayah, B. R. Kaafarani, *Tetrahedron Lett.* **53** (6), 661-665 (January 2012, DOI: [10.1016/j.tetlet.2011.11.121](https://doi.org/10.1016/j.tetlet.2011.11.121))

327. "Characterisation of a Dipolar Chromophore with Third-Harmonic Generation Application in the Near-IR," Y. A. Getmanenko, J. M. Hales, M. Balu, J. Fu, E. Zojer, O. Kwon, J. Mendez, S. Thayumanavan, G. Walker, Q. Zhang, S. D. Bunge, J. L. Brédas, D. J. Hagan, E. W. Van Stryland, S. Barlow and S. R. Marder, *J. Mater. Chem.* **22**, 4371-4382 (January 2012, DOI: [10.1039/C2JM15599K](https://doi.org/10.1039/C2JM15599K))
328. "Surface-Initiated Synthesis of Poly(3-methylthiophene) from Indium Tin Oxide and its Electrochemical Properties," N. Doubina, J. L. Jenkins, S. A. Paniagua, K. A. Mazzio, G. A. MacDonald, A. K. Y. Jen, N. R. Armstrong, S. R. Marder, C. K. Luscombe, *Langmuir* **28** (3), 1900-1908 (January 2012, DOI: [10.1021/la204117u](https://doi.org/10.1021/la204117u))
329. "Synthesis and characterization of naphthalene diimide / diethynylbenzene copolymers," T. Sajoto, S. P. Tiwari, H. Li, C. Risko, S. Barlow, Q. Zhang, J.-Y. Cho, J. -L. Bredas, B. Kippelen, S. R. Marder. *Polymer* **53** (5), 1072-1078 (February 2012, DOI: [10.1016/j.polymer.2012.01.016](https://doi.org/10.1016/j.polymer.2012.01.016))
330. "Stannyl Derivatives of Naphthalene Diimides and Their Use in Oligomer Synthesis," L. E. Polander, A. S. Romanov, S. Barlow, D. K. Hwang, B. Kippelen, T. V. Timofeeva, S. R. Marder. *Org. Lett.* **14** (3), 918-921 (February 2012, DOI: [10.1021/ol203432x](https://doi.org/10.1021/ol203432x))
331. "n-Doping of Organic Electronic Materials using Air-Stable Organometallics," S. Guo, S. B. Kim, S. K. Mohapatra, Y. Qi, T. Sajoto, A. Kahn, S. R. Marder, S. Barlow, *Adv. Mater.* **24** (5), 699-703 (February 2012, DOI: [10.1002/adma.201103238](https://doi.org/10.1002/adma.201103238))
332. "Spatially modulating interfacial properties of transparent conductive oxides: Patterning work function with phosphonic acid self-assembled monolayers," K. M. Knesting, P. J. Hotchkiss, B. A. MacLeod, S. R. Marder, D. S. Ginger, *Adv. Mater.* **24** (5), 642-646 (February 2012, DOI: [10.1002/adma.201102321](https://doi.org/10.1002/adma.201102321))
333. "Solution doping of organic semiconductors using air-stable n-dopants." Y. Qi, S. K. Mohapatra, S. B. Kim, S. Barlow, S. R. Marder, A. Kahn, *Appl. Phys. Lett.* **100**, 083305 (February 2012, DOI: [10.1063/1.3689760](https://doi.org/10.1063/1.3689760))
334. "A universal method to produce low work function electrodes for organic electronics," Y. Zhou, C. Fuentes-Hernandez, J. Shim, J. Meyer, A. J. Giordano, H. Li, P. Winget, T. Papadopoulos, H. Cheun, J. Kim, M. Fenoll, A. Dindar, W. Haske, E. Najafabadi, H. Sojoudi, S. Barlow, S. Graham, J.-L. Bredas, S. R. Marder, A. Kahn, and B. Kippelen, *Science* **336** (6079), 327-332 (April 2012, DOI: [10.1126/science.1218829](https://doi.org/10.1126/science.1218829))
335. "Charge photogeneration in donor/acceptor organic solar cells," S. Shoaee, T. Clarke, M. Eng, C. Huang, S. Barlow, E. Espildora, J. Delgado, B. Campo, S. Marder, M. Heeney, I. McCulloch, N. Martin, D. Vanderzande, and J. Durrant, *J. Photon. Energy* **2**, 021001-1 – 201001-14 (Pub Web March 24, 2012 DOI: [10.1117/1.JPE.2.021001](https://doi.org/10.1117/1.JPE.2.021001))
336. "Effects of dendronization on the linear and third-order nonlinear optical properties of bis(thiopyrylium) polymethine dyes in solution and the solid state." A. Scarpaci, A. Nantalaksakul, J. M. Hales, J. D. Matichak, S. Barlow, M. Rumi, J. W. Perry, and S. R. Marder, *Chem. Mater.* **24** (9), 1536-1545 (April 2012, DOI: [10.1021/cm3002139](https://doi.org/10.1021/cm3002139))

337. "Complementary-like inverters based on an ambipolar solution-processed molecular bis(naphthalene diimide)-dithienopyrrole derivative." S. Tiwari, J. Kim, K. A. Knauer, D. Hwang, L. E. Polander, S. Barlow, S. R. Marder, B. Kippelen. *Org. Electron.* **13** (7), 1166-1170 (July 2012, DOI: [10.1016/j.orgel.2012.03.029](https://doi.org/10.1016/j.orgel.2012.03.029))
338. "Photoinduced electron transfer and nonlinear absorption in poly(carbazole-*alt*-2,7-fluorene)s bearing perylene diimides as pendant acceptors." C. Huang, M. M. Sartin, M. Cozzuol, N. Siegel, S. Barlow, J. W. Perry, and S. R. Marder, *J. Phys. Chem. A* **116** (17), 4305-4317 (May 2012, DOI: [10.1021/jp3006712](https://doi.org/10.1021/jp3006712))
339. "Synthesis and characterization of nonamethylrhodocenium and iridocenium hexafluorophosphate salts." S. Mohapatra, A. Romanov, G. Angles, T. V. Timofeeva, S. Barlow, S. R. Marder, *J. Organomet. Chem.* **706**, 140-143 (May 2012, DOI: [10.1016/j.jorganchem.2012.01.016](https://doi.org/10.1016/j.jorganchem.2012.01.016))
340. "The modification of indium tin oxide with phosphonic acids: Mechanism of binding, tuning of surface properties, and potential for use in organic electronic applications." P. J. Hotchkiss, S. C. Jones, S. A. Paniagua, A. Sharma, B. Kippelen, N. R. Armstrong, S. R. Marder, *Acc. Chem. Res.* **45** (3), 337-346 (May 2012, DOI: [10.1021/ar200119g](https://doi.org/10.1021/ar200119g))
341. "Built-in potential in conjugated polymer diodes with changing anode work function: Interfacial states and deviation from the Schottky-Mott limit." B. A. MacLeod, N. E. Horwitz, E. L. Ratcliff, J. L. Jenkins, N. R. Armstrong, A. J. Giordano, P. J. Hotchkiss, S. R. Marder, C. T. Campbell, and D. S. Ginger. *J. Phys. Chem. Lett.* **3** (9), 1202-1207 (May 2012, DOI: [10.1021/jz300283h](https://doi.org/10.1021/jz300283h))
342. "Hybrid rylene arrays via combination of stille coupling and C-H transformation as high-performance electron transport materials." W. Yue, A. F. Lv, J. Gao, W. Jiang, L. X. Hao, C. Li, Y. Li, L. E. Polander, S. Barlow, W. P. Hu, S. Di Motta, F. Negri, S. R. Marder, Z. H. Wang. *J. Am. Chem. Soc.* **134** (13), 5770-5773 (April 2012, DOI: [10.1021/ja301184r](https://doi.org/10.1021/ja301184r))
343. "Optimization of the double pump-probe technique: Decoupling the triplet yield and cross section." D. Peceli, S. Webster, D. A. Fishman, C. M. Cirloganu, H. H. Hu, O. V. Przhonska, V. V. Kurdyukov, Y. L. Slominsky, A. I. Tolmachev, A. D. Kachkovski, R. R. Dasari, S. Barlow, S. R. Marder, D. J. Hagan, E. W. Van Stryland. *J. Phys. Chem. A* **116** (20), 4833-4841 (May 2012, DOI: [10.1021/jp301051u](https://doi.org/10.1021/jp301051u))
344. "Biologically enabled syntheses of freestanding metallic structures possessing subwavelength pore arrays for extraordinary (surface plasmon-mediated) infrared transmission." Y. N. Fang, V. W. Chen, Y. Cai, J. D. Berrigan, S. R. Marder, J. W. Perry, K. W. Sandhage. *Adv. Funct. Mater.* **22** (12), 2550-2259 (June 2012, DOI: [10.1002/adfm.201102715](https://doi.org/10.1002/adfm.201102715))
345. "Photoelectron spectroscopy studies of plasma-fluorinated epitaxial graphene." S. D. Sherpa, S. A. Paniagua, G. Levitin, S. R. Marder, M. D. Williams, D. W. Hess. *J. Vac. Sci. Technol. B* **30** (3), 03D102-1/7 (May/June 2012, DOI: [10.1116/1.3688760](https://doi.org/10.1116/1.3688760))
346. "Tuning delocalization in the radical cations of 1,4-bis[4-(diarylamino)styryl]benzenes, 2,5-Bis[4-(diarylamino)styryl]thiophenes, and 2,5-bis[4-(diarylamino)styryl]pyrroles through substituent effects." S. Barlow, C. Risko, S. A. Odom, S. J. Zheng, V. Coropceanu, L. Beverina, J. -L. Bredas, S. R. Marder. *J. Am. Chem. Soc.* **134** (24), 10146-10155 (June 2012, DOI: [10.1021/ja3023048](https://doi.org/10.1021/ja3023048))

347. "Impact of Alkyl-Functionalized BTC on Properties of Copper-Based Metal-Organic Frameworks." Y. Cai, Y. Zhang, Y. Huang, S. R. Marder, and K. S. Walton, *Crys. Growth Des.* **12** (7), 3709-3713 (July 2012, DOI: [10.1021/cg300518k](https://doi.org/10.1021/cg300518k))
348. "Direct correlation between work function of indium-tin-oxide electrodes and solar cell performance influenced by ultraviolet irradiation and air exposure." Y. Zhou, J. W. Shim, C. Fuentes-Hernandez, A. Sharma, K. A. Knauer, A. J. Giordano, S. R. Marder, B. Kippelen. *Phys. Chem. Chem. Phys.* **14**, 12014-12021 (July 2012, DOI: [10.1039/c2cp42448g](https://doi.org/10.1039/c2cp42448g))
349. "Polymethine dyes for all-optical switching applications: A quantum-chemical characterization of counter-ion and aggregation effects on the third-order nonlinear optical response." S. Mukhopadhyay, C. Risko, S. R. Marder, and J.-L. Brédas, *Chem. Sci.* **3**, 3103-3112 (July 2012, DOI: [10.1039/C2SC20861J](https://doi.org/10.1039/C2SC20861J))
350. "Polynorbornenes with pendant perylene diimides for organic electronic applications." C. Huang, W. J. Potscavage, S. P. Tiwari, S. Sutcu, S. Barlow, B. Kippelen, S. R. Marder, *Polym. Chem.* **3** (10), 2996-3006 (August 2012, DOI: [10.1039/C2PY20401K](https://doi.org/10.1039/C2PY20401K))
351. "Stable solution-processed molecular n-channel organic field-effect transistors." D. K. Hwang, R. R. Dasari, M. Fenoll, V. Alain-Rizzo, A. Dindar, J. W. Shim, N. Deb, C. Fuentes-Hernandez, S. Barlow, D. G. Bucknall, P. Audebert, S. R. Marder, B. Kippelen. *Adv. Mater.* **24** (32), 4445-4450 (August 2012, DOI: [10.1002/adma.201201689](https://doi.org/10.1002/adma.201201689))
352. "2,6-Diaclynaphthalene-1,8:4,5-bis(dicarboximides): Synthesis, reduction potentials, and core extension." L. E. Polander, A. Romanov, A. Fonari, S. Barlow, B. M. Seifried, T. V. Timofeeva, J. L. Bredas, S. R. Marder. *J. Org. Chem.* **77** (13), 5544-5551 (July 2012, DOI: [10.1021/jo3006232](https://doi.org/10.1021/jo3006232))
353. "Facile formation of graphene p-n junctions using self-assembled monolayers". J. Baltazar, H. Sojoudi, S. A. Paniagua, J. Kowalik, S. R. Marder, L. M. Tolbert, S. Graham, C. L. Henderson. *J. Phys. Chem. C* **116** (36), 19095-19103 (September 2012, DOI: [10.1021/jp3045737](https://doi.org/10.1021/jp3045737))
354. "n-Doping of organic electronic materials using air-stable organometallics: A mechanistic study of reduction by dimeric sandwich compounds." S. Barlow, S. Guo, S. K. Mohapatra, A. Romanov, T. V. Timofeeva, K. I. Hardcastle, K. Yesudas, C. Risko, J.-L. Bredas, S. R. Marder, *Chem. Eur. J.* **18** (46), 14760-14772 (October 2012, DOI: [10.1002/chem.201202591](https://doi.org/10.1002/chem.201202591))
355. "Ultralow doping in organic semiconductors: Evidence of trap filling." S. Olthof, S. Mehraeen, S. K. Mohapatra, S. Barlow, V. Coropceanu, J.-L. Brédas, S. R. Marder, and A. Kahn, *Phys. Rev. Lett.* **109** (17), 176601/1-5 (November 2012, DOI: [10.1103/PhysRevLett.109.176601](https://doi.org/10.1103/PhysRevLett.109.176601))
356. "Transition metal-catalyzed C-H activation as a route to structurally diverse di(arylthiophenyl)-diketopyrrolopyrroles." J. Zhang, D.-Y. Kang, S. Barlow, and S. R. Marder, *J. Mater. Chem.* **22** (40), 21392-21394 (October 2012, DOI: [10.1039/c2jm35398a](https://doi.org/10.1039/c2jm35398a))
357. "A 2,6-diformylnaphthalene-1,8:4,5-bis(dicarboximide): Synthesis and knoevenagel condensation with malononitrile." L. E. Polander, S. Barlow, B. M. Seifried, and S. R. Marder, *J. Org. Chem.* **77** (20), 9426-9428 (October 2012, DOI: [10.1021/jo301876v](https://doi.org/10.1021/jo301876v))

358. "High-optical-quality blends of anionic polymethine salts and polycarbonate with enhanced third-order non-linearities for silicon-organic hybrid devices." Z. Li, Y. Liu, H. Kim, J. M. Hales, S. H. Jang, J. D. Luo, T. Baehr-Jones, M. Hochberg, S. R. Marder, J. W. Perry, and A. K. Y. Jen, *Adv. Mater.* **24** (44), OP326-OP330 (November 2012, DOI: [10.1002/adma.201202325](https://doi.org/10.1002/adma.201202325))
359. "Easily reducible materials from the reactions of diselenopheno[3,2-b:2',3'-d]pyrrole and dithieno[3,2-b:2',3'-d]pyrrole with tetracyanoethylene." Y. A. Getmanenko, T. A. Purcell, D. K. Hwang, B. Kippelen, and S. R. Marder, *J. Org. Chem.* **77** (23), 10931-10937 (December 2012, DOI: [10.1021/jo3020006](https://doi.org/10.1021/jo3020006))
360. "Physical mixtures of small-molecule and polymeric organic semiconductors: Comparing thermodynamic behavior and thin-film structure." B. H. Wunsch, K. Kim, Y. Rho, B. Ahn, S. Jung, L. E. Polander, D. G. Bucknall, S. R. Marder, and M. Ree, *J. Mater. Chem. C* **1** (4), 778-785 (2013, DOI: [10.1039/c2tc00613h](https://doi.org/10.1039/c2tc00613h))
361. "Benzo[1,2-*b*:6,5-*b'*]dithiophene(dithiazole)-4,5-dione derivatives: synthesis, electronic properties, crystal packing and charge transport." Y. A. Getmanenko, M. Fonari, C. Risko, B. Sandhu, E. Galan, L. Zhu, P. Tongwa, D. K. Hwang, S. Singh, H. Wang, S. P. Tiwari, Y.-L. Loo, J.-L. Brédas, B. Kippelen, T. Timofeeva, and S. R. Marder, *J. Mater. Chem. C* **1** (7), 1467-1481 (January 3, 2013, DOI: [10.1039/c2tc00805j](https://doi.org/10.1039/c2tc00805j))
362. "Bis(carbazolyl) derivatives of pyrene and tetrahydropyrene: Synthesis, structures, optical properties, electrochemistry, and electroluminescence." B. R. Kaafarani, A. O. El-Ballouli, R. Trattnig, A. Fonari, S. Sax, B. Wex, C. Risko, R. S. Khnayzer, S. Barlow, D. Patra, T. V. Timofeeva, E. J. W. List, J.-L. Brédas, and S. R. Marder, *J. Mater. Chem. C* **1** (8), 1638-1650 (January 8, 2013, DOI: [10.1039/c2tc00474g](https://doi.org/10.1039/c2tc00474g))
363. "Passivation of trap states in unpurified and purified C-60 and the influence on organic field-effect transistor performance." S. Olthof, S. Singh, S. K. Mohapatra, S. Barlow, S. R. Marder, B. Kippelen, and A. Kahn, *Appl. Phys. Lett.* **101** (25), 253303-1/4 (December 17, 2012, DOI: [10.1063/1.4772551](https://doi.org/10.1063/1.4772551))
364. "Crosslinking using rapid thermal processing for the fabrication of efficient solution-processed phosphorescent Organic Light-Emitting Diodes." C. A. Zuniga, J. Abdallah, W. Haske, Y. Zhang, I. Coropceanu, S. Barlow, B. Kippelen, and S. R. Marder, *Adv. Mater.* **25**, 1739-1744 (January 2013, DOI: [10.1002/adma.201204518](https://doi.org/10.1002/adma.201204518))
365. "Experimental study of interfacial fracture toughness in a SiNx/PMMA barrier film." Y. Kim, A. Bulusu, A. J. Giordano, S. R. Marder, R. Dauskardt and S. Graham, *ACS Appl. Mater. Interfaces* **4**, 6710-6718 (December 2012, DOI: [10.1021/am301880y](https://doi.org/10.1021/am301880y))
366. "Influence of electrode surface composition and energetics on small-molecule organic solar cell performance: Polar versus nonpolar donors on indium tin oxide contacts." J. Gantz, D. Placencia, A. Giordano, S. R. Marder, and N. R. Armstrong, *J. Phys. Chem. C* **117**, 1205-1216 (January 24, 2013, DOI: [10.1021/jp307546v](https://doi.org/10.1021/jp307546v))
367. "The role of π -bridges in high-efficiency DSCs based on unsymmetrical squaraines." J. H. Delcamp, Y. R. Shi, J. H. Yum, T. Sajoto, E. Dell'Orto, S. Barlow, M. K. Nazeeruddin, S. R. Marder, and M. Gratzel, *Chem. Eur. J.* **19**, 1819-1827 (January 2013, DOI: [10.1002/chem.201202677](https://doi.org/10.1002/chem.201202677))

368. "Perylene diimide copolymers with dithienothiophene and dithienopyrrole: Use in n-channel and ambipolar field-effect transistors." S. M. Zhang, Y. G. Wen, W. Y. Zhou, Y. L. Guo, L. C. Ma, X. G. Zhao, Z. Zhao, S. Barlow, S. R. Marder, Y. Q. Liu and X. W. Zhan, *J. Polym. Sci., Part A: Polym. Chem.* **51**, 1550-1558 (April 2013, DOI: [10.1002/pola.26521](https://doi.org/10.1002/pola.26521))
369. "Reduction of contact resistance by selective contact doping in fullerene n-channel organic field-effect transistors." S. Singh, S. K. Mohapatra, A. Sharma, C. Fuentes-Hernandez, S. Barlow, and S. R. Marder, *Appl. Phys. Lett.* **102**, 153303-153307 (April 2013, DOI: [10.1063/1.4802237](https://doi.org/10.1063/1.4802237))
370. "Orientation of phenylphosphonic acid self-assembled monolayers on a transparent conductive oxide: A combined NEXAFS, PM-IRRAS, and DFT study," M. Gliboff, L. Z. Sang, K. M. Knesting, M. C. Schalnatz, A. Mudalige, E. L. Ratcliff, H. Li, A. K. Sigdel, A. J. Giordano, J. J. Berry, D. Nordlund, G. T. Seidler, J. L. Bredas, S. R. Marder, J. E. Pemberton and D. S. Ginger, *Langmuir* **29**, 2166-2174 (February 2013, DOI: [10.1021/la304594t](https://doi.org/10.1021/la304594t)); Correction published March 13, 2013 under <http://doi.org/10.1021/la400693c>
371. "Bis(naphthalene diimide) derivatives with mono- and dicarbonyl-fused tricyclic heterocyclic bridges as electron-transport materials," Y. A. Getmanenko, L. E. Polander, D. Kyung Hwang, S. P. Tiwari, E. Galán, B. M. Seifried, B. Sandhu, S. Barlow, T. Timofeeva, B. Kippelen and S. R. Marder, *J. Org. Semicond.* **1**, 7-15 (January 2013, DOI: [10.1080/21606099.2013.791037](https://doi.org/10.1080/21606099.2013.791037))
372. "High-Performance n-Channel Thin-Film Field-Effect Transistors Based on a Nanowire-Forming Polymer," S. G. Hahm, Y. Rho, J. Jung, S. H. Kim, T. Sajoto, F. S. Kim, S. Barlow, C. E. Park, S. A. Jenekhe, S. R. Marder and M. Ree, *Adv. Funct. Mater.* **23**, 2060-2071 (April 2013, DOI: [10.1002/adfm.201202065](https://doi.org/10.1002/adfm.201202065))
373. "Efficient Modification of Metal Oxide Surfaces with Phosphonic Acids by Spray Coating," A. Bulusu, S. A. Paniagua, B. A. MacLeod, A. K. Sigdel, J. J. Berry, D. C. Olson, S. R. Marder and S. Graham, *Langmuir* **29**, 3935-3942 (Mar 2013, DOI: [10.1021/la303354t](https://doi.org/10.1021/la303354t))
374. "Investigating the Influence of Interfacial Contact Properties on Open Circuit Voltages in Organic Photovoltaic Performance: Work Function Versus Selectivity," E. L. Ratcliff, A. Garcia, S. A. Paniagua, S. R. Cowan, A. J. Giordano, D. S. Ginley, S. R. Marder, J. J. Berry and D. C. Olson, *Adv. Energy Mater.* **3**, 647-656 (May 2013, DOI: [10.1002/aenm.201200669](https://doi.org/10.1002/aenm.201200669))
375. "Competing Effects of Fluorination on the Orientation of Aromatic and Aliphatic Phosphonic Acid Monolayers on Indium Tin Oxide," M. Gliboff, H. Li, K. M. Knesting, A. J. Giordano, D. Nordlund, G. T. Seidler, J.-L. Bredas, S. R. Marder, and D. S. Ginger, *J. Phys. Chem. C* **117**, 15139-15147 (July 2013, DOI: [10.1021/jp404033e](https://doi.org/10.1021/jp404033e))
376. "Fabricating Nanoscale Chemical Gradients with ThermoChemical NanoLithography," K. C. Carroll, A. J. Giordano, D. Wang, V. K. Kodali, J. Scrimgeour, W. P. King, S. R. Marder, E. Riedo, and J. E. Curtis, *Langmuir* **29**, 8675-8682 (June 2013, DOI: [10.1021/la400996w](https://doi.org/10.1021/la400996w))

377. "Structure-Processing-Property Correlations in Solution-Processed, Small-Molecule, Organic Solar Cells," B. H. Wunsch, M. Rumi, N. R. Tummala, C. Risko, D.-Y. Kang, K. X. Steirer, J. Gantz, M. Said, N. R. Armstrong, J.-L. Bredas, D. Bucknall and S. R. Marder, *J. Mater. Chem. C* **1**, 5250-5260 (2013, DOI: [10.1039/C3TC30774C](https://doi.org/10.1039/C3TC30774C))
378. "A Pyrenylpropyl Phosphonic Acid Surface Modifier for Mitigating the Thermal Resistance of Carbon Nanotube Contacts," J. H. Taphouse, O. N. L. Smith, S. R. Marder and B. A. Cola, *Adv. Funct. Mater.* **24**, 465-471 (Jan. 2014, DOI: [10.1002/adfm.201301714](https://doi.org/10.1002/adfm.201301714))
379. "2-Bromo Perylene Diimide: Synthesis Using C-H Activation and Use in the Synthesis of Bis(Perylene Diimide)-Donor Electron-Transport Materials," J. Zhang, S. Singh, D. K. Hwang, S. Barlow, B. Kippelen and S. R. Marder, *J. Mater. Chem. C* **1**, 5093-5100 (May 2013, DOI: [10.1039/C3TC30918E](https://doi.org/10.1039/C3TC30918E))
380. "Production of Heavily n- and p-Doped CVD Graphene with Solution-Processed Redox-Active Metal-Organic Species," S. A. Paniagua, J. Baltazar, H. Sojoudi, S. K. Mohapatra, S. Zhang, C. L. Henderson, S. Graham, S. Barlow and S. R. Marder, *Mater. Horiz.* **1** (1), 111-115 (September 2013, DOI: [10.1039/C3MH00035D](https://doi.org/10.1039/C3MH00035D))
381. "Efficient blue-emitting electrophosphorescent organic light-emitting diodes using 2-(3,5-di(carbazol-9-yl)phenyl)-5-phenyl-1,3,4-oxadiazole as an ambipolar host," Y. Zhang, W. Haske, D. Cai, S. Barlow, B. Kippelen and S. R. Marder, *RSC Advances*, **3** (45), 23514-23520 (October 2013, DOI: [10.1039/C3RA43720E](https://doi.org/10.1039/C3RA43720E))
382. "Efficient Persistent Room Temperature Phosphorescence in Organic Amorphous Materials under Ambient Conditions." S. Hirata, K. Totani, J. Zhang, T. Yamashita, H. Kaji, S. R. Marder, T. Watanabe, and C. Adachi, *Adv. Funct. Mater.* **23**, 3386–3397 (February 2013, DOI: [10.1002/adfm.201203706](https://doi.org/10.1002/adfm.201203706))
383. "Dipolar Ferrocene and Ruthenocene Second-Order Nonlinear Optical Chromophores: A Time-Dependent Density Functional Theory Investigation of Their Absorption Spectra," S. Salman, J.-L. Brédas, S. R. Marder, V. Coropceanu and S. Barlow, *Organometallics* **32**, 6061-6068 (October 2013, DOI: [10.1021/om400617d](https://doi.org/10.1021/om400617d))
384. "Mechanistic Study on the Solution-Phase n-Doping of 1,3-Dimethyl-2-aryl-2,3-dihydro-1H-benzoimidazole Derivatives," B. D. Naab, S. Guo, S. Olthof, E. G. B. Evans, P. Wei, G. L. Millhauser, A. Kahn, S. Barlow, S. R. Marder and Z. Bao, *J. Am. Chem. Soc.* **135**, 15018-15025 (October 2013, DOI: [10.1021/ja403906d](https://doi.org/10.1021/ja403906d))
385. "Trifluoromethylated thieno[3,4-b]thiophene-2-ethyl carboxylate as a building block for conjugated polymers," P. Deng, Z. Wu, K. Cao, Q. Zhang, B. Sun and S. R. Marder, *Polym. Chem.* **4**, 5275-5282 (October 2013, DOI: [10.1039/C3PY20848F](https://doi.org/10.1039/C3PY20848F))
386. "C–H Arylation Reaction: Atom Efficient and Greener Syntheses of π -Conjugated Small Molecules and Macromolecules for Organic Electronic Materials," K. Okamoto, J. Zhang, J. B. Housekeeper, S. R. Marder and C. K. Luscombe, *Macromolecules*, **46**, 8059-8078 (October 2013, DOI: [10.1021/ma401190r](https://doi.org/10.1021/ma401190r))

387. "Pyrrole[3,2-*d*:4,5-*d'*]]bisthiazole-bridged bis(naphthalene diimide)s as electron-transport materials," Y. A. Getmanenko, S. Singh, B. Sandhu, C.-Y. Wang, T. Timofeeva, B. Kippelen and S. R. Marder, *J. Mater. Chem. C*, **2**, 124-131 (2014, DOI: [10.1039/C3TC31677G](https://doi.org/10.1039/C3TC31677G))
388. "Controllable Direct Arylation: Fast Route to Symmetrical and Unsymmetrical 4,7-Diaryl-5,6-difluoro-2,1,3-benzothiadiazole Derivatives for Organic Optoelectronic Materials," J. Zhang, W. Chen, A. J. Rojas, E. V. Jucov, T. V. Timofeeva, T. C. Parker, S. Barlow and S. R. Marder, *J. Am. Chem. Soc.* **135**, 16376-16379 (November 2013, DOI: [10.1021/ja4095878](https://doi.org/10.1021/ja4095878))
389. "ITO Interface Modifiers Can Improve V_{oc} in Polymer Solar Cells and Suppress Surface Recombination," K. M. Knesting, H. Ju, C. W. Schlenker, A. J. Giordano, A. Garcia, O. N. L. Smith, D. C. Olson, S. R. Marder and D. S. Ginger, *J. Phys. Chem. Lett.* **4** (23), 4038-4044 (November 2013, DOI: [10.1021/jz4021525](https://doi.org/10.1021/jz4021525))
390. "Adsorption Studies of a Phosphonic Acid on ITO: Film Coverage, Purity, and Induced Electronic Structure Changes," S. A. Paniagua, E. L. Li and S. R. Marder, *Phys. Chem. Chem. Phys.* **16**, 2874-2881 (2014, DOI: [10.1039/c3cp54637c](https://doi.org/10.1039/c3cp54637c))
391. "Nonlinear optical pulse suppression via ultrafast photoinduced electron transfer in an aggregated perylene diimide/oligothiophene molecular triad," M. M. Sartin, C. Huang, A. S. Marshall, N. Makarov, S. Barlow, S. R. Marder and J. W. Perry, *J. Phys. Chem. A*, **118**, 110-121 (2014, DOI: [10.1021/jp409065b](https://doi.org/10.1021/jp409065b))
392. "25th Anniversary Article: Design of Polymethine Dyes for All-Optical Switching Applications: Guidance from Theoretical and Computational Studies," R. L. Giesecking, S. Mukhopadhyay, C. Risko, S. R. Marder and J.-L. Brédas, *Adv. Mater.* **26**, 68-84 (2014, DOI: [10.1002/adma.201302676](https://doi.org/10.1002/adma.201302676))
393. "Surface-initiated polymerization from barium titanate nanoparticles for hybrid dielectric capacitors," S. A. Paniagua, Y. Kim, K. Henry, R. Kumar, J. W. Perry and S. R. Marder, *ACS Appl. Mater. Interfaces* **6**, 3477-3482 (March 2014, DOI: [10.1021/am4056276](https://doi.org/10.1021/am4056276))
394. "Synthesis, crystal structures, and redox behavior of some pentamethylcyclopentadienyl arene ruthenium salts," S. K. Mohapatra, A. Romanov, T. V. Timofeeva, S. R. Marder and S. Barlow, *J. Organomet. Chem.* **751**, 314-320 (February 2014, DOI: [10.1016/j.jorganchem.2013.07.023](https://doi.org/10.1016/j.jorganchem.2013.07.023))
395. "Enhanced charge-carrier injection and collection via lamination of doped polymer layers p-doped with a solution-processible molybdenum complex," A. Dai, Y. Zhou, A. L. Shu, S. K. Mohapatra, H. Wang, C. Fuentes-Hernandez, Y. Zhang, S. Barlow, Y.-L. Loo, S. R. Marder, B. Kippelen and A. Kahn, *Adv. Funct. Mater.* **24**, 2197-2204 (2014, DOI: [10.1002/adfm.201303232](https://doi.org/10.1002/adfm.201303232))
396. "Deposition of loosely bound organic D-A- π -A' Dyes on sensitized TiO₂ film: A possible strategy to suppress charge recombination and enhance power conversion efficiency in dye-sensitized solar cells," X. Kang, J. Zhang, A. J. Rojas, D. O'Neil, P. Szymanski, S. R. Marder and M. A. El-Sayed, *J. Mater. Chem. A* **2**, 11229-11234 (May 2014, DOI: [10.1039/C4TA02111H](https://doi.org/10.1039/C4TA02111H))

397. "Effective solution- and vacuum-processed n-doping by dimers of benzimidazoline radicals," B. D. Naab, S. Zhang, K. Vandewal, A. Salleo, S. Barlow, S. R. Marder and Z. Bao, *Adv. Mater.* **26**, 4268-4272 (July 2014, DOI: [10.1002/adma.201400668](https://doi.org/10.1002/adma.201400668))
398. "Modification of the gallium-doped zinc oxide surface with self-assembled monolayers of phosphonic acids: A joint theoretical and experimental study," H. Li, E. L. Ratcliff, A. K. Sigdel, A. J. Giordano, S. R. Marder, J. J. Berry and J. L. Bredas, *Adv. Funct. Mater.* **24**, 3593-3603 (June 2014, DOI: [10.1002/adfm.201303670](https://doi.org/10.1002/adfm.201303670))
399. "Phosphorescent light-emitting diodes using triscarbazole/bis(oxadiazole) hosts: Comparison of homopolymer blends and random and block copolymers," X. He, D. Cai, D.-Y. Kang, W. Haske, Y. Zhang, C. A. Zuniga, B. H. Wunsch, S. Barlow, J. Leisen, D. Bucknall, B. Kippelen and S. R. Marder, *J. Mater. Chem. C* **2**, 6743-6751 (July 2014, DOI: [10.1039/C4TC01079E](https://doi.org/10.1039/C4TC01079E))
400. "Heteroannulated acceptors based on benzothiadiazole," T. C. Parker, D. G. Patel, K. Moudgil, S. Barlow, C. Risko, J.-L. Bredas, J. R. Reynolds and S. R. Marder, *Mater. Horiz.* **2**, 22-36 (2015, DOI: [10.1039/C4MH00102H](https://doi.org/10.1039/C4MH00102H))
401. "Tetracyano isoindigo small molecules and their use in n-channel organic field-effect transistors," R. R. Dasari, A. Dindar, C. K. Lo, C.-Y. Wang, C. Quinton, S. Singh, S. Barlow, C. Fuentes-Hernandez, J. R. Reynolds, B. Kippelen and S. R. Marder, *Phys. Chem. Chem. Phys.* **19**, 19345-19350 (July 2014, DOI: [10.1039/C4CP02427C](https://doi.org/10.1039/C4CP02427C))
402. "Molecular doping and tuning threshold voltage in 6,13-bis(triisopropylsilyl)ethynyl)pentacene/polymer blend transistors," J. Belasco, S. K. Mohapatra, Y. Zhang, S. Barlow, S. R. Marder and A. Kahn, *Appl. Phys. Lett.* **2**, 063301/1-5 (July 2014, DOI: [10.1063/1.4892809](https://doi.org/10.1063/1.4892809))
403. "Third-order nonlinear optical characterization of organic chromophores using liquid-core optical fibers," S. Shahin, K. Kieu, J. M. Hales, H. Kim, Y. A. Getmanenko, Y. Zhang, J. W. Perry, S. R. Marder, R. A. Norwood and N. Peyghambarian, *J. Opt. Soc. Am. B* **31**, 2455-2459 (January 2014, DOI: [10.1364/JOSAB.31.002455](https://doi.org/10.1364/JOSAB.31.002455))
404. "Inverted tandem polymer solar cells with polyethylenimine-modified MoO_x/Al₂O₃:ZnO nanolaminate as the charge recombination layers," J. W. Shim, C. Fuentes-Hernandez, Y. Zhou, A. Dindar, T. M. Khan, A. J. Giordano, H. Cheun, M. Yun, S. R. Marder and B. Kippelen, *Adv. Energy Mater.* **4** (2014, DOI: [10.1002/aenm.201400048](https://doi.org/10.1002/aenm.201400048))
405. "Spin-selective charge recombination in complexes of CdS quantum dots and organic hole acceptors," D. J. Weinberg, S. M. Dyar, Z. Khademi, M. Malicki, S. R. Marder, M. R. Wasielewski and E. A. Weiss, *J. Am. Chem. Soc.* **136**, 14513-14518 (October 2014, DOI: [10.1021/ja507301d](https://doi.org/10.1021/ja507301d))
406. "A C-H functionalization protocol for the direct synthesis of benzobisthiazole derivatives," J. L. Bon, D. Feng, S. R. Marder and S. B. Blakey, *J. Org. Chem.* **79**, 7766-7771 (August 2014, DOI: [10.1021/jo501416j](https://doi.org/10.1021/jo501416j))
407. "Effect of molecular structure perturbations on the performance of the D-A- π -A dye sensitized solar cells," X. Kang, J. Zhang, D. O'Neil, A. J. Rojas, W. Chen, P. Szymanski, S. R. Marder and M. A. El-Sayed, *Chem. Mater.* **26**, 4486-4493 (August 2014, DOI: [10.1021/cm5016355](https://doi.org/10.1021/cm5016355))

408. "Chemically controlled reversible and irreversible extraction barriers via stable interface modification of zinc oxide electron collection layer in polycarbazole-based organic solar cells," S. R. Cowan, P. Schulz, A. J. Giordano, A. Garcia, B. A. MacLeod, S. R. Marder, A. Kahn, D. S. Ginley, E. L. Ratcliff and D. C. Olson, *Adv. Funct. Mater.* **24**, 4671-4680 (April 2014, DOI: [10.1002/adfm.201400158](https://doi.org/10.1002/adfm.201400158))
409. "Highly efficient Organic Light-Emitting Diodes from thermally activated delayed fluorescence using a sulfone-carbazole host material," M. P. Gaj, C. Fuentes-Hernandez, Y. Zhang, S. R. Marder and B. Kippelen, *Org. Electron.* **16**, 109-112 (January 2015, DOI: [10.1016/j.orgel.2014.10.049](https://doi.org/10.1016/j.orgel.2014.10.049))
410. "Polymethine Materials with Solid-State Third-Order Optical Susceptibilities Suitable for All-Optical Signal-Processing Applications," S. Barlow, J.-L. Brédas, Y. A. Getmanenko, R. L. Giesecking, J. M. Hales, H. Kim, S. R. Marder, J. W. Perry, C. Risko and Y. Zhang, *Mater. Horiz.* **1**, 577-581 (2014, DOI: [10.1039/C4MH00068D](https://doi.org/10.1039/C4MH00068D))
411. "Conjugated Polycyanines: A New Class of Materials with Large Third-Order Optical Nonlinearities," Z. a. Li, T. R. Ensley, H. Hu, Y. Zhang, S.-H. Jang, S. R. Marder, D. J. Hagan, E. W. Van Stryland and A. K.-Y. Jen, *Adv. Opt. Mater.* **3**, 900-906 (2015, DOI: [10.1002/adom.201400631](https://doi.org/10.1002/adom.201400631))
412. "Organometallic Dimers: Application to Work-Function Reduction of Conducting Oxides," A. J. Giordano, F. Pulvirenti, T. M. Khan, C. Fuentes-Hernandez, K. Moudgil, J. H. Delcamp, B. Kippelen, S. Barlow and S. R. Marder, *ACS Appl. Mater. Interfaces* **7**, 4320-4326 (February 2015, DOI: [10.1021/am5087648](https://doi.org/10.1021/am5087648)); Correction published in 2019 cited as ACS Appl. Mater. Interfaces 2019, 11, 6, 6664-6664 DOI: [10.1021/acsami.9b00368](https://doi.org/10.1021/acsami.9b00368))
413. "Controlled Doping of Large-Area Trilayer MoS₂ with Molecular Reductants and Oxidants," A. Tarasov, S. Zhang, M.-Y. Tsai, P. M. Campbell, S. Graham, S. Barlow, S. R. Marder and E. M. Vogel, *Adv. Mater.* **27**, 1175-1181 (February 2015, DOI: [10.1002/adma.201404578](https://doi.org/10.1002/adma.201404578))
414. "Stability of Inverted Organic Solar Cells with ZnO Contact Layers Deposited from Precursor Solutions," B. A. MacLeod, B. J. Tremolet de Villers, P. Schulz, P. F. Ndione, H. Kim, A. J. Giordano, K. Zhu, S. R. Marder, S. Graham, J. J. Berry, A. Kahn and D. C. Olson, *Energy Environ. Sci.* **8**, 592-601 (August 2015, DOI: [10.1039/C4EE02488E](https://doi.org/10.1039/C4EE02488E))
415. "Effect of Bulky Substituents on Thiopyrylium Polymethine Aggregation in the Solid State: A Theoretical Evaluation of the Implications for All-Optical Switching Applications," R. L. Giesecking, S. Mukhopadhyay, C. Risko, S. R. Marder and J.-L. Brédas, *Chem. Mater.* **26**, 6439-6447 (November 2014, DOI: [10.1021/cm5028755](https://doi.org/10.1021/cm5028755))
416. "Dimers of Nineteen-Electron Sandwich Compounds: Crystal and Electronic Structures, and Comparison of Reducing Strengths," S. K. Mohapatra, A. Fonari, C. Risko, K. Yesudas, K. Moudgil, J. H. Delcamp, T. V. Timofeeva, J.-L. Brédas, S. R. Marder and S. Barlow, *Chem. Eur. J.* **20**, 15385-15394 (November 2014, DOI: [10.1002/chem.201404007](https://doi.org/10.1002/chem.201404007))

417. "Investigation of p-dopant diffusion in polymer films and bulk heterojunctions: Stable spatially-confined doping for all-solution processed solar cells." A. Dai, A. Wan, C. Magee, Y. Zhang, S. Barlow, S. R. Marder, and A. Kahn, *Org. Electron.* **23**, 151-157 (August 2015, DOI: [10.1016/j.orgel.2015.04.023](https://doi.org/10.1016/j.orgel.2015.04.023))
418. "Influence of molecular orientation on charge-transfer processes at phthalocyanine/metal oxide interfaces and relationship to organic photovoltaic performance." H.-C. Lin, G. A. MacDonald, Y. Shi, N. W. Polaske, D. V. McGrath, S. R. Marder, N. R. Armstrong, E. L. Ratcliff, S. S. Saavedra *J. Phys. Chem. C* (April 2015, DOI: [10.1021/acs.jpcc.5b02971](https://doi.org/10.1021/acs.jpcc.5b02971))
419. "Design of organic chromophores for all-optical signal processing applications." J. M. Hales, S. Barlow, H. Kim, S. Mukhopadhyay, J.-L. Brédas, J. W. Perry, S. R. Marder *Chem. Mater.* **26**, 549-560 (January 2014, DOI: [10.1021/cm402893s](https://doi.org/10.1021/cm402893s))
420. "Photochemical doping and tuning of the work function and dirac point in graphene using photoacid and photobase generators." J. Baltazar, H. Sojoudi, S. A. Paniagua, S. Zhang, R. A. Lawson, S. R. Marder, S. Graham, L. M. Tolbert, C. L. Henderson *Adv. Funct. Mater.* **24**, 5147-5156 (June 2014, DOI: [10.1002/adfm.201303796](https://doi.org/10.1002/adfm.201303796))
421. "Dopant controlled trap-filling and conductivity enhancement in an electron-transport polymer." A. Higgins, S. K. Mohapatra, S. Barlow, S. R. Marder, A. Kahn, *Appl. Phys. Lett.* **106**, 163301/1-4 (2015, DOI: [10.1063/1.4918627](https://doi.org/10.1063/1.4918627))
422. "Dithieno[3,2-*a*:2',3'-*c*]phenazine-based chemical probe for anions: a spectroscopic study of binding." T. H. El-Assaad, S. B. Shiring, Y. A. Getmanenko, K. M. Hallal, J.-L. Bredas, S. R. Marder, M. H. Al-Sayah and B. R. Kaafarani, *RSC Advances* **5**, 43303-43311 (January 2015, DOI: [10.1039/C5RA01416F](https://doi.org/10.1039/C5RA01416F))
423. "Near-Infrared asymmetrical squaraine sensitizers for highly efficient dye sensitized solar cells: The effect of pi-bridges and anchoring groups on solar cell performance." F. M. Jradi, X. W. Kang, D. O'Neil, G. Pajares, Y. A. Getmanenko, P. Szymanski, T. C. Parker, M. A. El-Sayed and S. R. Marder, *Chem. Mater.* **27**, 2480-2487 (Apr 2015, DOI: [10.1021/cm5045946](https://doi.org/10.1021/cm5045946))
424. "Efficient light emission from inorganic and organic semiconductor hybrid structures by energy-level tuning." R. Schlesinger, F. Bianchi, S. Blumstengel, C. Christodoulou, R. Ovsyannikov, B. Kobin, K. Moudgil, S. Barlow, S. Hecht, S. R. Marder, F. Henneberger and N. Koch *Nat. Commun.* **6**, 6754/1-7 (Apr 2015, DOI: [10.1038/ncomms7754](https://doi.org/10.1038/ncomms7754))
425. "n-Dopants based on dimers of benzimidazoline radicals: Structures and mechanism of redox reactions." S. Zhang, B. D. Naab, E. V. Jucov, S. Parkin, E. G. B. Evans, G. L. Millhauser, T. V. Timofeeva, C. Risko, J.-L. Brédas, Z. Bao, S. Barlow and S. R. Marder *Chem. Eur. J.* **21**, 10878-10885 (June 2015, DOI: [10.1002/chem.201500611](https://doi.org/10.1002/chem.201500611))
426. "PM-IRRAS Determination of molecular orientation of phosphonic acid self-assembled monolayers on indium zinc oxide." L. Z. Sang, A. Mudalige, A. K. Sigdel, A. J. Giordano, S. R. Marder, J. J. Berry and J. E. Pemberton *Langmuir* **31**, 5603-5613 (April 2015, DOI: [10.1021/acs.langmuir.5b00129](https://doi.org/10.1021/acs.langmuir.5b00129))

427. "Dimers of Nineteen-Electron Sandwich Compounds: An Electrochemical Study of the Kinetics of Their Formation." K. Moudgil, M. A. Mann, C. Risko, L. A. Bottomley, S. R. Marder and S. Barlow *Organometallics* **34**, 3706-3712 (August 2015, DOI: [10.1021/acs.organomet.5b00327](https://doi.org/10.1021/acs.organomet.5b00327))
428. "Hybrid Organic-Inorganic Perovskites (HOIPs): Opportunities and Challenges." J. Berry, T. Buonassisi, D. A. Egger, G. Hodes, L. Kronik, Y.-L. Loo, I. Lubomirsky, S. R. Marder, Y. Mastai, J. S. Miller, D. B. Mitzi, Y. Paz, A. M. Rappe, I. Riess, B. Rybtchinski, O. Stafsudd, V. Stevanovic, M. F. Toney, D. Zitoun, A. Kahn, D. Ginley and D. Cahen *Adv. Mater.* **27**, 5102-5112 (September 2015, DOI: [10.1002/adma.201502294](https://doi.org/10.1002/adma.201502294))
429. "Organic light-emitting diodes on shape memory polymer substrates for wearable electronics." M. P. Gaj, A. Wei, C. Fuentes-Hernandez, Y. Zhang, R. Reit, W. Voit, S. R. Marder and B. Kippelen *Org. Electron.* **25**, 151-155 (June 2015, DOI: [10.1016/j.orgel.2015.06.029](https://doi.org/10.1016/j.orgel.2015.06.029))
430. "Mechanism that governs the electro-optic response of second-order nonlinear polymers on silicon substrates." K. M. Schulz, S. Prorok, D. Jalas, S. R. Marder, J. D. Luo, A. K. Y. Jen, R. Zierold, K. Nielsch and M. Eich *Opt. Mater. Express* **5**, 1653-1660 (August 2015, DOI: [10.1364/ome.5.001653](https://doi.org/10.1364/ome.5.001653))
431. "A Step Toward Efficient Panchromatic Multi-Chromophoric Sensitizers for Dye Sensitized Solar Cells." F. M. Jradi, D. O'Neil, X. W. Kang, J. Wong, P. Szymanski, T. C. Parker, H. L. Anderson, M. A. El-Sayed and S. R. Marder *Chem. Mater.* **27**, 6305-6313 (September 2015, DOI: [10.1021/acs.chemmater.5b02006](https://doi.org/10.1021/acs.chemmater.5b02006))
432. "Synthesis of 8-Aminoquinolines by Using Carbamate Reagents: Facile Installation and Deprotection of Practical Amidating Groups." D. Gwon, H. Hwang, H. K. Kim, S. R. Marder and S. Chang *Chem. Eur. J.* **21**, 1-6 (October 2015, DOI: [10.1002/chem.201503511](https://doi.org/10.1002/chem.201503511))
433. "Thermo-cross-linkable fullerene for long-term stability of photovoltaic devices." N. Deb, R. R. Dasari, K. Moudgil, J. L. Hernandez, S. R. Marder, Y. Sun, A. Karim and D. G. Bucknall *J. Mater. Chem. A* **3**, 21856-21863 (July 2015, DOI: [10.1039/C5TA05824D](https://doi.org/10.1039/C5TA05824D))
434. "Conjugated Polycyanines: A New Class of Materials with Large Third-Order Optical Nonlinearities." Z. a. Li, T. R. Ensley, H. Hu, Y. Zhang, S.-H. Jang, S. R. Marder, D. J. Hagan, E. W. Van Stryland and A. K. Y. Jen *Adv. Opt. Mater.* **3**, 900-906 (2015, DOI: [10.1002/adom.201400631](https://doi.org/10.1002/adom.201400631))
435. "Materials for third-order nonlinear optics." S. R. Marder, *MRS Bulletin* **41**, 53-58 (January 2016, DOI: [10.1557/mrs.2015.310](https://doi.org/10.1557/mrs.2015.310))
436. "All-Polymer Solar Cells with Bulk Heterojunction Films Containing Electron-Accepting Triple Bond-Conjugated Perylene Diimide Polymer." S. Nam, S. G. Hahm, H. Han, J. Seo, C. Kim, H. Kim, S. R. Marder, M. Ree and Y. Kim *ACS Sustainable Chem. Eng.* **4**, 767-774 (December 2015, DOI: [10.1021/acssuschemeng.5b00732](https://doi.org/10.1021/acssuschemeng.5b00732))
437. "C-H-Activated Direct Arylation of Strong Benzothiadiazole and Quinoxaline-Based Electron Acceptors." J. Zhang, T. C. Parker, W. Chen, L. Williams, V. N. Khrustalev, E. V. Jucov, S. Barlow, T. V. Timofeeva and S. R. Marder *J. Org. Chem.* **81**, 360-370 (2016, DOI: [10.1021/acs.joc.5b02551](https://doi.org/10.1021/acs.joc.5b02551))

438. "Realization of mid-infrared graphene hyperbolic metamaterials." Y.-C. Chang, C.-H. Liu, C.-H. Liu, S. Zhang, S. R. Marder, E. E. Narimanov, Z. Zhong and T. B. Norris *Nat. Commun.* **7**, 10568/1-7 (Feb 2016, DOI: [10.1038/ncomms10568](https://doi.org/10.1038/ncomms10568))
439. "Mixed-Valence Cations of Di(carbazol-9-yl) Biphenyl, Tetrahydropyrene, and Pyrene Derivatives." B. R. Kaafarani, C. Risko, T. H. El-Assaad, A. O. El-Ballouli, S. R. Marder, and S. Barlow *J. Phys. Chem. C* **120**, 3156–3166 (Feb 2016, DOI: [10.1021/acs.jpcc.5b11061](https://doi.org/10.1021/acs.jpcc.5b11061))
440. "Lithium Titanate Confined in Carbon Nanopores for Asymmetric Supercapacitors." E. Zhao, C. Qin, H-R. Jung, G. Berdichevsky, A. Nese, S. Marder and G. Yushin *ACS Nano* **10**, 3977-3984 (March 2016, DOI: [10.1021/acsnano.6b00479](https://doi.org/10.1021/acsnano.6b00479))
441. "KO'Bu-Initiated Aryl C–H Iodination: A Powerful Tool for the Synthesis of High Electron Affinity Compounds." Q. Shi, S. Zhang, J. Zhang, V. F. Oswald, A. Amassian, S. R. Marder, and S. B. Blakey *J. Am. Chem. Soc.* **138**, 3946-3949 (March 2016, DOI: [10.1021/jacs.5b12259](https://doi.org/10.1021/jacs.5b12259))
442. "Impact of a Low Concentration of Dopants on the Distribution of Gap States in a Molecular Semiconductor." X. Lin, G. Purdum, Y. Zhang, S. Barlow, S. Marder, Y-L. Loo, and A. Kahn *Chem. Mater.* **28**, 2677-2684 (Apr 2016, DOI: [10.1021/acs.chemmater.6b00165](https://doi.org/10.1021/acs.chemmater.6b00165))
443. "Phosphonic Acids for Interfacial Engineering of Transparent Conductive Oxides." S. A. Paniagua, A. J. Giordano, O. L. Smith, S. Barlow, H. Li, N. R. Armstrong, J. E. Pemberton, J-L. Bredas, D. Ginger, and S. R. Marder *Chem. Rev.* **116**, 7117–7158 (May 2016, DOI: [10.1021/acs.chemrev.6b00061](https://doi.org/10.1021/acs.chemrev.6b00061))
444. "Quasi-three-level model applied to measured spectra of nonlinear absorption and refraction in organic molecules." T. R. Ensley, H. H. Hu, M. Reichert, M. R. Ferdinandus, D. Peceli, J. M. Hales, J. W. Perry, Z. A. Li, S. H. Jang, A. K-Y. Jen, S. R. Marder, D. J. Hagan, and E. W. Van Stryland *J. Opt. Soc. Am. B* **33**, 780-796 (April 2016, DOI: [10.1364/JOSAB.33.000780](https://doi.org/10.1364/JOSAB.33.000780))
445. "High-Performance Electron Acceptor with Thienyl Side Chains for Organic Photovoltaics." Y. Z. Lin, F. W. Zhao, Q. He, L. J. Huo, Y. Wu, T. C. Parker, W. Ma, Y. M. Sun, C. R. Wang, D. B. Zhu, A. J. Heeger, S. R. Marder, and X. W. Zhan *J. Am. Chem. Soc.* **138**, 4955-4961 (March 2016, DOI: [10.1021/jacs.6b02004](https://doi.org/10.1021/jacs.6b02004))
446. "Effective Work Function Reduction of Practical Electrodes Using an Organometallic Dimer." K. Akaike, M. V. Nardi, M. Oehzelt, J. Frisch, A. Opitz, C. Christodoulou, G. Ligorio, P. Beyer, M. Timpel, I. Pis, F. Bondino, K. Moudgil, S. Barlow, S. R. Marder, and N. Koch *Adv. Funct. Mater.* **26**, 2493-2502 (March 2016, DOI: [10.1002/adfm.201504680](https://doi.org/10.1002/adfm.201504680))
447. "Controlled n-Type Doping of Carbon Nanotube Transistors by an Organorhodium Dimer." M. L. Geier, K. Moudgil, S. Barlow, S. R. Marder, and M. C. Hersam *Nano Lett.* **16**, 4329-4334 (July 2016, DOI: [10.1021/acs.nanolett.6b01393](https://doi.org/10.1021/acs.nanolett.6b01393))

448. "Energy Migration in Organic Solar Concentrators with a Molecularly Insulated Perylene Diimide." J. Banal, H. Soleimaninejad, F. Jradi, M. Liu, J. White, A. Blakers, M. Cooper, D. Jones, K. Ghiggino, S. Marder, T. Smith, and W. Wong *J. Phys. Chem.* **120**, 12952-12958 (June 2016, DOI: [10.1021/acs.jpcc.6b04479](https://doi.org/10.1021/acs.jpcc.6b04479))
449. "Effect of Time and Deposition Method on Quality of Phosphonic Acid Modifier Self-assembled Monolayers on Indium Zinc Oxide Article." L. Sang, K. M. Knesting, A. Bulusu, A. K. Sigdel, A. J. Giordano, S. R. Marder, J. J. Berry, S. Graham, D. S. Ginger, and J. E. Pemberton *Appl. Surf. Sci.* **389**, 190-198 (December 2016, DOI: [10.1016/j.apsusc.2016.06.183](https://doi.org/10.1016/j.apsusc.2016.06.183))
450. "Effect of an Auxiliary Acceptor on D-A-pi-A Sensitizers for Highly Efficient and Stable Dye-Sensitized Solar Cells." Y. Gao, X. Li, Y. Hu, Y. Fan, J. Yuan, N. Robertson, J. Hua, and S. R. Marder *J. Mater. Chem.* **4**, 12865-12877 (July 2016, DOI: [10.1039/C6TA05588E](https://doi.org/10.1039/C6TA05588E))
451. "Cross-Linkable Fullerene Derivatives for Solution-Processed n-i-p Perovskite Solar Cells." K. Wojciechowski, I. Ramirez, T. Gorisse, O. Dautel, R. Dasari, N. Sakai, J. M. Hardigree, S. Song, S. Marder, M. Riede, G. Wantz, and H. J. Snaith, *ACS Energy Lett.* **1**, 648-653 (October 2016, DOI: [10.1021/acsenenergylett.6b00229](https://doi.org/10.1021/acsenenergylett.6b00229))
452. "Comparison of 3D non-fullerene acceptors for organic photovoltaics based on naphthalene diimide and perylene diimide-substituted 9,9'-bifluorenylidene." Y. Fan, S. Barlow, S. Zhang, B. Lin, and S. R. Marder, *RSC Adv.* **6**, 70493-70500 (2016, DOI: [10.1039/C6RA12396A](https://doi.org/10.1039/C6RA12396A))
453. "Surface Modification of Indium-Tin Oxide with Functionalized Perylene Diimides: Characterization of Orientation, Electron-Transfer Kinetics and Electronic Structure." Y. Zheng, A. Giordano, R. Shallcross, S. Fleming, S. Barlow, N. Armstrong, S. Marder, and S. S. Saavedra, *J. Phys. Chem. C* **120**, 20040-20048 (August 2016, DOI: [10.1021/acs.jpcc.6b06812](https://doi.org/10.1021/acs.jpcc.6b06812))
454. "A Study on Reducing Contact Resistance in Solution-Processed Organic Field-Effect Transistors." S. Choi, C. Fuentes-Hernandez, C-Y. Wang, T. Mansur Khan, F. A. Larraín, Y. Zhang, S. Barlow, S. R. Marder, and B. Kippelen, *ACS Appl. Mater. Interfaces* **8**, 24744-24752 (August 2016, DOI: [10.1021/acsami.6b07029](https://doi.org/10.1021/acsami.6b07029))
455. "Facile Incorporation of Pd(PPh₃)₂ Hal Substituents into Polymethines, Merocyanines, and Perylene Diimides as a Means of Suppressing Intermolecular Interactions." I. Davydenko, S. Barlow, R. Sharma, S. Benis, J. Simon, T. G. Allen, M. W. Cooper, V. Khrustalev, E. V. Jucov, R. Castaneda, C. Ordonez, Z. A. Li, S-H. Chi, S-H. Jang, T. C. Parker, T. V. Timofeeva, J. W. Perry, A. K-Y. Jen, D. J. Hagan, E. W. Van Stryland, and S. R. Marder *J. Am. Chem. Soc.* **138**, 10112-10115 (August 2016, DOI: [10.1021/jacs.6b06361](https://doi.org/10.1021/jacs.6b06361))
456. "Synthesis, characterization, and crystal structures of molybdenum complexes of unsymmetrical electron-poor dithiolene ligands." S. K. Mohapatra, Y. D. Zhang, B. Sandhu, M. S. Fonari, T. V. Timofeeva, S. R. Marder, and S. Barlow *Polyhedron* **116**, 88-95 (September 2016, DOI: [10.1016/j.poly.2016.04.025](https://doi.org/10.1016/j.poly.2016.04.025))

457. “Metallo-organic n-type thermoelectrics: Emphasizing advances in nickel-ethenetetrathiolates.” A. K. Menon, E. Uzunlar, R. M. W. Wolfe, J. R. Reynolds, S. R. Marder, and S. K. Yee *J. Appl. Polym. Sci.* **134**, (September 2016, DOI: [10.1002/app.44402](https://doi.org/10.1002/app.44402))
458. “Remote Molecular Doping of Colloidal Quantum Dot Photovoltaics.” A. Kirmani, K. Amirreza, M. Said, O. Voznyy, N. Wehbe, G. Walters, S. Barlow, E. Sargent, S. Marder, and A. Amassian *ACS Energy Lett.* **1**, 922-930 (November 2016, DOI: [10.1021/acsenenergylett.6b00429](https://doi.org/10.1021/acsenenergylett.6b00429))
459. “Solution-based electrical doping of semiconducting polymer films over a limited depth.” V. A. Kolesov, C. Fuentes-Hernandez, W-F. Chou, N. Aizawa, F. A. Larrain, M. Wang, A. Perrotta, S. Choi, S. Graham, G. C. Bazan, T-Q. Nguyen, S. R. Marder, and B. Kippelen *Nat. Mater.* **16**, 474/ (Dec 2016, DOI: [10.1038/NMAT4818](https://doi.org/10.1038/NMAT4818))
460. “Understanding how Charged Nanoparticles Electrostatically Assemble and Distribute in 1-D.” K. M. Carroll, H. Wolf, A. W. Knoll, J. E. Curtis, Y. Zhang, S. R. Marder, E. Riedo, and U. Duerig *Langmuir* **32**, 13600–13610 (Nov 2016, DOI: [10.1021/acs.langmuir.6b03471](https://doi.org/10.1021/acs.langmuir.6b03471))
461. “Influence of Molecular Aggregation on Electron Transfer at the Perylene Diimide/Indium-Tin Oxide Interface.” Y. Zheng, F. M. Jradi, T. C. Parker, S. Barlow, S. R. Marder, and S. S. Saavedra *ACS Appl. Mater. Interfaces* **8**, 34089–34097 (Nov 2016, DOI: [10.1021/acsami.6b10731](https://doi.org/10.1021/acsami.6b10731))
462. “Electron Transport and Nanomorphology in Solution-Processed Polymeric Semiconductor n-Doped with an Air-Stable Organometallic Dimer.” Y. Zhang, H. Phan, H. Zhou, X. Zhang, J. Zhou, K. Moudgil, S. Barlow, S. R. Marder, A. Facchetti, T.-Q. Nguyen *Adv. Electron. Mater.* 1600546/1-8 (March 2017, DOI: [10.1002/aelm.201600546](https://doi.org/10.1002/aelm.201600546))
463. “Mixing Behavior in Small Molecule: Fullerene Organic Photovoltaics.” S. D. Oosterhout, V. Savikhin, J. Zhang, Y. Zhang, M. A. Burgers, S. R. Marder, G. C. Bazan, and M. F. Toney *Chem. Mater.* **29**, 3062-3069 (Feb. 2017, DOI: [10.1021/acs.chemmater.7b00067](https://doi.org/10.1021/acs.chemmater.7b00067))
464. “Facile Doping and Work-Function Modification of Few-Layer Graphene Using Molecular Oxidants and Reductants.” A. E. Mansour, M. M. Said, S. Dey, H. L. Hu, S. Y. Zhang, R. Munir, Y. D. Zhang, K. Moudgil, S. Barlow, S. R. Marder, and A. Amassian. *Adv. Funct. Mater.* **27**, 1602004/1-13 (Feb. 2017, DOI: [10.1002/adfm.201602004](https://doi.org/10.1002/adfm.201602004))
465. “Intrinsic Non-Radiative Voltage Losses in Fullerene-Based Organic Solar Cells.” J. Benduhn, K. Tvingstedt, F. Piersimoni, S. Ullbrich, Y. Fan, M. Tropiano, K. A. McGarry, O. Zeika, M. K. Riede, C. J. Douglas, S. Barlow, S. R. Marder, D. Neher, D. Spoltore and K. Vandewal, *Nat. Energy* **2**, 17053/1-6 (April 2017, DOI: [10.1038/nenergy.2017.53](https://doi.org/10.1038/nenergy.2017.53))
466. “Ultra-Low p-Doping of Poly(3-hexylthiophene) and its Impact on Polymer Aggregation and Photovoltaic Performance.” M. M. Said, Y. Zhang, R. R. Dasari, D. H. Anjum, R. Munir, H. Hu, A. Amassian, S. Barlow, and S. R. Marder, *Org. Photonics Photovolt.* **4**, 1-16 (April 2016, DOI: [10.1515/oph-2016-0001](https://doi.org/10.1515/oph-2016-0001))

467. “Rapid, Low Temperature Formation of Imine-Linked Covalent Organic Frameworks Catalyzed by Metal Triflates.” M. Matsumoto, R. R. Dasari, W. Ji, C. H. Feriante, T. C. Parker, S. R. Marder and W. R. Dichtel *J. Am. Chem. Soc.* **139**, 4999-5002 (April 2017, DOI: [10.1021/jacs.7b01240](https://doi.org/10.1021/jacs.7b01240))
468. “Crystal structure of 5,6-bis(9H-carbazol-9-yl)benzo[c][1,2,5]thiadiazole: distortion from a hypothetical higher-symmetry structure.” B. B. Averkiev, I. Davydenko, X. Wang, S. Barlow and S. R. Marder *Acta Cryst. C* **73**, 319-324 (2017, DOI: [10.1107/S2053229617003035](https://doi.org/10.1107/S2053229617003035))
469. “Electric-Field-Controlled Dopant Distribution in Organic Semiconductors.” L. Müller, S.-Y. Rhim, V. Sivanesan, D. Wang, S. Hietzschold, P. Reiser, E. Mankel, S. Beck, S. Barlow, S. R. Marder, A. Pucci, W. Kowalsky and R. Lovrincic *Adv. Mater.* 1701466 (June 2017, DOI: [10.1002/adma.201701466](https://doi.org/10.1002/adma.201701466))
470. “Doping-induced carrier profiles in organic semiconductors determined from capacitive extraction-current transients.” M. Nyman, O. J. Sandberg, S. Dahlstrom, D. Spoltore, C. Korner, Y. Zhang, S. Barlow, S. R. Marder, K. Leo, K. Vandewal, and R. Osterbacka *Sci. Rep.* **7**, 5397/1-9, (2017, DOI: [10.1038/s41598-017-05499-3](https://doi.org/10.1038/s41598-017-05499-3))
471. “Crystallization Kinetics and Morphology Control of Formamidinium–Cesium Mixed-Cation Lead Mixed-Halide Perovskite via Tunability of the Colloidal Precursor Solution.” D. P. McMeekin, Z. Wang, W. Rehman, F. Pulvirenti, J. B. Patel, N. K. Noel, M. B. Johnston, S. R. Marder, L. M. Herz, H. J. Snaith, *Adv. Mater.* **29**, 1607039/1-8 (2017, DOI: [10.1002/adma.201607039](https://doi.org/10.1002/adma.201607039))
472. “Molecular weight tuning of low bandgap polymers by continuous flow chemistry: increasing the applicability of PffBT4T for organic photovoltaics.” G. Pirotte, S. Agarkar, B. Xu, J. Zhang, L. Lutsen, D. Vanderzande, H. Yan, P. Pollet, J. R. Reynolds, W. Maes, S. R. Marder, *J. Mater. Chem. A* **5**, 18166-18175 (2017, DOI: [10.1039/C7TA05627C](https://doi.org/10.1039/C7TA05627C))
473. “Hybrid Doping of Few-Layer Graphene via a Combination of Intercalation and Surface Doping.” A. E. Mansour, A. R. Kirmani, S. Barlow, S. R. Marder, A. Amassian, *ACS App. Mater. Interfaces* **9**, 20020-20028 (2017, DOI: [10.1021/acsami.7b02886](https://doi.org/10.1021/acsami.7b02886))
474. “Reduction of the Work Function of Gold by N-Heterocyclic Carbenes.” H. K. Kim, A. S. Hyla, P. Winget, H. Li, C. M. Wyss, A. J. Jordan, F. A. Larrain, J. P. Sadighi, C. Fuentes-Hernandez, B. Kippelen, J.-L. Brédas, S. Barlow, S. R. Marder, *Chem. Mater.* **29**, 3403-3411 (2017, DOI: [10.1021/acs.chemmater.6b04213](https://doi.org/10.1021/acs.chemmater.6b04213))
475. “Molecular Doping of the Hole-Transporting Layer for Efficient, Single-Step-Deposited Colloidal Quantum Dot Photovoltaics.” A. R. Kirmani, F. P. García de Arquer, J. Z. Fan, J. I. Khan, G. Walters, S. Hoogland, N. Wehbe, M. M. Said, S. Barlow, F. Laquai, S. R. Marder, E. H. Sargent, A. Amassian, *ACS Energy Lett.* **2**, 1952-1959 (2017, DOI: [10.1021/acsenergylett.7b00540](https://doi.org/10.1021/acsenergylett.7b00540))
476. “Efficient and Stable Perovskite Solar Cells Using Molybdenum Tris(dithiolene)s as p-Dopants for Spiro-OMeTAD.” A. Pellaroque, N. K. Noel, S. N. Habisreutinger, Y. Zhang, S. Barlow, S. R. Marder, H. J. Snaith, *ACS Energy Letters* **2**, 2044-2050 (2017, DOI: [10.1021/acsenergylett.7b00614](https://doi.org/10.1021/acsenergylett.7b00614))

477. "Intermediate-Sized Conjugated Donor Molecules for Organic Solar Cells: Comparison of Benzodithiophene and Benzobisthiazole-Based Cores." S. Zhang, J. Zhang, M. Abdelsamie, Q. Shi, Y. Zhang, T. C. Parker, E. V. Jucov, T. V. Timofeeva, A. Amassian, G. C. Bazan, S. B. Blakey, S. Barlow, S. R. Marder, *Chem. Mater.* **29**, 7880-7887 (Sept. 2017, DOI:[10.1021/acs.chemmater.7b02665](https://doi.org/10.1021/acs.chemmater.7b02665))
478. "Solution-Processed Doping of Trilayer WSe₂ with Redox-Active Molecules." M.-Y. Tsai, S. Zhang, P. M. Campbell, R. R. Dasari, X. Ba, A. Tarasov, S. Graham, S. Barlow, S. R. Marder, E. M. Vogel, *Chem. Mater.* **29**, 7296-7304 (August 2017, DOI:[10.1021/acs.chemmater.7b01998](https://doi.org/10.1021/acs.chemmater.7b01998))
479. "Synthesis and C–H Functionalization Chemistry of Thiazole-Semicoronediimides (TsCDIs) and -Coronediimides (TCDIs)." Q. Shi, E. S. Andreansky, S. R. Marder, S. B. Blakey, *J. Org. Chem.* **82**, 10139-10148 (September 2017, DOI:[10.1021/acs.joc.7b01604](https://doi.org/10.1021/acs.joc.7b01604))
480. "Ultrafast Long-Range Charge Separation in Nonfullerene Organic Solar Cells." Y. Tamai, Y. Fan, V. O. Kim, K. Ziabrev, A. Rao, S. Barlow, S. R. Marder, R. H. Friend, S. M. Menke, *ACS Nano* **11**, 12473-12481 (2017, DOI:[10.1021/acs.nano.7b06575](https://doi.org/10.1021/acs.nano.7b06575))
481. "High Conductivity in a Nonplanar n-Doped Ambipolar Semiconducting Polymer." E. E. Perry, C.-Y. Chiu, K. Moudgil, R. A. Schlitz, C. J. Takacs, K. A. O'Hara, J. G. Labram, A. M. Glaudell, J. B. Sherman, S. Barlow, C. J. Hawker, S. R. Marder, M. L. Chabinyc, *Chem. Mater.* **29**, 9742-9750 (2017, DOI:[10.1021/acs.chemmater.7b03516](https://doi.org/10.1021/acs.chemmater.7b03516))
482. "Beating the thermodynamic limit with photo-activation of n-doping in organic semiconductors." X. Lin, B. Wegner, K. M. Lee, M. A. Fusella, F. Zhang, K. Moudgil, B. P. Rand, S. Barlow, S. R. Marder, N. Koch, A. Kahn, *Nat. Mater.* **16**, 1209/1-9 (2017, DOI:[10.1038/nmat5027](https://doi.org/10.1038/nmat5027)); correction published under DOI: [10.1038/nmat5067](https://doi.org/10.1038/nmat5067)
483. "Electrode Work Function Engineering with Phosphonic Acid Monolayers and Molecular Acceptors: Charge Redistribution Mechanisms." M. Timpel, H. Li, M. V. Nardi, B. Wegner, J. Frisch, P. J. Hotchkiss, S. R. Marder, S. Barlow, J.-L. Brédas, N. Koch, *Adv. Funct. Mater.* **1704438**/1-12 (2018, DOI:[10.1002/adfm.201704438](https://doi.org/10.1002/adfm.201704438)); correction published under DOI: [10.1002/adfm.201801349](https://doi.org/10.1002/adfm.201801349)
484. "Multicarbazolyl substituted TTM radicals: red-shift of fluorescence emission with enhanced luminescence efficiency." S. Dong, A. Obolda, Q. Peng, Y. Zhang, S. Marder, F. Li, *Mater. Chem. Front.* **1**, 2132-2135 (2017, DOI: [10.1039/c7qm00273d](https://doi.org/10.1039/c7qm00273d))
485. "Comparison of the Optical and Electrochemical Properties of Bi(perylene diimide)s Linked through Ortho and Bay Positions." Y. Fan, K. Ziabrev, S. Zhang, B. Lin, S. Barlow, S. R. Marder, *ACS Omega* **2**, 377-385 (2017, DOI:[10.1021/acsomega.6b00537](https://doi.org/10.1021/acsomega.6b00537))
486. "Absorption Tails of Donor:C₆₀ Blends Provide Insight into Thermally Activated Charge-Transfer Processes and Polaron Relaxation." K. Vandewal, J. Benduhn, K. S. Schellhammer, T. Vangerven, J. E. Rückert, F. Piersimoni, R. Scholz, O. Zeika, Y. Fan, S. Barlow, D. Neher, S. R. Marder, J. Manca, D. Spoltore, G. Cuniberti, F. Ortman, *J. Am. Chem. Soc.* **139**, 1699-1704 (2017, DOI:[10.1021/jacs.6b12857](https://doi.org/10.1021/jacs.6b12857))
487. "Testing the Equivalence between Spatial Averaging and Temporal Averaging in Highly Dilute Solutions." K. M. Carroll, C. Rawlings, Y. Zhang, A. W. Knoll, S. R. Marder, H. Wolf, U. Duerig, *Langmuir* **33**, 14539-14547 (2017, DOI:[10.1021/acs.langmuir.7b02730](https://doi.org/10.1021/acs.langmuir.7b02730))

488. "Engineered nonlinear materials using gold nanoantenna array." V. P. Drachev, A. V. Kildishev, J. D. Borneman, K.-P. Chen, V. M. Shalaev, K. Yamnitskiy, R. A. Norwood, N. Peyghambarian, S. R. Marder, L. A. Padilha, S. Webster, T. R. Ensley, D. J. Hagan, E. W. Van Stryland, *Sci. Rep.* **8**, 780 (2018, DOI:[10.1038/s41598-017-19066-3](https://doi.org/10.1038/s41598-017-19066-3))
489. "Panchromatic Ternary Photovoltaic Cells Using a Nonfullerene Acceptor Synthesized Using C–H Functionalization." J. Zhang, C. Yan, W. Wang, Y. Xiao, X. Lu, S. Barlow, T. C. Parker, X. Zhan, S. R. Marder, *Chem. Mater.* **30**, 309-313(2018, DOI: [10.1021/acs.chemmater.7b04499](https://doi.org/10.1021/acs.chemmater.7b04499))
490. "Tunable Third-Harmonic Generation from Polaritons in the Ultrastrong Coupling Regime." F. Barachati, J. Simon, Y. A. Getmanenko, S. Barlow, S. R. Marder, and S. Kéna-Cohen, *ACS Photonics* **5**, 119-125 (2018, DOI: [10.1021/acsphotonics.7b00305](https://doi.org/10.1021/acsphotonics.7b00305))
491. "Pronounced Side Chain Effects in Triple Bond-Conjugated Polymers Containing Naphthalene Diimides for n-Channel Organic Field-Effect Transistors." S. Nam, S. G. Hahm, D. Khim, H. Kim, T. Sajoto, M. Ree, S. R. Marder, T. D. Anthopoulos, D. D. C. Bradley, Y. Kim, *ACS Appl. Mater. Interfaces* **10**, 12921-12929 (2018, DOI: [10.1021/acsami.8b01196](https://doi.org/10.1021/acsami.8b01196))
492. "Non-fullerene acceptors for organic solar cells." C. Yan, S. Barlow, Z. Wang, H. Yan, A. K. Y. Jen, S. R. Marder, X. Zhan, *Nat. Rev. Mater.* **3**, 18003/1-19 (2018, DOI: [10.1038/natrevmats.2018.3](https://doi.org/10.1038/natrevmats.2018.3))
493. "Design of Near-Infrared-Absorbing Unsymmetrical Polymethine Dyes with Large Quadratic Hyperpolarizabilities." S. Pascal, Y. A. Getmanenko, Y. Zhang, I. Davydenko, M. H. Ngo, G. Pilet, S. Redon, Y. Bretonnière, O. Maury, I. Ledoux-Rak, S. Barlow, S. R. Marder, and C. Andraud, *Chem. Mater.* **30**, 3410-3418 (2018, DOI: [10.1021/acs.chemmater.8b00960](https://doi.org/10.1021/acs.chemmater.8b00960))
494. "Effects of *meso*-M(PPh₃)₂Cl (M = Pd, Ni) substituents on the linear and third-order nonlinear optical properties of chalcogenopyrylium-terminated heptamethines in solution and solid states." I. Davydenko, S. Benis, S. B. Shiring, J. Simon, R. Sharma, T. G. Allen, S.-H. Chi, Q. Zhang, Y. A. Getmanenko, T. C. Parker, J. W. Perry, J.-L. Bredas, D. J. Hagan, E. W. Van Stryland, S. Barlow, S. R. Marder, *J. Mater. Chem. C* **6**, 3613-3620 (2018, DOI:[10.1039/C7TC05050J](https://doi.org/10.1039/C7TC05050J))
495. "Absence of Mixed Phase in Organic Photovoltaic Active Layers Facilitates Use of Green Solvent Processing." S. D. Oosterhout, V. Savikhin, M. A. Burgers, J. Zhang, Y. Zhang, S. R. Marder, G. C. Bazan, M. F. Toney, *J. Phys. Chem. C* **122**, 11136-11144 (2018, DOI:[10.1021/acs.jpcc.8b01600](https://doi.org/10.1021/acs.jpcc.8b01600))
496. "Measurements of the field-effect electron mobility of the acceptor ITIC." Y. Park, C. Fuentes-Hernandez, X. Jia, F. A. Larrain, J. Zhang, S. R. Marder, B. Kippelen, *Org. Electron.* **58**, 290-293 (2018, DOI: [10.1016/j.orgel.2018.04.028](https://doi.org/10.1016/j.orgel.2018.04.028))
497. "Direct Effect of Dielectric Surface Energy on Carrier Transport in Organic Field-Effect Transistors." S. Zhou, Q. Tang, H. Tian, X. Zhao, Y. Tong, S. Barlow, S. R. Marder, Y. Liu, *ACS Appl. Mater. Interfaces* **10**, 15943-15951 (2018, DOI:[10.1021/acsami.8b02304](https://doi.org/10.1021/acsami.8b02304))

498. "Effect of Isomerization on High-Performance Nonfullerene Electron Acceptors." J. Wang, J. Zhang, Y. Xiao, T. Xiao, R. Zhu, C. Yan, Y. Fu, G. Lu, X. Lu, S. R. Marder, X. Zhan, *J. Amer. Chem. Soc.* **140**, 9140-9147 (2018, DOI:[10.1021/jacs.8b04027](https://doi.org/10.1021/jacs.8b04027))
499. "Surface modified fullerene electron transport layers for stable and reproducible flexible perovskite solar cells." S. Song, R. Hill, K. Choi, K. Wojciechowski, S. Barlow, J. Leisen, H. J. Snaith, S. R. Marder, T. Park, *Nano Energy* **49**, 324-332 (2018, DOI:[10.1016/j.nanoen.2018.04.068](https://doi.org/10.1016/j.nanoen.2018.04.068))
500. "Recent Developments in C–H Activation for Materials Science in the Center for Selective C–H Activation." J. Zhang, L. Kang, T. Parker, S. Blakey, C. Luscombe, S. Marder, *Molecules* **23**, 922 (2018, DOI:[10.3390/molecules23040922](https://doi.org/10.3390/molecules23040922))
501. "Systematic Power Factor Enhancement in n-Type NiETT/PVDF Composite Films." A. K. Menon, R. M. W. Wolfe, S. R. Marder, J. R. Reynolds, S. K. Yee, *Adv. Funct. Mater.* **28**, 1801620 (2018, DOI: [10.1002/adfm.201801620](https://doi.org/10.1002/adfm.201801620))
502. "Dopant Diffusion in Sequentially Doped Poly(3-hexylthiophene) Studied by Infrared and Photoelectron Spectroscopy." P. Reiser, L. Müller, V. Sivanesan, R. Lovrincic, S. Barlow, S. R. Marder, A. Pucci, W. Jaegermann, E. Mankel, S. Beck, *J Phys. Chem. C* **122**, 14518-14527 (2018, DOI:[10.1021/acs.jpcc.8b02657](https://doi.org/10.1021/acs.jpcc.8b02657))
503. "Positional Effects from σ -Bonded Platinum(II) on Intersystem Crossing Rates in Perylenediimide Complexes: Synthesis, Structures, and Photophysical Properties." J. E. Yarnell, I. Davydenko, P. V. Dorovatovskii, V. N. Khrustalev, T. V. Timofeeva, F. N. Castellano, S. R. Marder, C. Risko, S. Barlow, *J Phys. Chem. C* **122**, 13848-13862 (2018, DOI:[10.1021/acs.jpcc.8b01003](https://doi.org/10.1021/acs.jpcc.8b01003))
504. "Modification of the fluorinated tin oxide/electron-transporting material interface by a strong reductant and its effect on perovskite solar cell efficiency." F. Pulvirenti, B. Wegner, N. K. Noel, G. Mazzotta, R. Hill, J. B. Patel, L. M. Herz, M. B. Johnston, M. K. Riede, H. J. Snaith, N. Koch, S. Barlow, S. R. Marder, *Mol. Syst. Des. Eng.* **3**, 741-747 (2018, DOI:[10.1039/C8ME00031J](https://doi.org/10.1039/C8ME00031J))
505. "High performance blue-emitting organic light-emitting diodes from thermally activated delayed fluorescence: A guest/host ratio study." *J. Appl. Phys.* **124**, 055501 (2018, DOI:[10.1063/1.5041447](https://doi.org/10.1063/1.5041447))
506. "Impact of Nonfullerene Molecular Architecture on Charge Generation, Transport, and Morphology in PTB7-Th-Based Organic Solar Cells." X. Yi, B. Gautam, I. Constantinou, Y. Cheng, Z. Peng, E. Klump, X. Ba, C. H. Y. Ho, C. Dong, S. R. Marder, J. R. Reynolds, S.-W. Tsang, H. Ade, F. So, *Adv. Funct. Mater.* **28**, 1802702 (2018, DOI:[10.1002/adfm.201802702](https://doi.org/10.1002/adfm.201802702))
507. "Controllable, Wide-Ranging n-Doping and p-Doping of Monolayer Group 6 Transition-Metal Disulfides and Diselenides." S. Zhang, H. M. Hill, K. Moudgil, C. A. Richter, A. R. Hight Walker, S. Barlow, S. R. Marder, C. A. Hacker, S. J. Pookpanratana, *Advanced Materials* **30**, 1802991 (2018, DOI: [10.1002/adma.201802991](https://doi.org/10.1002/adma.201802991); correction published Dec. 2018 under DOI [10.1002/adma.201806345](https://doi.org/10.1002/adma.201806345))

508. "Effect of the Number and Substitution Pattern of Carbazole Donors on the Singlet and Triplet State Energies in a Series of Carbazole-Oxadiazole Derivatives Exhibiting Thermally Activated Delayed Fluorescence." M. W. Cooper, X. Zhang, Y. Zhang, S. O. Jeon, H. Lee, S. Kim, C. Fuentes-Hernandez, S. Barlow, B. Kippelen, S. R. Marder, *Chem. Mater.* **30**, 6389-6399 (2018, DOI:[10.1021/acs.chemmater.8b02632](https://doi.org/10.1021/acs.chemmater.8b02632))
509. "Hole Transport in Low-Donor-Content Organic Solar Cells." D. Spoltore, A. Hofacker, J. Benduhn, S. Ullbrich, M. Nyman, O. Zeika, S. Schellhammer, Y. Fan, I. Ramirez, S. Barlow, M. Riede, S. R. Marder, F. Ortman, K. Vandewal, *J. Phys. Chem. Lett.* **9**, 5496-5501 (2018, DOI:[10.1021/acs.jpcllett.8b02177](https://doi.org/10.1021/acs.jpcllett.8b02177))
510. "Effects of Terminal Groups in Third Components on Performance of Organic Solar Cells." P. Y. Xue, J. X. Zhang, J. M. Xin, E. O. Rech, T. F. Li, K. X. Meng, J. Y. Wang, W. Ma, W. You, S. R. Marder, R. P. S. Han, X. W. Zhan, *Acta Phys. -Chim. Sin.* **35**, 275-283 (2019, DOI:[10.3866/pku.Whxb201804231](https://doi.org/10.3866/pku.Whxb201804231))
511. "Influence of dopant size and electron affinity on the electrical conductivity and thermoelectric properties of a series of conjugated polymers." Z. M. Liang, Y. D. Zhang, M. Souiri, X. Y. Luo, A. M. Boehm, R. P. Li, Y. Zhang, T. R. Wang, D. Y. Kim, J. G. Mei, S. R. Marder, K. R. Graham, *J. Mater. Chem. A* **6**, 16495-16505 (2018, DOI:[10.1039/c8ta05922e](https://doi.org/10.1039/c8ta05922e))
512. "Simultaneous Enhancement in Electrical Conductivity and Thermopower of n-Type NiETT/PVDF Composite Films by Annealing." R. M. W. Wolfe, A. K. Menon, T. R. Fletcher, S. R. Marder, J. R. Reynolds, S. K. Yee, *Adv. Funct. Mater.* **28**, 1803275/1-8 (2018, DOI:[10.1002/adfm.201803275](https://doi.org/10.1002/adfm.201803275))
513. "The Direct Arylation Polymerization (DAP) of Well-Defined Alternating Copolymers Based On 5,6-Dicyano 2,1,3 benzothiadiazole (DCBT)." Q. Q. Shi, W. Tatum, J. X. Zhang, C. Scott, C. K. Luscombe, S. R. Marder, S. B. Blakey, *Asian J. Org. Chem.* **7**, 1419-1425 (2018, DOI:[10.1002/ajoc.201800232](https://doi.org/10.1002/ajoc.201800232))
514. "The role of fluorine-substitution on the π -bridge in constructing effective thermally activated delayed fluorescence molecules." Y. Li, J. J. Liang, H. C. Li, L. S. Cui, M. K. Fung, S. Barlow, S. R. Marder, C. Adachi, Z. Q. Jiang, L. S. Liao, *J. Mater. Chem. C* **6**, 5536-5541 (2018, DOI:[10.1039/c8tc01158c](https://doi.org/10.1039/c8tc01158c))
515. "A blue thermally activated delayed fluorescence emitter developed by appending a fluorene moiety to a carbazole donor with meta-linkage for high-efficiency OLEDs." J. J. Liang, Y. Li, Y. Yuan, S. H. Li, X. D. Zhu, S. Barlow, M. K. Fung, Z. Q. Jiang, S. R. Marder, L. S. Liao, *Mater. Chem. Front.* **2**, 917-922 (2018, DOI:[10.1039/c7qm00605e](https://doi.org/10.1039/c7qm00605e))
516. "Near Length-Independent Conductance in Polymethine Molecular Wires." S. Gunasekaran, D. Hernangómez-Pérez, I. Davydenko, S. Marder, F. Evers, L. Venkataraman, *Nano Lett.* **18**, 6387-6391 (2018, DOI:[10.1021/acs.nanolett.8b02743](https://doi.org/10.1021/acs.nanolett.8b02743))
517. "Linear and Third-Order Nonlinear Optical Properties of Chalcogenopyrylium-Terminated Heptamethine Dyes with Rigid, Bulky Substituents." Y. A. Getmanenko, T. G. Allen, H. Kim, J. M. Hales, B. Sandhu, M. S. Fonari, K. Y. Saponitsky, Y. Zhang, V. N. Khrustalev, J. D. Matichak, T. V. Timofeeva, S. Barlow, S.-H. Chi, J. W. Perry, S. R. Marder, *Adv. Funct. Mater.* **28**, 1804073 (2018, DOI:[10.1002/adfm.201804073](https://doi.org/10.1002/adfm.201804073))

518. "Donor Conjugated Polymers with Polar Side Chain Groups: The Role of Dielectric Constant and Energetic Disorder on Photovoltaic Performance." B. Xu, X. Yi, T.-Y. Huang, Z. Zheng, J. Zhang, A. Salehi, V. Coropceanu, C. H. Y. Ho, S. R. Marder, M. F. Toney, J.-L. Brédas, F. So, J. R. Reynolds, *Adv. Funct. Mater.* **28**, 1803418 (2018, DOI: [10.1002/adfm.201803418](https://doi.org/10.1002/adfm.201803418))
519. "Origin of the π - π Spacing Change upon Doping of Semiconducting Polymers." W. Liu, L. Müller, S. Ma, S. Barlow, S. R. Marder, W. Kowalsky, A. Köhn, R. Lovrincic, *J. Phys. Chem. C* **122**, 27983-27990 (2018, DOI: [10.1021/acs.jpcc.8b10845](https://doi.org/10.1021/acs.jpcc.8b10845))
520. "Randomly Distributed Conjugated Polymer Repeat Units for High-Efficiency Photovoltaic Materials with Enhanced Solubility and Processability." B. Xu, I. Pelse, S. Agarkar, S. Ito, J. Zhang, X. Yi, Y. Chujo, S. Marder, F. So, J. R. Reynolds, *ACS Appl. Mater. Interfaces* **10**, 44583-44588 (2018, DOI: [10.1021/acsami.8b15522](https://doi.org/10.1021/acsami.8b15522))
521. "Control of Singlet Emission Energy in a Diphenyloxadiazole Containing Fluorophore Leading To Thermally Activated Delayed Fluorescence." M. W. Cooper, X. Zhang, Y. Zhang, C. Fuentes-Hernandez, S. Barlow, B. Kippelen, S. R. Marder, *ACS Omega* **3**, 14918-14923 (2018, DOI: [10.1021/acsomega.8b01979](https://doi.org/10.1021/acsomega.8b01979))
522. "Nonlinear optical components for all-optical probabilistic graphical model." M. Babaeian, P.-A. Blanche, R. A. Norwood, T. Kaplas, P. Keiffer, Y. Svirko, T. G. Allen, V. W. Chen, S.-H. Chi, J. W. Perry, S. R. Marder, M. A. Neifeld, N. Peyghambarian, *Nature Communications* **9**, 2128 (2018, DOI: [10.1038/s41467-018-04578-x](https://doi.org/10.1038/s41467-018-04578-x))
523. "Enhanced Thermoelectric Power Factor of Tensile Drawn Poly(3-hexylthiophene)." J. Hynnen, E. Järsvall, R. Kroon, Y. Zhang, S. Barlow, S. R. Marder, M. Kemerink, A. Lund, C. Müller, *ACS Macro Lett.* **8**, 70-76 (2019, DOI: [10.1021/acsmacrolett.8b00820](https://doi.org/10.1021/acsmacrolett.8b00820))
524. "Photovoltaic donor-acceptor conjugated polymers with minimally substituted acceptor moieties." B. Schmatz, I. Pelse, A. Advincula, J. Zhang, S. R. Marder, J. R. Reynolds, *Org. Electron.* **68**, 280-284 (2019, DOI: [10.1016/j.orgel.2019.02.020](https://doi.org/10.1016/j.orgel.2019.02.020))
525. "Host-Free Yellow-Green Organic Light-Emitting Diodes with External Quantum Efficiency over 20% Based on a Compound Exhibiting Thermally Activated Delayed Fluorescence." X. Zhang, M. W. Cooper, Y. Zhang, C. Fuentes-Hernandez, S. Barlow, S. R. Marder, B. Kippelen, *ACS Appl. Mater. Interfaces* **11**, 12693-12698 (2019, DOI: [10.1021/acsami.8b18798](https://doi.org/10.1021/acsami.8b18798))
526. "Understanding the Effects of Molecular Dopant on n-Type Organic Thermoelectric Properties." H.-I. Un, S. A. Gregory, S. K. Mohapatra, M. Xiong, E. Longhi, Y. Lu, S. Rigin, S. Jhulki, C.-Y. Yang, T. V. Timofeeva, J.-Y. Wang, S. K. Yee, S. Barlow, S. R. Marder, J. Pei, *Adv. Energy Mater.* 1900817 (2019, DOI: [10.1002/aenm.201900817](https://doi.org/10.1002/aenm.201900817))
527. "(4NPEA)₂PbI₄ (4NPEA = 4-Nitrophenylethylammonium): Structural, NMR, and Optical Properties of a 3 × 3 Corrugated 2D Hybrid Perovskite." M.-H. Tremblay, F. Thouin, J. Leisen, J. Bacsá, A. R. Srimath Kandada, J. M. Hoffman, M. G. Kanatzidis, A. D. Mohite, C. Silva, S. Barlow, S. R. Marder, *J. Am. Chem. Soc.* **141**, 4521-4525 (2019, DOI: [10.1021/jacs.8b13207](https://doi.org/10.1021/jacs.8b13207))

528. "Structures of $(4\text{-Y-C}_6\text{H}_4\text{CH}_2\text{NH}_3)_2\text{PbI}_4$ {Y = H, F, Cl, Br, I}: Tuning of Hybrid Organic Inorganic Perovskite Structures from Ruddlesden–Popper to Dion–Jacobson Limits." M.-H. Tremblay, J. Bacsá, B. Zhao, F. Pulvirenti, S. Barlow, S. R. Marder, *Chem. Mater.* (2019, DOI: [10.1021/acs.chemmater.9b01564](https://doi.org/10.1021/acs.chemmater.9b01564))
529. "Charge Recombination Dynamics in Organic Photovoltaic Systems with Enhanced Dielectric Constant." M. P. Hughes, K. D. Rosenthal, R. R. Dasari, B. R. Luginbuhl, B. Yurash, S. R. Marder, T. Q. Nguyen, *Adv. Funct. Mater.* **29**, 1901269/1-8 (2019, DOI: [10.1002/adfm.201901269](https://doi.org/10.1002/adfm.201901269))
530. "Conductive, Solution-Processed Dioxythiophene Copolymers for Thermoelectric and Transparent Electrode Applications." J. F. Ponder, A. K. Menon, R. R. Dasari, S. L. Pittelli, K. J. Thorley, S. K. Yee, S. R. Marder, J. R. Reynolds, *Adv. Energy Mater.* **9**, 1900395/1-7 (2019, DOI: [10.1002/aenm.201900395](https://doi.org/10.1002/aenm.201900395))
531. "Breaking Down Resonance: Nonlinear Transport and the Breakdown of Coherent Tunneling Models in Single Molecule Junctions." E. D. Fung, D. Gelbwaser, J. Taylor, J. Low, J. Xia, I. Davydenko, L. M. Campos, S. Marder, U. Peskin, L. Venkataraman, *Nano Lett.* **19**, 2555-2561 (2019, DOI: [10.1021/acs.nanolett.9b00316](https://doi.org/10.1021/acs.nanolett.9b00316))
532. "Design and synthesis of two-dimensional covalent organic frameworks with four-arm cores: prediction of remarkable ambipolar charge-transport properties." S. Thomas, H. Li, R. R. Dasari, A. M. Evans, I. Castano, T. G. Allen, O. G. Reid, G. Rumbles, W. R. Dichtel, N. C. Gianneschi, S. R. Marder, V. Coropceanu, J.-L. Brédas, *Mater. Horiz.* **6**, 1868-1876 (2019, DOI: [10.1039/C9MH00035F](https://doi.org/10.1039/C9MH00035F))
533. "Charge-Transport Properties of F₆TNAP-Based Charge-Transfer Cocrystals." R. R. Dasari, X. Wang, R. A. Wiscons, H. F. Haneef, A. Ashokan, Y. Zhang, M. S. Fonari, S. Barlow, V. Coropceanu, T. V. Timofeeva, O. D. Jurchescu, J.-L. Brédas, A. J. Matzger, S. R. Marder, *Adv. Funct. Mater.* 1904858/1-12 (2019, DOI: [10.1002/adfm.201904858](https://doi.org/10.1002/adfm.201904858))
534. "Optically Pumped Lasing from Hybrid Perovskite Light-Emitting Diodes." H. Kim, K. Roh, J. P. Murphy, L. Zhao, W. B. Gunnarsson, E. Longhi, S. Barlow, S. R. Marder, B. P. Rand, N. C. Giebink, *Adv. Opt. Mater.* 1901297/1-7 (2019, DOI: [10.1002/adom.201901297](https://doi.org/10.1002/adom.201901297))
535. "Organometallic hydride-transfer agents as reductants for organic semiconductor molecules." S. Zhang, K. Moudgil, E. Jucov, C. Risko, T. V. Timofeeva, S. R. Marder, S. Barlow, *Inorganica Chim. Acta* (2019, DOI: <https://doi.org/10.1016/j.ica.2019.02.003>)
536. "Acceptor Gradient Polymer Donors for Non-Fullerene Organic Solar Cells." A. L. Jones, Z. Zheng, P. Riley, I. Pelse, J. Zhang, M. Abdelsamie, M. F. Toney, S. R. Marder, F. So, J.-L. Brédas, J. R. Reynolds, *Chem. Mater.* **31**, 9729-9741 (2019, DOI: [10.1021/acs.chemmater.9b03327](https://doi.org/10.1021/acs.chemmater.9b03327))
537. "Ruthenium pentamethylcyclopentadienyl mesitylene dimer: a sublimable n-dopant and electron buffer layer for efficient n-i-p perovskite solar cells." J. Avila, M.-G. La-Placa, E. Longhi, M. Sessolo, S. Barlow, S. R. Marder, H. J. Bolink, *J. Mater. Chem. A* **7**, 25796-25801 (2019, DOI: [10.1039/C9TA09838K](https://doi.org/10.1039/C9TA09838K))

538. "Predicting the yield of ion pair formation in molecular electrical doping: redox-potentials versus ionization energy/electron affinity." B. Wegner, L. Grubert, C. Dennis, A. Opitz, A. Röttger, Y. Zhang, S. Barlow, S. R. Marder, S. Hecht, K. Müllen, N. Koch, *J. Mater. Chem. C* **7**, 13839-13848 (2019, DOI: [10.1039/C9TC04500G](https://doi.org/10.1039/C9TC04500G))
539. "Thermoelectric Performance of n-Type Poly(Ni-tetrathiooxalate) as a Counterpart to Poly(Ni-ethenetetrathiolate): NiTTO versus NiETT." R. M. W. Wolfe, A. K. Menon, S. R. Marder, J. R. Reynolds, S. K. Yee, *Adv. Electron. Mater.* **5**, 1900066/1-7 (2019, DOI: [10.1002/aelm.201900066](https://doi.org/10.1002/aelm.201900066))
540. "Degenerate electron-doping in two-dimensional tungsten diselenide with a dimeric organometallic reductant." R. Guo, Q. Li, Y. Zheng, B. Lei, H. Sun, Z. Hu, J. Zhang, L. Wang, E. Longhi, S. Barlow, S. R. Marder, J. Wang, W. Chen, *Mater. Today* **30**, 26-33 (2019, DOI: [10.1016/j.mattod.2019.04.017](https://doi.org/10.1016/j.mattod.2019.04.017))
541. "Cationic Polyelectrolyte for Anionic Cyanines: An Efficient Way To Translate Molecular Properties into Material Properties." Z. a. Li, A. A. Syed, P. Zhao, J. C. Yang, R. Sharma, T. R. Ensley, J. D. Matichak, I. Davydenko, S.-H. Jang, D. J. Hagan, S. R. Marder, E. W. Van Stryland, A. K. Y. Jen, *J. Amer. Chem. Soc.* **141**, 17331-17336 (2019, DOI: [10.1021/jacs.9b08877](https://doi.org/10.1021/jacs.9b08877))
542. "Interfacial charge-transfer doping of metal halide perovskites for high performance photovoltaics." N. K. Noel, S. N. Habisreutinger, A. Pellaroque, F. Pulvirenti, B. Wenger, F. Zhang, Y.-H. Lin, O. G. Reid, J. Leisen, Y. Zhang, S. Barlow, S. R. Marder, A. Kahn, H. J. Snaith, C. B. Arnold, B. P. Rand, *Energy Environ. Sci.* **12**, 3063-3073 (2019, DOI: [10.1039/C9EE01773A](https://doi.org/10.1039/C9EE01773A))
543. "Molecular-Reductant-Induced Control of a Graphene–Organic Interface for Electron Injection." F. Zhang, C. Klein, E. Longhi, S. Barlow, S. R. Marder, G. Sarusi, A. Kahn, *Chem. Mater.* **31**, 6624-6632 (2019, DOI: [10.1021/acs.chemmater.9b00566](https://doi.org/10.1021/acs.chemmater.9b00566))
544. "Phosphorescent and TADF polymers and dendrimers in solution-processed self-host organic light-emitting diodes: structure analysis and design perspectives." S. Jhulki, M. W. Cooper, S. Barlow, S. R. Marder, *Mater. Chem. Front.* **3**, 1699-1721 (2019, DOI: [10.1039/C9QM00188C](https://doi.org/10.1039/C9QM00188C))
545. "Bis(tercarbazole) pyrene and tetrahydropyrene derivatives: photophysical and electrochemical properties, theoretical modeling, and OLEDs." B. R. Kaafarani, T. H. El-Assaad, W. A. Smith, S. M. Ryno, F. Hermerschmidt, J. Lyons, D. Patra, B. Wex, E. J. W. List-Kratochvil, C. Risko, S. Barlow, S. R. Marder, *J. Mater. Chem. C* **7**, 5009-5018 (2019, DOI: [10.1039/C8TC06266H](https://doi.org/10.1039/C8TC06266H))
546. "Phosphonic Acid Modification of the Electron Selective Contact: Interfacial Effects in Perovskite Solar Cells." R. B. M. Hill, S.-H. Turren-Cruz, F. Pulvirenti, W. R. Tress, S. Wiegold, S. Sun, L. Nienhaus, M. Bawendi, T. Buonassisi, S. Barlow, A. Hagfeldt, S. R. Marder, J.-P. Correa-Baena, *ACS Appl. Energy Mater.* **2**, 2402-2408 (2019, DOI: [10.1021/acsaem.9b00141](https://doi.org/10.1021/acsaem.9b00141))
547. "Chemical Stabilities of the Lowest Triplet State in Aryl Sulfones and Aryl Phosphine Oxides Relevant to OLED Applications." H. Li, M. Hong, A. Scarpaci, X. He, C. Risko, J. S. Sears, S. Barlow, P. Winget, S. R. Marder, D. Kim, J.-L. Brédas, *Chem. Mater.* **31**, 1507-1519 (2019, DOI: [10.1021/acs.chemmater.8b04235](https://doi.org/10.1021/acs.chemmater.8b04235))

548. "Double doping of conjugated polymers with monomer molecular dopants." D. Kiefer, R. Kroon, A. I. Hofmann, H. Sun, X. Liu, A. Giovannitti, D. Stegerer, A. Cano, J. Hynynen, L. Yu, Y. Zhang, D. Nai, T. F. Harrelson, M. Sommer, A. J. Moulé, M. Kemerink, S. R. Marder, I. McCulloch, M. Fahlman, S. Fabiano, C. Müller, *Nat. Mater.* **18**, 149-155 (2019, DOI:[10.1038/s41563-018-0263-6](https://doi.org/10.1038/s41563-018-0263-6))
549. "Rapid Synthesis of High Surface Area Imine-Linked 2D Covalent Organic Frameworks by Avoiding Pore Collapse During Isolation." C. H. Feriante, S. Jhulki, A. M. Evans, R. R. Dasari, K. Slicker, W. R. Dichtel, S. R. Marder, *Adv. Mater.* **32**, 1905776 (2020, DOI: [10.1002/adma.201905776](https://doi.org/10.1002/adma.201905776))
550. "A structural study of p-type A–D–A oligothiophenes: effects of regioregular alkyl sidechains on annealing processes and photovoltaic performances." C. J. Lee, F. M. Jradi, V. D. Mitchell, J. White, C. R. McNeill, J. Subbiah, S. Marder, D. J. Jones, *J. Mater. Chem. C* **8**, 567-580 (2020, DOI:[10.1039/C9TC05280A](https://doi.org/10.1039/C9TC05280A))
551. "A photo-crosslinkable bis-triarylamine side-chain polymer as a hole-transport material for stable perovskite solar cells." M.-H. Tremblay, K. Schutt, Y. Zhang, J. Lim, Y.-H. Lin, J. H. Warby, S. Barlow, H. J. Snaith, S. R. Marder, *Sustainable Energy Fuels* **4**, 190-198 (2020, DOI:[10.1039/C9SE00513G](https://doi.org/10.1039/C9SE00513G))
552. "Humidity Sensing through Reversible Isomerization of a Covalent Organic Framework." S. Jhulki, A. M. Evans, X.-L. Hao, M. W. Cooper, C. H. Feriante, J. Leisen, H. Li, D. Lam, M. C. Hersam, S. Barlow, J.-L. Brédas, W. R. Dichtel, S. R. Marder, *J. Amer. Chem. Soc.* **142**, 783-791 (2020, DOI:[10.1021/jacs.9b08628](https://doi.org/10.1021/jacs.9b08628))
553. "n-Doping of a Low-Electron-Affinity Polymer Used as an Electron-Transport Layer in Organic Light-Emitting Diodes." H. L. Smith, J. T. Dull, E. Longhi, S. Barlow, B. P. Rand, S. R. Marder, A. Kahn, *Adv. Funct. Mater.* **2000328** (2020, DOI: [10.1002/adfm.202000328](https://doi.org/10.1002/adfm.202000328))
554. "Surface Functionalization of Black Phosphorus with a Highly Reducing Organoruthenium Complex: Interface Properties and Enhanced Photoresponsivity of Photodetectors." R. Guo, Y. Zheng, Z. Hu, J. Zhang, C. Han, E. Longhi, S. Barlow, S. R. Marder, W. Chen, *Chem. Eur. J.* **26**, 6576 (2020, DOI: [10.1002/chem.201905173](https://doi.org/10.1002/chem.201905173))
555. "Electrode Work Function Reduction by Polyethylenimine Interlayers: Choice of Solvent and Residual Solvent Removal for Superior Functionality." S. Bontapalle, A. Opitz, R. Schlesinger, S. R. Marder, S. Varughese, N. Koch, *Adv. Mater. Interfaces* **2000291**/1-6 (2020, DOI: [10.1002/admi.202000291](https://doi.org/10.1002/admi.202000291))
556. "Highly Conjugated, Fused-Ring, Quadrupolar Organic Chromophores with Large Two-Photon Absorption Cross-Sections in the Near-Infrared." T. Allen, S. Benis, N. Munera, J. Zhang, S. Dai, T. Li, B. Jia, W. Wang, S. Barlow, D. J. Hagan, E. W. Van Stryland, X. Zhan, J. W. Perry, and S. R. Marder, *J. Phys. Chem. A* **124**, 4367-4378 (2020, DOI: [10.1021/acs.jpca.0c02572](https://doi.org/10.1021/acs.jpca.0c02572))
557. "Thermal Management Enables Bright and Stable Perovskite Light-Emitting Diodes." L. Zhao, K. Roh, S. Kacmoli, K. Al Kurdi, S. Jhulki, S. Barlow, S. R. Marder, C. Gmachl, and B. P. Rand, *Adv. Mater.* 2000752 (2020, DOI: [10.1002/adma.202000752](https://doi.org/10.1002/adma.202000752))

558. "Exciton-band tuning induced by the width of the cation in 2D lead iodide perovskite hybrids." M.-H. Tremblay, J. Bacsá, S. Barlow, and S. R. Marder, *Mater. Chem. Front.* **4**, 2023-2028 (2020, DOI: [10.1039/D0QM00118J](https://doi.org/10.1039/D0QM00118J))
559. "Structural Diversity in 2,2'-[Naphthalene-1,8:4,5-bis(dicarboximide)-N,N'-diyl]-bis(ethylammonium) Iodoplumbates." M.-H. Tremblay, A. M. Zeidell, S. Rigin, C. Tyznik, J. Bacsá, Y. Zhang, K. Al Kurdi, O. D. Jurchescu, T. V. Timofeeva, S. Barlow, and S. R. Marder, *Inorg. Chem.* **59**, 8070-8080 (2020, DOI: [10.1021/acs.inorgchem.0c00165](https://doi.org/10.1021/acs.inorgchem.0c00165))
560. "Potential-Modulated Total Internal Reflection Fluorescence for Measurement of the Electron Transfer Kinetics of Submonolayers on Optically Transparent Electrodes." Y. Zheng, A. J. Giordano, S. R. Marder and S. S. Saavedra, *Langmuir* **36**, 6728-6735 (2020, DOI: [10.1021/acs.langmuir.0c00817](https://doi.org/10.1021/acs.langmuir.0c00817))
561. "Single-step formation of low work function cathode interlayer and n-type bulk doping from semiconducting polymer/polyethylenimine blend solution." K. Seidel, D. Lungwitz, A. Opitz, T. Krüger, J. Behrends, S. R. Marder and N. Koch, *ACS Appl. Mater. Interfaces* **12**, 28801-28807 (2020, DOI: [10.1021/acsami.0c05857](https://doi.org/10.1021/acsami.0c05857))
562. "Ordered Donor–Acceptor Complex Formation and Electron Transfer in Co-deposited Films of Structurally Dissimilar Molecules." A. Opitz, C. Peter, B. Wegner, H.S.S. R. Matte, A. Röttger, T. Florian, X. Xu, P. Beyer, L. Grubert, S. Hecht, V. Belova, A. Hinderhofer, F. Schreiber, C. Kasper, J. Pflaum, Y. Zhang, S. Barlow, S. R. Marder and N. Koch, *J. Phys. Chem. C* **124**, 11023-11031 (2020, DOI: [10.1021/acs.jpcc.0c02465](https://doi.org/10.1021/acs.jpcc.0c02465))
563. "New design strategy towards NIR I xanthene-based dyes." I. Rajapaksha, H. Chang, Y. Xiong, S. R. Marder, S. R. Gwaltney, C. N. Scott, *J. Org. Chem.* **85**, 12108-12116 (2020, DOI: [10.1021/acs.joc.0c01242](https://doi.org/10.1021/acs.joc.0c01242))
564. "Naphthalenediimide Cations Inhibit 2D Perovskite Formation and Facilitate Subpicosecond Electron Transfer." A. H. Proppe, M.-H. Tremblay, Y. Zhang, Z. Yang, Z., R. Quintero-Bermudez, S. O. Kelley, S. Barlow, S. R. Marder, E. H. Sargent, *J. Phys. Chem C* **124**, 24379-24390 (2020, DOI: [10.1021/acs.jpcc.0c05521](https://doi.org/10.1021/acs.jpcc.0c05521))
565. "New Mechanistic Insights into the Formation of Imine-Linked Two-Dimensional Covalent Organic Frameworks." C. Feriante, A. M. Evans, S. Jhulki, I. Castano, M. J. Strauss, S. Barlow, W. R. Dichtel, S. R. Marder, *J. Am. Chem. Soc.* **Article ASAP** (2020, DOI: [10.1021/jacs.0c08390](https://doi.org/10.1021/jacs.0c08390))
566. "Thermally Activated Delayed Fluorescence Sensitization for Highly Efficient Blue Fluorescent Emitters." H. Abroshan, Y. Zhang, X. Zhang, C. Fuentes-Hernandez, S. Barlow, V. Coropceanu S. R. Marder Bernard Kippelen Jean-Luc Brédas, *Adv. Funct. Mater.* **2020**, 2005898. (2020, DOI: [10.1002/adfm.202005898](https://doi.org/10.1002/adfm.202005898))
567. "Quantitative Analysis of Doping-Induced Polarons and Charge-Transfer Complexes of Poly(3-hexylthiophene) in Solution." M. Arvind, C. E. Tait, M. Guerrini, J. Krumland, A. M. Valencia, C. Cocchi, A. E. Mansour, N. Koch, S. Barlow, S. R. Marder, J. Behrends, D. Neher, *J. Phys. Chem. B* **124**, 7694-7708 (2020, DOI: [10.1021/acs.jpcc.0c03517](https://doi.org/10.1021/acs.jpcc.0c03517))

568. “High Thermoelectric Power Factor of Poly(3-hexylthiophene) through In-Plane Alignment and Doping with a Molybdenum Dithiolene Complex.” V. Untilova, J. Hynynen, A. I. Hofmann, D. Scheunemann, Y. Zhang, S. Barlow, M. Kemerink, S. R. Marder, L. Biniek, C. Müller, M. Brinkmann, *Macromolecules* **53**, 6314-6321 (2020, DOI: [10.1021/acs.macromol.0c01223](https://doi.org/10.1021/acs.macromol.0c01223))
569. “Electron transport in a sequentially doped naphthalene diimide polymer.” K. Al Kurdi, S. A. Gregory, S. Jhulki, M. Conte, S. Barlow, S. K. Yee, S. R. Marder, *Mater. Adv.* **1**, 1829-1834 (2020, DOI: [10.1039/D0MA00406E](https://doi.org/10.1039/D0MA00406E))
570. “UV-to-IR Absorption of Molecularly p-Doped Polythiophenes with Alkyl and Oligoether Side Chains: Experiment and Interpretation Based on Density Functional Theory.” I. Sahalianov, J. Hynynen, S. Barlow, S. R. Marder, C. Muller, I. Zozoulenko, *J. Phys. Chem B* **124**, 11280-11293 (2020, DOI: [10.1021/acs.jpcc.0c08757](https://doi.org/10.1021/acs.jpcc.0c08757))
571. “The Interlayer Method: A Universal Tool for Energy Level Alignment Tuning at Inorganic/Organic Semiconductor Heterojunctions.” Schultz, T., Lungwitz, D., Longhi, E., Barlow, S., Marder, S. R., Koch, N. *Adv. Funct. Mater.* **2010174** (2020, DOI: [10.1002/adfm.202010174](https://doi.org/10.1002/adfm.202010174))
572. “Electronically Coupled 2D Polymer/MoS₂ Heterostructures.” H. B. Balch, A. M. Evans, R. R. Dasari, H. Li, R. Li, S. Thomas, D. Wang, R. P. Bisbey, K. Slicker, I. Castano, S. Xun, L. Jiang, C. Zhu, N. Gianneschi, D. C. Ralph, J.-L. Bredas, S. R. Marder, W. R. Dichtel, F. Wang, *J. Am. Chem. Soc.* **142**, 21131-21139 (2020, DOI: [10.1021/jacs.0c10151](https://doi.org/10.1021/jacs.0c10151))
573. “Synthetic Routes for Heteroatom-Containing Alkylated/Arylated Polycyclic Aromatic Hydrocarbons.” Q. Shi, X. Shi, C. Feng, Y. Wu, N. Zheng, J. Liu, X. Wu, H. Chen, A. Peng, J. Li, L. Jiang, H. Fu, Z. Xie, S. R. Marder, S. B. Blakey, H. Huang, *Angew. Chem. Int.* **60**, 2924-2928 (2020, DOI: [10.1002/anie.202014108](https://doi.org/10.1002/anie.202014108))
574. “Persistent Conjugated Backbone and Disordered Lamellar Packing Impart Polymers with Efficient n-Doping and High Conductivities.” Y. Lu, Z.-D. Yu, H.-I. Un, Z.-F. Yao, H.-Y. You, W. Jin, L. Li, Z.-Y. Wang, B.-W. Dong, S. Barlow, E. Longhi, C.-a. Di, D. Zhu, J.-Y. Wang, C. Silva, S. R. Marder, J. Pei, *Adv. Mater.* **33**, (2020, DOI: [10.1002/adma.202005946](https://doi.org/10.1002/adma.202005946))
575. “Disentangling Bulk and Interface Phenomena in a Molecularly Doped Polymer Semiconductor.” D. Lungwitz, T. Schultz, C. E. Tait, J. Behrends, S. K. Mohapatra, S. Barlow, S. R. Marder, A. Opitz, N. Koch, *Adv. Optical Mater.* 2002039/1-7 (2021, DOI: [10.1002/adom.202002039](https://doi.org/10.1002/adom.202002039))
576. “Reactivity of an air-stable dihydrobenzimidazole n-dopant with organic semiconductor molecules.” S. Jhulki, H.-I. Un, Y.-F. Ding, C. Risko, S. K. Mohapatra, J. Pei, S. Barlow, S. R. Marder, *Chem*, **7**, 1050–1065 (2021, DOI: [10.1016/j.chempr.2021.01.020](https://doi.org/10.1016/j.chempr.2021.01.020))
577. “Synthesis, structures, and reactivity of isomers of [RuCp*(1,4-(Me₂N)₂C₆H₄)₂]₂.” E. Longhi, C. Risko, J. Bacsá, V. Khrustalev, S. Rigin, K. Moudgil, T. V. Timofeeva, S. R. Marder, S. Barlow, *Dalton Trans.* **50**, 13020-13030 (2021, DOI: [10.1039/D1DT02155A](https://doi.org/10.1039/D1DT02155A))

578. "High-Efficiency Ion-Exchange Doping of Conducting Polymers." I. E. Jacobs, Y. Lin, Y. Huang, X. Ren, D. Simatos, C. Chen, D. Tjhe, M. Statz, L. Lai, P. A. Finn, W. G. Neal, G. D'Avino, V. Lemaire, S. Fratini, D. Beljonne, J. Strzalka, C. B. Nielsen, S. Barlow, S. R. Marder, I. McCulloch, H. Sirringhaus, *Adv. Mater.* 2102988/1-12 (2021, DOI: [10.1002/adma.202102988](https://doi.org/10.1002/adma.202102988))
579. "Electron spin resonance resolves intermediate triplet states in delayed fluorescence." B. H. Drummond, N. Aizawa, Y. Zhang, W. K. Myers, Y. Xiong, M. W. Cooper, S. Barlow, Q. Gu, L. R. Weiss, A. J. Gillett, D. Credgington, Y.-J. Pu, S. R. Marder, E. W. Evans, *Nat. Commun.* **12**, 4532/1-11 (2021, DOI: [10.1038/s41467-021-24612-9](https://doi.org/10.1038/s41467-021-24612-9))
580. "Benzocyclobutene polymer as an additive for a benzocyclobutene-fullerene: application in stable p-i-n perovskite solar cells dagger." M.-H. Tremblay, K. Schutt, F. Pulvirenti, T. Schultz, B. Wegner, X. Jia, Y. Zhang, E. Longhi, R. R. Dasari, C. Fuentes-Hernandez, B. Kippelen, N. Koch, H. J. Snaith, S. Barlow, S. R. Marder, *J. Mater. Chem. A*, **9**, 9347-9353 (2021, DOI: [10.1039/d0ta07733j](https://doi.org/10.1039/d0ta07733j))
581. "Highly air-stable, n-doped conjugated polymers achieved by dimeric organometallic dopants." Y. Yamashita, S. Jhulki, D. Bhardwaj, E. Longhi, S. Kumagai, S. Watanabe, S. Barlow, S. R. Marder, J. Takeya, *J. Mater. Chem. C* **9**, 4105-4111 (2021, DOI: [10.1039/d0tc05931e](https://doi.org/10.1039/d0tc05931e))
582. "A naphthalene diimide side-chain polymer as an electron-extraction layer for stable perovskite solar cells." K. Al Kurdi, D. P. McCarthy, D. P. McMeekin, S. O. Furer, M.-H. Tremblay, S. Barlow, U. Bach, S. R. Marder, *Mater. Chem. Front.* **5**, 450-457 (2021, DOI: [10.1039/d0qm00685h](https://doi.org/10.1039/d0qm00685h))
583. "A polymeric bis(di-p-anisylamino)fluorene hole-transport material for stable n-i-p perovskite solar cells." M.-H. Tremblay, K. Schutt, Y. Zhang, S. Barlow, H. J. Snaith, S. R. Marder, *New J. Chem.* **45**, 15017–15021 (2021, DOI: [10.1039/d0nj04157b](https://doi.org/10.1039/d0nj04157b))
584. "A Naphthalene Diimide Covalent Organic Framework: Comparison of Cathode Performance in Lithium-Ion Batteries with Amorphous Cross-linked and Linear Analogues, and Its Use in Aqueous Lithium-Ion Batteries." *ACS Appl. Energy Mater.* **4**, 350–356 (2021, DOI: [10.1021/acsaem.0c02281](https://doi.org/10.1021/acsaem.0c02281))
585. "Understanding how Lewis acids dope organic semiconductors: a "complex" story." P. S. Marques, G. Londi, B. Yurash, T.-Q. Nguyen, S. Barlow, S. R. Marder, D. Beljonne, *Chem. Sci.* **12**, 7012-7022 (2021, DOI: [10.1039/d1sc01268a](https://doi.org/10.1039/d1sc01268a))
586. "Nonlinear photocarrier dynamics and the role of shallow traps in mixed-halide mixed-cation hybrid perovskites." D. A. Valverde-Chavez, E. Rojas-Gatjens, J. Williamson, S. Jariwala, Y. Shi, D. P. McCarthy, S. Barlow, S. R. Marder, D. S. Ginger, C. Silva-Acuna, *J. Mater. Chem. C* **9**, 8204-8212 (2021, DOI: [10.1039/d1tc01492g](https://doi.org/10.1039/d1tc01492g))
587. "Nanosecond-Pulsed Perovskite Light-Emitting Diodes at High Current Density." L. Zhao, K. Roh, S. Kacmoli, K. Al Kurdi, X. Liu, S. Barlow, S. R. Marder, C. Gmachl, B. P. Rand, *Adv. Mater.* 2104867/1-11 (2021, DOI: [10.1002/adma.202104867](https://doi.org/10.1002/adma.202104867))

588. “Cross-Linking of Doped Organic Semiconductor Interlayers for Organic Solar Cells: Potential and Challenges.” S. Dahlström, S. Wilken, Y. Zhang, C. Ahläng, S. Barlow, M. Nyman, S. R. Marder, and R. Österbacka, *ACS Appl. Energy Mater.* **4**, 14458–14466 (2021, DOI: [10.1021/acs.aem.1c03127](https://doi.org/10.1021/acs.aem.1c03127))
589. “Short and long-range electron transfer compete to determine free-charge yield in organic semiconductors.” J. M. Carr, T. G. Allen, B. W. Larson, I. G. Davydenko, R. R. Dasari, S. Barlow, S. R. Marder, O. G. Reid, and G. Rumbles, *Mater. Horiz.* **9**, 312–324 (2021, DOI: [10.1039/d1mh01331a](https://doi.org/10.1039/d1mh01331a))
590. “Tailoring capping-layer composition for improved stability of mixed-halide perovskites.” N. T. P. Hartono, M.-H. Tremblay, S. Wiegbold, B. Dou, J. Thapa, A. Tiihonen, V. Bulovic, L. Nienhaus, S. R. Marder, T. Buonassisi, S. Sun, *J. Mater. Chem. A* **10**, 2957–2965 (2022, DOI: [10.1039/D1TA07870D](https://doi.org/10.1039/D1TA07870D)).
591. “Organometallic and Organic Dimers: Moderately Air-Stable, Yet Highly Reducing, n-Dopants.” S. K. Mohapatra, S. R. Marder, S. Barlow, *Acc. Chem. Res.* **55**, 319–332 (2022, DOI: [10.1021/acs.accounts.1c00612](https://doi.org/10.1021/acs.accounts.1c00612))
592. “Controlled n-Doping of Naphthalene-Diimide-Based 2D Polymers.” A. M. Evans, K. A. Collins, S. Xun, T. G. Allen, S. Jhulki, I. Castano, H. L. Smith, M. J. Strauss, A. K. Oanta, L. Liu, L. Sun, O. G. Reid, G. Sini, D. Puggioni, J. M. Rondinelli, T. Rajh, N. C. Gianneschi, A. Kahn, D. E. Freedman, H. Li, S. Barlow, G. Rumbles, J.-L. Brédas, S. R. Marder and W. R. Dichtel, *Adv. Mater.* **34**, 2101932. (2022, DOI: [10.1002/adma.202101932](https://doi.org/10.1002/adma.202101932)) (First published online: November 30, 2021)
593. “Hybrid Organic Lead Iodides: Role of Organic Cation Structure in Obtaining 1D Chains of Face-Sharing Octahedra vs 2D Perovskites.” M.-H. Tremblay, A. Boyington, S. Rigin, J. Jiang, J. Bacsá, K. Al Kurdi, V. N. Khrustalev, R. Pachter, T. V. Timofeeva, N. Jui, S. Barlow, and S. R. Marder, *Chem. Mater.* **2022**, **34**, 935–946 (2022, DOI: [10.1021/acs.chemmater.1c01642](https://doi.org/10.1021/acs.chemmater.1c01642))
594. “Iron(III) Dopant Counterions Affect the Charge-Transport Properties of Poly(Thiophene) and Poly(Dialkoxythiophene) Derivatives.” K. Al Kurdi, S. A. Gregory, M. P. Gordon, J. F. Ponder Jr, A. Atassi, J. M. Rinehart, A. L. Jones, J. J. Urban, J. R. Reynolds, S. Barlow, S. R. Marder, and S. K. Yee, *ACS Appl. Mater. Interfaces* **14**, 29039–29051 (2022, DOI: [10.1021/acsami.2c03414](https://doi.org/10.1021/acsami.2c03414))
595. “A Semiconducting Two-Dimensional Polymer as an Organic Electrochemical Transistor Active Layer.” R. B. Rashid, A. M. Evans, L. A. Hall, R. R. Dasari, E. K. Roesner, S. R. Marder, D. M. D’Allesandro, W. R. Dichtel, and J. Rivnay, *Adv. Mater.* **34**, 2110703/1–8 (2022, DOI: [10.1002/adma.202110703](https://doi.org/10.1002/adma.202110703))
596. “Double Doping of a Low-Ionization-Energy Polythiophene with a Molybdenum Dithiolene Complex.” E. Järsvall, T. Biskup, Y. Zhang, R. Kroon, S. Barlow, S. R. Marder, and C. Müller, *Chem. Mater.* **34**, 5673–5679 (2022, DOI: [10.1021/acs.chemmater.2c01040](https://doi.org/10.1021/acs.chemmater.2c01040))
597. “Powerful Organic Molecular Oxidants and Reductants Enable Ambipolar Injection in a Large-Gap Organic Homojunction Diode.” H. L. Smith, J. T. Dull, S. K. Mohapatra, K. Al Kurdi, S. Barlow, S. R. Marder, B. P. Rand, and A. Kahn, *ACS Appl. Mater. Interfaces* **14**, 2381–2389 (2022, DOI: [10.1021/acsami.1c21302](https://doi.org/10.1021/acsami.1c21302))

598. "Use of a Multiple Hydride Donor To Achieve an n-Doped Polymer with High Solvent Resistance." F. Saeedifard, D. Lungwitz, Z.-D. Yu, S. Schneider, A. E. Mansour, A. Opitz, S. Barlow, M. F. Toney, J. Pei, N. Koch, and S. R. Marder, *ACS Appl. Mater. Interfaces*, **14**, 33598-33605 (2022, DOI: [10.1021/acsami.2c05724](https://doi.org/10.1021/acsami.2c05724))
599. "Visualisation of individual dopants in a conjugated polymer: sub-nanometre 3D spatial distribution and correlation with electrical properties." G. Persson, E. Järsvall, M. Röding, R. Kroon, Y. Zhang, S. Barlow, S. R. Marder, C. Müller, E. Olsson, *Nanoscale* **14**, 15404-15413 (2022, DOI: [10.1039/D2NR03554E](https://doi.org/10.1039/D2NR03554E))
600. "Delayed Luminescence in 2-Methyl-5-(penta(9-carbazolyl)phenyl)-1,3,4-oxadiazole Derivatives." M. W. Cooper, X. Zhang, Y. Zhang, A. Ashokan, C. Fuentes-Hernandez, S. Salman, B. Kippelen, S. Barlow, S. R. Marder, *J. Phys. Chem. A* **126**, 7480–7490. (2022, DOI: [10.1021/acs.jpca.2c05392](https://doi.org/10.1021/acs.jpca.2c05392))
601. "18.9% Efficient Organic Solar Cells Based on n-Doped Bulk-Heterojunction and Halogen-Substituted Self-Assembled Monolayers as Hole Extracting Interlayers." Y. Lin, Y. Zhang, J. Zhang, M. Marcinkas, T. Malinauskas, A. Magomedov, M. Nugraha, D. Kaltsas, D., Naphade, G. Harrison, A. El-Labban, S. Barlow, S. De Wolf, E. Wang, I. McCulloch, L. Tsetseris, V. Getautis, S. Marder, T. Anthopoulos, *Adv. Energy Mater.* **12**, 2202503. (2022, DOI: [10.1002/aenm.202202503](https://doi.org/10.1002/aenm.202202503))
602. "Thermal Insolubilization of Electrically n-Doped Films Achieved Using 7-Alkoxy-Benzocyclobutene-Substituted Fullerene and Dopant Molecules." F. Saeedifard, Y.-C. Chang, B. Kippelen, S. R. Marder, S. Barlow, *J. Phys. Chem. B* **126**, 8094–8101. (2022, DOI: [10.1021/acs.jpcb.2c05286](https://doi.org/10.1021/acs.jpcb.2c05286))
603. "Insights into the Local Bulk-Heterojunction Packing Interactions and Donor-Acceptor Energy Level Offsets in Scalable Photovoltaic Polymers." A. Jones, C. Ho, S. Schneider, J. Zhang, Y. Pei, J. Wang, X. Zhan, S. Marder, M. Toney, F. So, G. N. Reddy, J. R. Reynolds, *Chem. Mater.* **34**, 6853-6867 (2022, DOI: [10.1021/acs.chemmater.2c01121](https://doi.org/10.1021/acs.chemmater.2c01121))
604. "Ethylenediamine Addition Improves Performance and Suppresses Phase Instabilities in Mixed-Halide Perovskites." M. Taddei, J. Smith, B. Gallant, S. Zhou, R. Westbrook, Y. Shi, J. Wang, J. Drysdale, D. McCarthy, S. Barlow, S. Marder, H. Snaith, D. Ginger, *ACS Energy Lett.* **7**, 4265-4273 (2022, DOI: [10.1021/acsenergylett.2c01998](https://doi.org/10.1021/acsenergylett.2c01998))
605. "Improving the Resistance of Molecularly Doped Polymer Semiconductor Layers to Solvent." D. Lungwitz, A. E. Mansour, Y. Zhang, A. Opitz, S. Barlow, S. R. Marder and N. Koch, *Chem. Mater.* **35**, 672-681 (2023, DOI: [10.1021/acs.chemmater.2c03262](https://doi.org/10.1021/acs.chemmater.2c03262))
606. "Naphthalene-imide Self-assembled Monolayers as a Surface Modification of ITO for Improved Thermal Stability of Perovskite Solar Cells." S. O. Furer, K. J. Rietwyk, F. Pulvirenti, D. P. McMeekin, M. A. Surmiak, S. R. Raga, W. Mao, X. Lin, Y. Hora, J. Wang, Y. Shi, S. Barlow, D. S. Ginger, S. R. Marder, U. Bach, *ACS Appl. Energy Mater.* **6**, 667–677 (2023, DOI: [10.1021/acsaem.2c02735](https://doi.org/10.1021/acsaem.2c02735))
607. "A 19% efficient and stable organic photovoltaic device enabled by a guest nonfullerene acceptor with fibril-like morphology." H. Chen, S. Y. Jeong, J. Tian, Y. Zhang, D. R. Naphade, M. Alsufyani, W. Zhang, S. Griggs, H. Hu, S. Barlow, H. Y. Woo, S. R. Marder, T. D. Anthopoulos, I. McCulloch and Y. Lin, *Energy Environ. Sci.*, **16**, 1062-1070 (2023, DOI: [10.1039/D2EE03483B](https://doi.org/10.1039/D2EE03483B))

608. “Electronic Spin Qubit Candidates Arrayed within Layered Two-Dimensional Polymers.” A. K. Oanta, K. A. Collins, A. M. Evans, S. M. Pratik, L. A. Hall, M. J. Strauss, S. R. Marder, D. M. D’Alessandro, T. Rajh, D. E. Freedman, H. Li, J.-L. Brédas, L. Sun, W. R. Dichtel, *J. Am. Chem. Soc.*, **145**, 689–696 (2023, DOI: [10.1021/jacs.2c11784](https://doi.org/10.1021/jacs.2c11784))
609. “18.73% efficient and stable inverted organic photovoltaics featuring a hybrid hole-extraction layer.” Y. Lin, Y. Zhang, A. Magomedov, E. Gkogkosi, J. Zhang, X. Zheng, A. El-Labban, S. Barlow, V. Getautis, E. Wang, L. Tsetseris, S. R. Marder, I. McCulloch, T. D. Anthopoulos, *Mater. Horiz.*, **10**, 1292–1300 (2023, DOI: [10.1039/D2MH01575G](https://doi.org/10.1039/D2MH01575G))
610. “Work function and energy level alignment tuning at $\text{Ti}_3\text{C}_2\text{T}_x$ MXene surfaces and interfaces using (metal-)organic donor/acceptor molecules,” T. Schultz, P. Bärmann, E. Longhi, R. Meena, Y. Geerts, Y. Gogotsi, S. Barlow, S. R. Marder, T. Petit and N. Koch, *Phys. Rev. Mater.*, **7**, 045002 (2023, DOI: [10.1103/PhysRevMaterials.7.045002](https://doi.org/10.1103/PhysRevMaterials.7.045002))
611. “Direct detection of molecular hydrogen upon p- and n-doping of organic semiconductors with complex oxidants or reductants,” F. Pallini, S. Mattiello, N. Manfredi, S. Mecca, A. Fedorov, M. Sassi, K. Al Kurdi, Y.-F. Ding, C.-K. Pan, J. Pei, S. Barlow, S. R. Marder, T.-Q. Nguyen and L. Beverina, *J. Mater. Chem. A*, **11**, 8192–8201 (2023, DOI: [10.1039/D3TA00231D](https://doi.org/10.1039/D3TA00231D))
612. “Dirhodium C–H Functionalization of Hole-Transport Materials,” F. Saeedifard, Y. Naeem, Y. T. Boni, Y.-C. Chang, J. Zhang, Y. Zhang, B. Kippelen, S. Barlow, H. M. L. Davies and S. R. Marder, *J. Org. Chem.*, **88**, 4309–4316 (2023, DOI: [10.1021/acs.joc.2c02888](https://doi.org/10.1021/acs.joc.2c02888))
613. “Tailoring On-Surface Molecular Reactions and Assembly through Hydrogen-Modified Synthesis: From Triarylamine Monomer to 2D Covalent Organic Framework,” A. Enderson, H. Murali, R. R. Dasari, Q. Dai, H. Li, T. C. Parker, J.-L. Brédas, S. R. Marder and P. N. First, *ACS Nano*, **17**, 7366–7376 (2023, DOI: [10.1021/acsnano.2c11463](https://doi.org/10.1021/acsnano.2c11463))
614. “Spectral Signatures of a Negative Polaron in a Doped Polymer Semiconductor: Energy Levels and Hubbard U Interactions.” D. Lungwitz, S. Joy, A. E. Mansour, A. Opitz, C. Karunasena, H. Li, N. A. Panjwani, K. Moudgil, K. Tang, J. Behrends, S. Barlow, S. R. Marder, J.-L. Brédas, K. Graham, N. Koch and A. Kahn, *J. Phys. Chem. Lett.*, **14**, 5633–5640 (2023; DOI: [10.1021/acs.jpcllett.3c01022](https://doi.org/10.1021/acs.jpcllett.3c01022))
615. “Synthesis, Hole Doping, and Electrical Properties of a Semiconducting Azatriangulene-Based Covalent Organic Framework.” D. W. Burke, R. R. Dasari, V. K. Sangwan, A. K. Oanta, Z. Hirani, C. E. Pelkowski, Y. Tang, R. Li, D. C. Ralph, M. C. Hersam, S. Barlow, S. R. Marder and W. R. Dichtel, *J. Am. Chem. Soc.*, **145**, 11969–11977 (2023, DOI: [10.1021/jacs.2c12371](https://doi.org/10.1021/jacs.2c12371))
616. “Organic Photovoltaic Performance Resiliency: Role of Molecular Weight in a PM7 Derivative.” N. Schopp, S. Sabury, T. Chaney, J. Zhang, H. Wakidi, B. M. Kim, R. Sankar, H. M. Luong, P. Therdkatanyuphong, V. V. Brus, S. Marder, M. F. Toney, J. R. Reynolds and T.-Q. Nguyen, *ACS Energy Lett.*, **8**, 3307–3313 (2023, DOI: [10.1021/acsenerylett.3c01202](https://doi.org/10.1021/acsenerylett.3c01202))

617. “Design Rules for Obtaining Narrow Luminescence from Semiconductors Made in Solution.” H. A. Nguyen, G. Dixon, F. Y. Dou, S. Gallagher, S. Gibbs, D. M. Ladd, E. Marino, J. C. Ondry, J. P. Shanahan, E. S. Vasileiadou, S. Barlow, D. R. Gamelin, D. S. Ginger, D. M. Jonas, M. G. Kanatzidis, S. R. Marder, D. Morton, C. B. Murray, J. S. Owen, D. V. Talapin, M. F. Toney, and B. M. Cossairt, *Chem. Rev.* **123**, 7890-7952 (2023, DOI: [10.1021/acs.chemrev.3c00097](https://doi.org/10.1021/acs.chemrev.3c00097))
618. “Thermal Properties of Polymer Hole-Transport Layers Influence the Efficiency Roll-off and Stability of Perovskite Light-Emitting Diodes.” L. Zhao, D. D. Astridge, W. B. Gunnarsson, Z. Xu, J. Hong, J. Scott, S. Kacmoli, K. Al Kurdi, S. Barlow, S. R. Marder, C. F. Gmachl, A. Sellinger, and B. P. Rand, *Nano Lett.* **23**, 4785-4792 (2023, DOI: [10.1021/acs.nanolett.3c00148](https://doi.org/10.1021/acs.nanolett.3c00148))
619. “Tuning the Surface Electron Accumulation Layer of In₂O₃ by Adsorption of Molecular Electron Donors and Acceptors.” R. Wang, T. Schultz, A. Papadogianni, E. Longhi, C. Gatsios, F. Zu, T. Zhai, S. Barlow, S. R. Marder, O. Bierwagen, P. Amsalem, N. Koch, *Small* **19**, 2300730 (2023, DOI: [10.1002/sml.202300730](https://doi.org/10.1002/sml.202300730))
620. “Surface doping of rubrene single crystals by molecular electron donors and acceptors.” C. Gatsios, A. Opitz, D. Lungwitz, A. E. Mansour, T. Schultz, D. Shin, S. Hammer, J. Pflaum, Y. Zhang, S. Barlow, S. R. Marder and N. Koch, *Phys. Chem. Chem. Phys.* **25**, 29718-29726 (2023, DOI: [10.1039/D3CP03640E](https://doi.org/10.1039/D3CP03640E))
621. “Benzoimidazolium-derived dimeric and hydride n-dopants for organic electron-transport materials: impact of substitution on structures, electrochemistry, and reactivity.” S. K. Mohapatra, K. Al Kurdi, S. Jhulki, G. Bogdanov, J. Bacsá, M. Conte, T. V. Timofeeva, S. R. Marder and S. Barlow, *S. Beilstein J. Org. Chem.* **19**, 1651–1663 (2023, DOI: [10.3762/bjoc.19.121](https://doi.org/10.3762/bjoc.19.121))
622. “Beyond n-dopants for organic semiconductors: use of bibenzo[d]imidazoles in UV-promoted dehalogenation reactions of organic halides.” K. Tang, M. R. Brown, C. Risko, M. K. Gish, G. Rumbles, P. H. Pham, O. R. Luca, S. Barlow, S. R. Marder, *Beilstein J. Org. Chem.* **19**, 1912–1922 (2023, DOI: [10.3762/bjoc.19.142](https://doi.org/10.3762/bjoc.19.142))
623. “Ambipolar Doping in π -Conjugated Polymers.” K. Singh, A. A. Mohapatra, D. Giri, C. Gangadharappa, S. Jhulki, S. Barlow, S. R. Marder, A. Ghosh, S. Patil, N. Chauhan, *ACS Appl. Electron. Mater.* **5**, 6765-6777 (2023, DOI: [10.1021/acsaelm.3c01241](https://doi.org/10.1021/acsaelm.3c01241))
624. “Electricity-driven recycling of ester plastics using one-electron electro-organocatalysis.” P. H. Pham, S. Barlow, S. R. Marder, O. Luca, *Chem Catalysis* **3**, 100675 (2023, DOI: [10.1016/j.checat.2023.100675](https://doi.org/10.1016/j.checat.2023.100675))
625. “Additive-free molecular acceptor organic solar cells processed from a biorenewable solvent approaching 15% efficiency.” Z. Du, H. M. Luong, S. Sabury, P. Therdkatanyuphong, S. Chae, C. Welton, A. L. Jones, J. Zhang, Z. Peng, Z. Zhu, S. Nanayakkara, V. Coropceanu, D. G. Choi, S. Xiao, A. Yi, H. J. Kim, J.-L. Bredas, H. Ade, G. N. M. Reddy, S. R. Marder, J. R. Reynolds, T.-Q. Nguyen, *Mater. Horiz.* **10**, 5564–5576 (2023, DOI: [10.1039/D3MH01133J](https://doi.org/10.1039/D3MH01133J))

626. “Reducing delamination of an electron-transporting polymer from a metal oxide for electrochemical applications.” A. A. Mohapatra, W. K. Yual, Y. Zhang, A. Aleksandrovich Samoylov, J. Thurston, C. M. Davis, D. P. McCarthy, A. D. Printz, M. F. Toney, E. L. Ratcliff, N. R. Armstrong, A. L. Greenaway, S. Barlow, and S. R. Marder. *Chem. Commun.* **60**, 988-991 (2024, DOI: [10.1039/D3CC05391A](https://doi.org/10.1039/D3CC05391A))
627. “Photo-Crosslinkable Naphthalene Diimide Polymer for Solution-Processed n-i-p Perovskite Solar Cells.” Y. Shi, D. P. McCarthy, D. Lungwitz, F. Jiang, M. Taddei, H. Contreras, Y. Lin, A. A. Mohapatra, K. Tang, Y. Zhang, S. Barlow, A. Kahn, S. R. Marder, D. S. Ginger, *Chem. Mater.* **36**, 795–802 (2024, DOI: [10.1021/acs.chemmater.3c02295](https://doi.org/10.1021/acs.chemmater.3c02295))
628. “Polyphosphazene-Based Anion-Anchored Polymer Electrolytes For All-Solid-State Lithium Metal Batteries.” B. R. Johnson, A. Sankara Raman, A. Narla, S. Jhulki, L. Chen, S. R. Marder, R. Ramprasad, K. Turcheniuk, G. Yushin, *ACS Omega* (2024, DOI: [10.1021/acsomega.3c10311](https://doi.org/10.1021/acsomega.3c10311))
629. “Reductive dimerization of benzothiazolium salts.” A. Shaikh, S. Sahoo, S. R. Marder, S. Barlow, S. K. Mohapatra, *Org. Biomol. Chem.* **22**, 2115–2123 (2024, DOI: [10.1039/D3OB01871G](https://doi.org/10.1039/D3OB01871G))
630. “N-type molecular doping of a semicrystalline conjugated polymer through cation exchange.” Y. Yamashita, S. Kohno, E. Longhi, S. Jhulki, S. Kumagai, S. Barlow, S. R. Marder, J. Takeya, S. Watanabe, *Commun. Mater.* **5**, (2024, DOI: [10.1038/s43246-024-00507-2](https://doi.org/10.1038/s43246-024-00507-2))
631. “Reactive Passivation of Wide-Bandgap Organic–Inorganic Perovskites with Benzylamine.” S. Zhou, B. M. Gallant, J. Zhang, Y. Shi, J. Smith, J. N. Drysdale, P. Therdkatanyuphong, M. Taddei, D. P. McCarthy, S. Barlow, R. C. Kilbride, A. Dasgupta, A. R. Marshall, J. Wang, D. J. Kubicki, D. S. Ginger, S. R. Marder and H. J. Snaith, *J. Am. Chem. Soc.*, **146**, 27405–27416 (2024, DOI: [10.1021/jacs.4c06659](https://doi.org/10.1021/jacs.4c06659))
632. “Improved reverse bias stability in p-i-n perovskite solar cells with optimized hole transport materials and less reactive electrodes.” F. Jiang, Y. Shi, T. R. Rana, D. Morales, I. E. Gould, D. P. McCarthy, J. A. Smith, M. G. Christoforo, M. Y. Yaman, F. Mandani, T. Terlier, H. Contreras, S. Barlow, A. D. Mohite, H. J. Snaith, S. R. Marder, J. D. MacKenzie, M. D. McGehee and D. S. Ginger, *Nat. Energy* (2024, DOI: [10.1038/s41560-024-01600-z](https://doi.org/10.1038/s41560-024-01600-z))
633. “Reaction mechanisms for electrical doping of organic semiconductors using complex dopants.” R. Marder and S. Barlow, *Chem. Phys. Rev.*, **5**, 021303 (2024, DOI: [10.1063/5.0205666](https://doi.org/10.1063/5.0205666))
634. “Electrically Assisted Lasing in Metal Halide Perovskite Semiconductors.” A. J. Grede, R. Cawthorn, L. Zhao, J. P. Murphy, K. Roh, K. Al Kurdi, S. Barlow, S. R. Marder, B. P. Rand and N. C. Giebink, *ACS Photonics*, **11**, 1851–1856 (2024, DOI: [10.1021/acsp Photonics.4c00642](https://doi.org/10.1021/acsp Photonics.4c00642))
635. “The Excited-State Lifetime of Poly(NDI2OD-T2) Is Intrinsically Short.” M. K. Gish, C. D. Karunasena, J. M. Carr, W. P. Kopcha, A. L. Greenaway, A. A. Mohapatra, J. Zhang, A. Basu, V. Brosius, S. M. Pratik, J.-L. Bredas, V. Coropceanu, S. Barlow, S. R. Marder, A. J. Ferguson and O. G. Reid, *J. Phys. Chem. C*, **128**, 6392–6400 (2024, DOI: [10.1021/acs.jpcc.4c00653](https://doi.org/10.1021/acs.jpcc.4c00653))

636. “Connecting Interfacial Mechanical Adhesion, Efficiency, and Operational Stability in High Performance Inverted Perovskite Solar Cells.” Dai, S. You, D. Chakraborty, S. Li, Y. Zhang, A. Ranka, S. Barlow, J. J. Berry, S. R. Marder, P. Guo, Y. Qi, K. Zhu and N. P. Padture, *ACS Energy Lett.*, **9**, 1880–1887 (2024, DOI: [10.1021/acsenergylett.4c00510](https://doi.org/10.1021/acsenergylett.4c00510))
637. “Direct and Inverse Photoelectron Spectroscopy Evidence for a Revised Picture of Electronic States of Negative Polarons in n-Doped C₆₀.” Y. Ren, Q. Sun, S. Kuila, K. Tang, H. Li, S. Barlow, S. R. Marder, J.-L. Brédas, A. Kahn, *Adv. Funct. Mater.* 2415336 (2024, DOI: [10.1002/adfm.202415336](https://doi.org/10.1002/adfm.202415336))

Other Pre-Publication (may also appear above after publication)

1. “Nonlinear photocarrier dynamics and the role of shallow traps in mixed-halide mixed-cation hybrid perovskites.” D. A. Valverde-Chávez, E. Rojas-Gatjens, J. Williamson, S. Jariwala, Y. Shi, D. P. McCarthy, S. Barlow, S. R. Marder, D. S. Ginger, C. Silva-Acuna, *ChemRxiv Preprint* (2021, <https://doi.org/10.26434/chemrxiv.14346236.v1>)

Books, Edited Books, and Journals

1. “Materials for Nonlinear Optics: Chemical Perspectives.” S. R. Marder, J. W. Sohn, G. D. Stucky, eds. American Chemical Society, *ACS Symposium Series*, Washington, D.C., **455** (1991)
2. “Organic, Metal-Organic, Polymeric Materials for Nonlinear Optical Applications.” S. R. Marder and J. W. Perry, eds., *Proc. SPIE-Int. Soc. Opt. Eng.*, Bellingham, WA, **2143** (1994)
3. “Thin Films for Integrated Optics Applications.” B. W. Wessels, S. R. Marder, D. W. Walba, eds., Materials Research Society, Pittsburgh, PA. *Mater. Soc. Symp. Proc.* **392** (1995)
4. “Special Issue on Organic for Photonics.” N. Peyghambarian, S. Marder, Y. Koike, A. Persoons, eds., *IEEE Journal of Selected Topics in Quantum Electronics* **7** (5), 757 (2001)
5. “Special Issue on Organic Electronics and Photonics.” J. L. Brédas and S. R. Marder, eds. *Advanced Functional Materials* **12**, (2002)
6. “Photoresponsive Polymers I.” S. R. Marder K. S. Lee, eds., *Adv. Polym. Sci.* **213** (2008)
7. “Photoresponsive Polymers II.” S. R. Marder K. S. Lee, eds., *Adv. Polym. Sci.* **214** (2008)
8. “Themed Issue: Nonlinear Optics.” S. R. Marder, ed., *Journal of Materials Chemistry* **19** (40), 7392-7393 (2009)
9. T. Parker and S. Marder, “Synthetic Methods in Organic Electronic and Photonic Materials: A Practical Guide.” RSC Publishing, (2015). ISBN: 978-1-84973-986-3
10. “The WSPC Reference on Organic Electronics: Organic Semiconductors.” Volume 1: Basic Concepts; Volume 2: Fundamental Aspects of Materials and Applications. J. L. Brédas and S. R. Marder, eds. *Materials and Energy* **7**, (2016). ISBN: 978-981-4699-22-8

Editorials

1. “Materials Horizons: A Personal Perspective.” L. Dunn and S. Marder, *Mater. Horiz.* **1**, 10-11 (Jan 2014, DOI: [10.1039/c3mh90001k](https://doi.org/10.1039/c3mh90001k))
2. “Materials Horizons in Its Second Year,” S. Marder and F. McKenzie, *Mater. Horiz.* **2**, 9-10 (Jan 2015, DOI: [10.1039/c4mh90021a](https://doi.org/10.1039/c4mh90021a))
3. “Ben Zhong Tang-a trailblazer in the area of Aggregation-Induced Emission (AIE) research.” Li, Z. and Marder, S. *J. Polym. Sci. Part A: Polymer Chemistry* **55**, 517-518 (Feb 2017, DOI: [10.1002/pola.28478](https://doi.org/10.1002/pola.28478))
4. “Materials Horizons in 2019,” *Materials Horizons* **6**, 10-10 (2019, DOI: [10.1039/C8MH90033G](https://doi.org/10.1039/C8MH90033G))
5. “Non-fullerene acceptors inaugurating a new era of organic photovoltaic research and technology,” X. W. Zhan, S. R. Marder, *Materials Chemistry Frontiers* **3**, 180-180 (2019, DOI: [10.1039/c9qm90005e](https://doi.org/10.1039/c9qm90005e))
6. “The Editorial Process at Materials Horizons and Nanoscale Horizons,” S. Keltie, M. Muehlberg, H. Craighead, and S. Marder, *Nanoscale Horizons* **5**, 10-11 (2020, DOI: [10.1039/C9NH90036E](https://doi.org/10.1039/C9NH90036E))
7. “Introducing the Materials Horizons Emerging Investigator Series,” S. Keltie, and S. Marder, *Materials Horizons* **7**, 314 (2020, DOI: [10.1039/d0mh90006k](https://doi.org/10.1039/d0mh90006k))
8. “Dear Materials Community,” J.-L. Bredas and S. R. Marder, *Materials Horizons* **7**, 1933-1934 (2020, DOI: [10.1039/D0MH90049D](https://doi.org/10.1039/D0MH90049D))
9. “Reflections from Seth Marder on 10 years of Materials Horizons,” S. R. Marder, *Materials Horizons* **10**, 4656-4657 (2023, DOI: [10.1039/D3MH90051G](https://doi.org/10.1039/D3MH90051G))

Chapters in Books and Features in Trade Journals

1. “Synthesis and Reactions of a Cationic Bridging Methylidyne-Iron Complex.” C. P. Casey, P. J. Fagan, W. M. Miles, S. R. Marder, in *Organometallic Compounds - Synthesis, Structure, and Theory*, B. L. Shapiro, ed., Texas A & M University Press, College Station, Texas, 86-114 (1983)
2. “Nonlinear Optical Properties of Organometallic and Coordination Complexes.” S. R. Marder, in *1992 Yearbook of Science and Technology* **90** (1991)
3. “Metal-Containing Materials for Nonlinear Optics.” S. R. Marder, in *Inorganic Materials*, D. W. Bruce and D. O’Hare, eds., Wiley Interscience, Chichester, Ch. 3 p. 121 (1992)
4. “Advances in Optically Active Plastics.” S. R. Marder, J. W. Perry, in *Physics News* **26**, P. F. Schewe, ed., American Institute of Physics, College Park, MD (1995)
5. “Supramolecular Chemistry for Quadratic Nonlinear Optics.” M. Blanchard-Desce, M. Barzoukas, S. R. Marder, in *Comprehensive Supramolecular Chemistry* **10**, 823, D.N. Reinhoudt, ed., Elsevier Science Inc, NY, USA (1996)

6. "Introduction to the Nonlinear Optical Properties of Organic Materials." F. Meyers, S. R. Marder, J. W. Perry, in *Chemistry of Advanced Materials: An Overview*, L. V. Interrante and M. J. Hampden-Smith, eds., Wiley-VCH, New York, 207-269 (1998)
7. "Photorefractive Polymers for Biomedical Imaging." B. Kippelen, S. R. Marder, N. Peyghambarian, *Optics & Photonics News* **9** (12), 16-17 (1998)
8. "Two-Photon Absorption." S. R. Marder and J. W. Perry, in *2000 Yearbook of Science and Technology*, 425-428, (2000)
9. "Introduction to the Issue on Organic for Photonics." N. Peyghambarian, S. Marder, Y. Koike, A. Persoons, *IEEE Journal of Selected Topics in Quantum Electronics* **7**, 757 (2001)
10. "Theoretical Design of Organic Chromophores with Large Two-Photon Absorption Cross-Sections." M. Albota, D. Beljonne, J.-L. Brédas, J. E. Ehrlich, J.-Y. Fu, A. A. Heikal, S. Hess, T. Kogej, M. D. Levin, S. R. Marder, D. McCord-Maughon, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, W. W. Webb, X.-L. Wu, C. Xu, in *Multiphoton and Light Driven Multielectron Processes in Organics: New Phenomena, Materials and Applications*, F. Kajzar and M. V. Agranovich (eds.) Kluwer Academic, Netherlands, 53-65 (2000)
11. "Photorefractive Polymers for Real-Time Holography Fabricated by Injection Molding." B. Kippelen, S. R. Marder, N. Peyghambarian, in *Optics & Photonics News: Optic Materials in 2002* **13** (12), 42 (December 2002)
12. "Technological Advances Brighten Horizons for Organic Nonlinear Optics." N. Peyghambarian, L. Dalton, A. Jen, B. Kippelen, S. Marder, R. Norwood, J. W. Perry, *Laser Focus World* **42**(8), 85-86 (2006)
13. "Two-Photon Absorbing Materials and Two-Photon-Induced Chemistry." M. Rumi, S. Barlow, J. Wang, J.W. Perry, S.R. Marder; *Adv. Polym. Sci.* **213** (Photoresponsive Polymers I), 1-95 (2008)
14. "The Dream of a Turnkey Nonlinear Spectrophotometer Gets Closer to Reality." E.W. Van Stryland, D. J. Hagan, S.R. Marder; *Laser Focus World* **44** (9), 77-82 (2008)
15. "A New-AFM Based Lithography Method: Thermochemical Nanolithography". D. Wang, R. Szoszkiewicz, V. Kodali, J. E. Curtis, S. Marder, E. Riedo, in *Applied Scanning Probe Methods, Volume 10: Biomimetics and Industrial Applications*, Springer-Verlag (2010)
16. "Electrical Doping of Organic Semiconductors with Molecular Oxidants and Reductants." S. Barlow, S. R. Marder, X. Lin, F. Zhang, A. Kahn, in *Conjugated Polymers: Properties, Processing, and Applications*, CRC Press, Boca Raton and London (to be published 2019)

Conference Proceedings and Extended Abstracts

1. "Hydrocarbation". C. P. Casey, P. J. Fagan, S. R. Marder, *Abstracts of Papers of the American Chemical Society, ORGN Preprints* **185**, 97 (1983)
2. "Thermal Rearrangement of a Bridging Alkylidyne Diiron Complex to a Bridging Diiron Vinyl Complex." C. P. Casey, S. R. Marder, *Abstracts of Papers of the American Chemical Society, INOR Preprints* **186**, 333 (1983)

3. "Reactions of a Cationic Methylidyne Iron Complex with Carbon Monoxide and with Alkenes." C. P. Casey, P. J. Fagan, W. M. Miles, S. R. Marder, M. W. Meszaros, *Abstracts of Papers of the American Chemical Society, PETR Preprints* **29**, 577-581 (1984)
4. "Reactions of Diironvinylidene Complexes with Electrophiles." C. P. Casey, S. R. Marder, A. Rheingold, *Abstracts of Papers of the American Chemical Society, INOR Preprints* **188**, 34 (1984)
5. "Condensation of Aldehydes with μ -Alkylidyne Diiron Complexes – Synthesis and Reactivity of μ -Vinylcarbyne Complexes." C. P. Casey, M. S. Konings, S. R. Marder, R. E. Palermo, R. E. Colborn, *Abstracts of Papers of the American Chemical Society, ORN Preprints* **190**, 258 (1985)
6. "Diiron Vinylcarbyne Complexes with Unusually Low Barriers to Vinylcarbyne Ligand Rotation." C. P. Casey, M. S. Konings, S. R. Marder, Y. Takesawa, *Abstracts of Papers of the American Chemical Society, INOR Preprints* **193**, 64 (1987)
7. "Second and Third Order Nonlinear Optical Properties of Conjugated Molecules and Polymers." J. W. Perry, A. E. Stiegman, S. R. Marder, D. R. Coulter, D. N. Beratan, D. E. Brinza, F. L. Klavetter, R. H. Grubbs, *Proc. SPIE-Int. Soc. Opt. Eng.* **971**, 17-24 (1988)
8. "The Synthesis and Nonlinear Optical Properties of Organometallic Donor-Acceptor Molecules." J. A. Bandy, H. E. Bunting, M. H. Garcia, M. L. H. Green, S. R. Marder, M. E. Thompson, D. Bloor, P. V. Kolinsky, R. J. Jones, *Proceedings of the International Conference on Organic Materials for Nonlinear Optics*, 219 (1988)
9. "The Synthesis of Organometallic Compounds with Second-Order Optical Nonlinearities." J. A. Bandy, H. E. Bunting, M. L. H. Green, S. R. Marder, M. E. Thompson, D. Bloor, P. U. Kolinsky, R. J. Jones, *Proceedings of the International Conference on Organic Materials for Nonlinear Optics* **69**, 225-231 (1989)
10. "New Organometallic Solids." M. L. Green, J. Qin, D. O'Hare, H. E. Bunting, M. E. Thompson, S. R. Marder, K. Chatakondu, *Pure and Appl. Chem.* (Twenty-sixth International Conference on Coordination Chemistry) **61** (5), 817-822 (1989)
11. "Second and Third-Order Nonlinear Optical Properties of End-Capped Acetylenic Oligomers." J. W. Perry, A. E. Stiegman, S. R. Marder, D. R. Coulter, *Proceedings of the International Conference on Organic Materials for Nonlinear Optics* **69**, 189-195 (1989)
12. "New Routes to Processed Polyacetylene." T. M. Swager, F. L. Klavetter, S. R. Marder, C. G. Gorman, E. J. Ginsburg, W. K. Risse, R. H. Grubbs, *Abstracts of Papers of the American Chemical Society, POLY Preprints* **30**, 161 (1989)
13. "Polymer Synthesis Through Stable Organometallic Intermediates." R. H. Grubbs, F. L. Klavetter, B. M. Novak, W. K. Risse, S. R. Marder, *Proceedings of the International Conference on Organic Materials for Nonlinear Optics* **69**, 28 (1989)
14. "New Organic and Organometallic Salts for Second-Order Nonlinear Optics." S. R. Marder, J. W. Perry, W. P. Schaefer, B. G. Tiemann, P. C. Groves, K. J. Perry, *Proc. SPIE-Int. Soc. Opt. Eng.* **1147**, 108-115 (1989)

15. "New Organic and Organometallic Materials for Second-Order Nonlinear Optics." S. R. Marder, J. W. Perry, W. P. Schaefer, in *Molecular Electronics: Science and Technology*, A. Aviram, ed., Engineering Foundation, New York, **55** (1989)
16. "The Synthesis and Third-Order Nonlinear Optical Properties of Soluble Polymers Derived from the Ring Opening Metathesis Copolymerization of Cyclooctatetraene and 1,5-Cyclooctadiene." S. R. Marder, J. W. Perry, F. L. Klavetter, R. H. Grubbs, J. W. Perry, A. E. Stiegman, D. R. Coulter, *Proceedings of the International Conference on Organic Materials for Nonlinear Optics* **69**, p. 288-294 (1989)
17. "Soluble, Highly Conjugated Polyacetylene via the Ring-Opening Metathesis Polymerization of Cyclooctatetraenes." C. B. Gorman, E. Ginsburg, S. R. Marder, R. H. Grubbs, *Abstracts of Papers of the American Chemical Society, POLY Preprints* **31**, 386-387 (1990)
18. "Organic, Organometallic and Polymeric Materials with Nonlinear Optical Properties." S. R. Marder, J. W. Perry, W. P. Schaefer, E. J. Ginsburg, C. B. Gorman, R. H. Grubbs, in *Multifunctional Materials*, A. Buckley, G. Gallaher-Daggitt, F. E. Karasz, D. R. Ulrich, eds., Materials Research Society, Pittsburgh, PA, *Mater. Res. Soc. Symp. Proc.* **175**, 101-106 (1990)
19. "Synthesis, Characterization and Applications of Substituted Polyacetylenes Derived from Ring-Opening Metathesis Polymerization of Substituted Cyclooctatetraenes." E. R. J. Ginsburg, C. B. Gorman, R. H. Grubbs, F. L. Klavetter, N. L. Lewis, S. R. Marder, J. W. Perry, M. J. Sailor, in *Conjugated Polymeric Materials: Opportunities in Electronic, Optoelectronic and Molecular Electronics* (NATO Science Series E), J.-L. Brédas and R. R. Chance, eds., Kluwer Academic Publishers: Netherlands, 65-81 (1990)
20. "Organic and Organometallic Compounds Second Order Molecular and Macroscopic Optical Nonlinearities." S. R. Marder, B. G. Tiemann, J. W. Perry, L. -T. Cheng, W. Tam, W. P. Schaefer, R. E. Marsh, in *Materials for Nonlinear Optics: Chemical Perspectives*, S. R. Marder, J. W. Sohn, G. D. Stucky, eds. American Chemical Society, Washington, D.C. *ACS Symposium Series* **455**, 187-198 (1991)
21. "Linear and Nonlinear Polarizability: A Primer." G. D. Stucky, S. R. Marder, J. E. Sohn, in *Materials for Nonlinear Optics: Chemical Perspectives*, G. D. Stucky, S. R. Marder, J. E. Sohn, eds., American Chemical Society, Washington, DC, *ACS Symposium Series* **455**, 2-30 (1991)
22. "New Polymeric Materials with Cubic Optical Nonlinearities: From Ring-Opening Metathesis Polymerization." R. H. Grubbs, C. B. Gorman, E. J. Ginsburg, J. W. Perry, S. R. Marder, in *Materials for Nonlinear Optics: Chemical Perspectives*, S. R. Marder, J. E. Sohn, G. D. Stucky, eds., American Chemical Society, Washington, DC, *ACS Symposium Series* **455**, 672-682 (1991)
23. "Excited State Absorption and Optical Limiting in Solutions of Metallophthalocyanines." J. W. Perry, L. R. Khundkar, D. R. Coulter, D. Alvarez Jr., S. R. Marder, T. H. Wei, M. J. Sence, E. W. Van Stryland, D. J. Hagan in *Proceedings of the 1990 NATO Workshop of Hyperpolarizabilities of Organic Compounds* **194**, 369-392 (1991)
24. "Second-Order Non-linear Optical Properties of 4-*N*-Methylstilbazolium Tosylate Salts." C. P. Yakymyshyn, K. R. Stewart, E. P. Boden, S. R. Marder, J. W. Perry, W. P. Schaefer,

Proceedings of the International Conference on Organic Materials for Nonlinear Optics II **91**, 108 (1991)

25. "Structure/Property Relationships for Organic and Organometallic Materials with Second-Order Optical Nonlinearities." S. R. Marder, D. N. Beratan, B. T. Tiemann, L.-T. Cheng, W. Tam, *Proceedings of the International Conference on Organic Materials for Nonlinear Optics II*, Royal Society of Chemistry Special Publication **91**, 165-174 (1991)
26. "Structure/Property Relationships for Molecular Second-Order Nonlinear Optics." S. R. Marder, L.-T. Cheng, B. G. Tiemann, D. N. Beratan, *Proc. SPIE-Int. Soc. Opt. Eng.: Nonlinear Optical Properties of Organic Materials IV* **1560**, 86-97 (1991)
27. "Organic Salts with Large Electro-Optic Coefficients." J. W. Perry, S. R. Marder, K. R. Perry, E. T. Sleva, C. Yakymyshyn, K. R. Stewart, E. P. Boden, *Proc. SPIE-INT. Soc. Opt. Eng.: Nonlinear Optical Properties of Organic Materials IV* **1560**, 302-309 (1991)
28. "Structure/Property Relationships for Molecular Second-Order Nonlinear Optics." S. R. Marder, L.-T. Cheng, D. N. Beratan, Molecular Electronics Science and Technology, A. Aviram, ed., American Institute of Physics, New York, *American Institute of Physics Conference Proceedings* **272**, 252 (1992)
29. "Synthesis and Nonlinear Optical Properties of Solgel Materials Containing Phthalocyanines." P. D. Fuqua, K. Mansour, D. Alvarez, S. R. Marder, J. W. Perry, B. S. Dunn, *Proc. SPIE-Int. Soc. Opt. Eng: Sol-Gel Optics II*, **1758**, 499-506 (1992)
30. "Optimizing the Second-Order Optical Nonlinearities of Organic Molecules: Asymmetric Cyanines and Highly Polarized Polyenes." S. R. Marder, C. G. Gorman, L.-T. Cheng, B. G. Tiemann, *Proc. SPIE-Int. Soc. Opt. Eng: Nonlinear Optical Properties of Organic Materials V* **1775**, 19 (1992)
31. "Enhanced Nanosecond Optical Limiting in Metallophthalocyanine Solutions." J. W. Perry, K. Mansour, E. T. Sleva, K. J. Perry, S. R. Marder, D. Alvarez, Jr., *Conference on Laser and Electrooptics, OSA Technical Digest Series* **12**, 120 (1992)
32. "Nonlinear Polarizabilities of Symmetric and Non-Symmetric Polyene and Cyanine-Like Organic Molecules." J. W. Perry, S. R. Marder, L.-T. Cheng, G. H. Bourhill, K. Mansour, C. B. Gorman, S. Gilmour, B. G. Tiemann, *Nonlinear Optics: Materials, Fundamentals and Phenomena, OSA Technical Digest* **12**, 476 (1992)
33. "The Effects of Aromaticity and Reduced Bond Length Alternation on Linear and Third-Order Polarizabilities of Conjugated Organic Chromophores." C. B. Gorman and S. R. Marder, in *Materials Theory and Modelling*, edited by J. Broughton, P. Bristowe, J. Newsam, *Mater. Res. Soc. Symp. Proc.* **291**, 579-584, Pittsburgh, PA (1993)
34. "Third-Order Polarizabilities of Symmetric and Non-Symmetric Polyene and Cyanine-Like Organic Molecules." G. Bourhill, K. Mansour, B. G. Tiemann, C. B. Gorman, S. Biddle, S. R. Marder, J. W. Perry, *Proc. SPIE-Int. Soc. Opt. Eng.; Organic and Biological Optoelectronics* **1853**, 208-220 (1993)
35. "Synthesis and Nonlinear Optical Properties of Various Acceptor Substituted Biologically Derived Chromophores." S. Gilmour, S. R. Marder, B. G. Tiemann, L.-T. Cheng, *Proc. SPIE-Int. Soc. Opt. Eng.; Organic and Biological Optoelectronics* **1853**, 247-252, (1993)

36. "Nonlinear Absorption in Metallophthalocyanines." K. Mansour, D. Alvarez, K. J. Perry, I. Choong, S. R. Marder, J. W. Perry, *Proceedings of the Optical Society of America Topical Meeting: Organic Thin Films for Photonic Applications, OSA Technical Digest* **17**, 614 (1993)
37. "Optimization of the First and Second Hyperpolarizabilities of Organic Dyes." G. H. Bourhill, J.-L. Brédas, L.-T. Cheng, A. C. Friedli, C. B. Gorman, S. R. Marder, F. Meyers, J. W. Perry, B. M. Pierce, J. Skindhøj, B. G. Tiemann, *Proceedings of the Optical Society of America Topical Meeting: Organic Thin Films, for Photonic Applications, OSA Technical Digest Series* **17**, 46 (1993)
38. "Dynamics of Optical Limiting in Heavy-Atom Substituted Phthalocyanines." K. Mansour, D. Alvarez, Jr., K. J. Perry, I. Choong, S. R. Marder, J. W. Perry, *Proc. SPIE-Int. Soc. Opt. Eng; Organic and Biological Optoelectronics* **1853**, 132-140 (1993)
39. "Optimizing Molecular Polarizabilities in Linear Conjugated Organic Molecules." F. Meyers, S. R. Marder, J. W. Perry, J.-L. Brédas, B. M. Pierce, *Abstracts of Papers of the American Chemical Society, POLY Preprints* **35**, 118 (1994)
40. "The Incorporation of Highly Active and Thermally Stable Heteroaromatic Chromophores into High Temperature Polyimides for E-O Applications." A. K.-Y. Jen, K. J. Drost, V. P. Rao, Y. M. Cai, Y. J. Liu, R. M. Mininni, J. T. Kenny, E. S. Binkley, S. R. Marder, L. R. Dalton, C. Xu, *Abstracts of Papers of the American Chemical Society, POLY Preprints* **35**, 130 (1994)
41. "Phthalocyanine Materials for Optical Limiting." J. W. Perry, K. Mansour, P. Miles, C.-T. Chen, S. R. Marder, G. Kwag, M. Kenney, *Abstracts of Papers of the American Chemical Society, PMSE Preprints* **72**, 222-223 (1994)
42. "Optimization of Materials for Second-Order Nonlinear Optical Applications." C. B. Gorman, G. H. J. VanDoremaele, S. R. Marder, in *Molecular and Biomolecular Electronics, ACS Adv. Chem. Series* **240**, Ch. 8, 179-222, R. R. Birge, ed., American Chemical Society, Washington, DC (1994)
43. "Materials Chemistry Issues Pertaining to Nonlinear Optics." S. R. Marder, in *Materials Chemistry: An Emerging Discipline, ACS Adv. Chem. Series* **245**, 189, L. R. Interrante, L. A. Casper, A. B. Ellis, eds., American Chemical Society, Washington, DC (1994)
44. "Second-Order Nonlinear Optical Properties of Thiophene containing Chromophores with Extended Conjugation." S. Gilmour, A. Jen, S. R. Marder, A. J. Niessink, J. W. Perry, J. Skindhøj, M. Cai, in *Electrical, Optical, and Magnetic Properties of Organic Solid-State Materials*, edited by A. F. Garito, A. K.-Y. Jen, C. Y.-C. Lee, L. R. Dalton. *Mater. Res. Soc. Symp. Proc.* **328**, 485, Pittsburgh, PA (1994)
45. "The Relationship Between Second-Order Nonlinear Optical Properties and Ground-State Polarization." G. Bourhill, L.-T. Cheng, G. Lee, S. R. Marder, J. W. Perry, M. J. Perry, B. G. Tiemann, in *Electrical, Optical, and Magnetic Properties of Organic Solid-State Materials*, edited by A. F. Garito, A. K.-Y. Jen, C. Y.-C. Lee, L. R. Dalton. *Mater. Res. Soc. Symp. Proc.* **328**, 625, Pittsburgh, PA (1994)
46. "Progress on Heterocyclic Chromophores in High Temperature Polymers for Electro-Optic Applications." A. K.-Y. Jen, V. P. Rao, K. J. Drost, Y. M. Cai, R. M. Mininni, J. T. Kenny,

- E. S. Binkley, L. R. Dalton, S. R. Marder, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic, Metallo-Organic, and Polymeric Materials for Nonlinear Optical Applications* **2143**, 30-40 (1994)
47. "Enhanced Second-Order Nonlinearities in Extended Thiophene Containing Compounds." S. Gilmour, S. R. Marder, J. W. Perry, L.-T. Cheng, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic, Metallo-Organic, and Polymeric Materials for Nonlinear Optical Applications* **2143**, 117-123 (1994)
 48. "Solid-State Optical Limiting Materials based on Phthalocyanine Containing Polymers and Organically-Modified Sol-Gels." K. Mansour, P. Fuqua, S. R. Marder, B. Dunn, J. W. Perry, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic, Metallo-Organic, and Polymeric Materials for Nonlinear Optical Applications* **2143**, 239-250 (1994)
 49. "Experimental Demonstration of the Relationship between the Second and Third-Order Polarizabilities of Conjugated Donor-Acceptor Molecules." G. Bourhill, L.-T. Cheng, S. R. Marder, J. W. Perry, B. G. Tiemann, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic, Metallo-Organic, and Polymeric Materials for Nonlinear Optical Applications* **2143**, 153-163 (1994)
 50. "Development of Electro-Optic Polymers for High Voltage Instrument Transformers" J. Skindhøj, J. W. Perry, S. R. Marder, *Proc. SPIE-Int. Soc. Opt. Eng.: Nonlinear Optical Properties of Organic Materials VII* **2285**, 116-124 (1994)
 51. "Demonstration of Strong Saturation of Multiple-Plate Optical Limiter Based on Excited State Absorbers." K. Mansour, C.-T. Chen, S. R. Marder, J. W. Perry, P. Miles, *Conference on Lasers and Electro-Optics, Anaheim, CA* Optical Society of America, Washington, DC, *OSA Technical Digest* **8**, 418 (1994)
 52. "Design of Chromophores for Second-Order Nonlinear Optical Applications." M. Barzoukas, P. V. Bedworth, G. Bourhill, Y. Cai, L.-T. Cheng, A. Fort, S. Gilmour, A. K.-Y. Jen, S. R. Marder, R. Ortiz, J. W. Perry, K. E. S. Phillips, C. Runser, B. G. Tiemann, *Abstracts of Papers of the American Chemical Society, POLY Preprints* **31**, 601 (1995)
 53. "Optimization of Microscopic and Macroscopic 2nd – Order Optical Nonlinearities." S. R. Marder, *Materials Chemistry – An Emerging Discipline*, L. V. Interrante, L. A. Caspar, A. B. Ellis, eds, *Advances in Chemistry Series* **245**, 189-210 (1995).
 54. "Hyperbolarizabilities Push—Pull Polyenes: Molecular Orbital and Valence-Bond Charge-Transfer Models." J. W. Perry, S. R. Marder, F. Meyers, D. Lu, G. Chen, W. A. Goddard, III, J. L. Brédas, and B. M. Pierce, *Polymers for Second Order Nonlinear Optics*, G.A. Lindsay, K. D. Singer, eds, *ACS Symposium Series*, **601**, 45-56 (1995)
 55. "Hyperpolarizabilities of Push-Pull Polyenes: Experimental Results and a New Two-State Model." J. W. Perry, G. Bourhill, S. R. Marder, D. Lu, G. Chen, W. A. Goddard III, *Abstracts of Papers of the American Chemical Society, POLY Preprints* **35**, 148-149 (1995)
 56. "Approaches for Optimizing and Tuning the Optical Limiting Response of Phthalocyanine Complexes." J. W. Perry, K. Mansour, P. Miles, C.-T. Chen, S. R. Marder, G. Kwag, M. Kenney, *Abstracts of Papers of the American Chemical Society, PMSE Preprints* **72**, 222 (1995)

57. "Approaches for Optimizing and Tuning the Optical Limiting Response of Phthalocyanine Complexes." J. W. Perry, K. Mansour, S. R. Marder, C.-T. Chen, P. Miles, M. E. Kenney, G. Kwag, in *Materials for Optical Limiting*, R. Crane, K. Lewis, E. Van Stryland, M. Khoshnevisan, eds, *Mater. Res. Soc. Symp. Proc.* **374**, 257-265, Pittsburgh, PA (1995)
58. "Large Enhancement in the Third Order Response of Asymmetric β -Carotenoids." V. Ricci, W. E. Torruellas, G. I. Stegeman, S. Gilmour, S. R. Marder, M. Blanchard-Desce, *Organic Thin Films for Photonics Applications, Technical Digest Series* **21**, 46 (1995)
59. "Electronic and Nonlinear Optical Properties of Organic Molecules: Assessment of the Influence of the Molecular Structure." F. Meyers, C.-T. Chen, D. Beljonne, J.-L. Brédas, S. R. Marder, *Organic Thin Films for Photonics Applications, Technical Digest Series* **21**, 49 (1995)
60. "Experimental and Theoretical Studies of Nonlinear Optical Chromophores." A. Ahlheim, J.-L. Brédas, M. Barzoukas, P. V. Bedworth, Y. Cai, C. Dehu, M. Blanchard-Desce, A. Fort, Z. Hu, A. K.-Y. Jen, S. R. Marder, F. Meyers, J. W. Perry, C. Runser, M. Stähelin, B. Zysset, *Organic Thin Films for Photonics Applications, Technical Digest Series* **21**, 244 (1995)
61. "High Performance Chromophores and Polymers for E-O Applications." A. K.-Y. Jen, V. P. Rao, T.-A. Chen, Y. Cai, K. J. Drost, Y.-J. Liu, J. T. Kenny, R. M. Mininni, P. V. Bedworth, S. R. Marder, L. Dalton, *Organic Thin Films for Photonics Applications, Technical Digest Series* **21**, 251 (1995)
62. "Molecular Asymmetrization: A Route to Enhanced Third Order Optical Nonlinearities." S. R. Marder, W. E. Torruellas, V. Ricci, G. I. Stegeman, S. Gilmour, M. Blanchard-Desce, *Abstract in Technical Digest of QELS'95 conference*, Optical Society of America, Washington, D.C. *Technical Digest Series* **16**, 101 (1995)
63. "New Advances in Organic Photorefractive Material Development." B. Kippelen, B. L. Volodin, D. D. Steele, E. Hendrickx, D. Sandalphon, Y. Enami, J.-L. Maldonado, J. F. Wang, A. Golemme, H. Röckel, S. R. Marder, J. B. Javidi, N. Peyghambarian, *Proc. SPIE-Int. Soc. Opt. Eng.: Xerographic Photoreceptors and Organic Photorefractive Materials II* **3144**, 176-184 (1997)
64. "Two-Photon Absorbing Organic Chromophores for Optical Limiting." J. E. Ehrlich, X. L. Wu, I.-Y. S. Lee, A. A. Heikal, Z.-Y. Hu, H. Röckel, S. R. Marder, J. W. Perry, in *Materials for Optical Limiting II*, edited by P. Hood, R. Pachter, K. Lewis, J. W. Perry, D. Hagan, R. Sutherland. *Mater. Res. Soc. Symp. Proc.* **479**, 9-15, Pittsburgh, PA (1997)
65. "Photorefractive Polymers with Improved Efficiency." B. Kippelen, B. L. Volodin, O. Savina, D. Sandalphon, H. Röckel, L. Erskine, S. R. Marder, N. Peyghambarian, *Conference on Lasers and Electro-Optics*, Optical Society of America, Washington, D.C., *Technical Digest* **11**, 335 (1997)
66. "High Performance Photorefractive Polymers and Their Applications." B. Kippelen, B. L. Volodin, E. Hendrickx, D. D. Steele, D. Sandalphon, Y. Enami, J. F. Wang, S. R. Marder, N. Peyghambarian, *Organic Thin Films for Photonic Applications, Technical Digest Series* **14**, 236 (1997)

67. "Design, Synthesis, Nonlinear Spectroscopy and Applications of Two-Photon Absorbing Molecules." D. Beljonne, J.-L. Brédas, B. H. Cumpston, J. Ehrlich, L. Erskine, A. A. Heikal, Z.-Y. Hu, T. Kogej, I.-Y. Lee, S. R. Marder, J. W. Perry, H. Röckel, S. Thayumanavan, X.-L. Wu, *Abstracts of Papers of the American Chemical Society National Meeting, POLY Preprints* **38**, 497 (1997)
68. "Recent Progress of Electro-Optic Polymers for Device Applications." A. K.-Y. Jen, R. Yang, S. R. Marder, in *Electrical, Optical, and Magnetic Properties of Organic Solid-State Materials IV*, edited by J. R. Reynolds, A. K.-Y. Jen, L. R. Dalton, M. F. Rubner, L. Y. Chiang. *Mater. Res. Soc. Symp. Proc.* **488**, 193-198, Pittsburgh, PA (1998)
69. "Photorefractive and Electroluminescent Organics." B. Kippelen, S. R. Marder, N. Peyghambarian, *IEEE Organic Optics and Optoelectronics Digest*, III/19-III/20 (1998)
70. "Progress in Organic Photorefractive Material Development." B. Kippelen, J. Herlocker, J.-L. Maldonado, K. Ferrio, E. Hendrickx, S. Mery, A. Golemme, S. R. Marder, N. Peyghambarian, *Proc. SPIE-Int. Soc. Opt. Eng: Xerographic Photoreceptors and Organic Photorefractive Materials IV* **3471**, 22-28 (1998)
71. "Thermally Stable High-Gain Photorefractive Polymers Based on a Tri-functional Chromophore." B. Kippelen, E. Hendrickx, J. Herlocker, J.-L. Maldonado, S. R. Marder, N. Peyghambarian, *Conference on Lasers and Electro-Optics '98*, Optical Society of America, Washington, D.C., *Technical Digest Series* **6**, 30 (1998)
72. "Molecules with Enhanced Two-Photon Absorptivities for Two-Photon Optical Recording in Photopolymers." B. H. Cumpston, L. Erskine, A. Heikal, J. Ehrlich, M. Rumi, S. Barlow, D. Dyer, D. McCord-Maughon, H. Röckel, S. Thayumanavan, S. R. Marder, J. W. Perry, *Conference on Lasers and Electro-Optics '98*, Optical Society of America, Washington, D.C., *Technical Digest Series* **6**, 49 (1998)
73. "Structure/Property Relationships for Two-Photon Absorbing Fluorophores." M. Rumi, J. Ehrlich, A. Heikal, J. Fu, S. Barlow, M. D. Levin, L. Erskine, M. Lipson, D. McCord-Maughon, H. Röckel, G. Subramaniam, S. Thayumanavan, S. R. Marder, J. W. Perry, M. Albota, C. Xu, W. W. Webb, *Conference on Lasers and Electro-Optics '98*, Optical Society of America, Washington, D.C., *Technical Digest Series* **6**, 309 (1998)
74. "High-Gain Photorefractive Polymers." E. Hendrickx, J.-L. Maldonado, G. Guillemet, H. Röckel, L. Erskine, S. R. Marder, B. Kippelen, N. Peyghambarian, *Proc. SPIE-Int. Soc. Opt. Eng.: Polymer Photonic Devices* **3281**, 268-276 (1998)
75. "New Photopolymers Based on Two-Photon Absorbing Chromophores and Application to Three-Dimensional Microfabrication and Optical Storage." B. H. Cumpston, J. E. Ehrlich, L. L. Erskine, A. A. Heikal, Z.-Y. Hu, I.-Y. S. Lee, M. D. Levin, S. R. Marder, D. J. McCord, J. W. Perry, H. Röckel, M. Rumi, X.-L. Wu, in *Electrical, Optical, Magnetic Properties of Organic Solid-State Materials IV*, J. Reynolds, A. K.-Y. Jen, M. Rubner, L. Chiang, L. Dalton, *Mater. Res. Soc. Symp. Proc.* **488**, 217-226, Warrendale, PA (1998)
76. "The Synthesis of Organometallic Compounds with Second-Order Optical Non-linearities." J. A. Bandy, H. E. Bunting, M. L. H. Green, S. R. Marder, M. E. Thompson, D. Bloor, P. V. Kolinsky, R. J. Jones, *Proceedings of the International Conference on Organic Materials for Nonlinear Optics*, 225 (1998)

77. "Synthesis of High Tg Hole Transporting Polymers with Different Redox Potentials and Their Performance in Organic Two-Layer LEDs." E. Bellmann, S. E. Shaheen, S. R. Marder, B. Kippelen, R. H. Grubbs, N. Peyghambarian, San Diego, CA, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Light-Emitting Materials and Devices II* **3476**, 322-331 (1998)
78. "Synthesis and Structural Characterization of Multi-functional Polysiloxanes for Photorefractive Effect." J. Li, Z. Li, C. Zhan, J. Qin, B. Kippelen, N. Peyghambarian, S. R. Marder, San Diego, CA, *Proc. SPIE-Int. Soc. Opt. Eng.: Photorefractive Materials: Phenomena and Related Applications II* **3554**, 229-231 (1998)
79. "Design and Applications of Two-Photon Absorbing Organic Molecules." S. Barlow, D. Beljonne, J.-L. Brédas, B. H. Cumpston, J.-Y. Fu, J. E. Ehrlich, A. A. Heikal, T. Kogej, M. Levin, S. R. Marder, D. McCord-Maughon, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, S. Thayumanavan, X. L. Wu, *Abstracts of Papers of the American Chemical Society National Meeting, POLY Preprints* **39**, 1116 (1998)
80. "A Versatile Approach for the Synthesis of Side-Chain Aromatic Polyquinolines for E-O Devices." H. Ma, S. Liu, X. Wu, X. Wang, A. K.-Y. Jen, G. Levina, K. Staub, S. R. Marder, *Abstracts of Papers of the American Chemical Society National Meeting, POLY Preprints* **39**, 1109-1110 (1998)
81. "Design and Applications of Two-Photon Absorbing Organic Chromophores." S. R. Marder, J. W. Perry, J.-L. Brédas, D. McCord-Maughon, M. E. Dickinson, S. E. Fraser, D. Beljonne, T. Kogej, in *Conjugated Oligomers, Polymers, Dendrimers: From Polyacetylene to DNA, Proceedings of the Fourth Francqui Colloquium 21-23 October, 1998, Brussels*, 395-424 (1998)
82. "Electrochemical models for the radical annihilation reactions in organic light-emitting diodes." N. R. Armstrong, J. D. Anderson, P. A. Lee, E. McDonald, R. M. Wightman, H. K. Hall, T. Hopkins, A. Padias, S. Thayumanavan, S. Barlow, S. R. Marder, *SPIE Proceedings*, San Diego, CA (December 1998), DOI: <http://doi.org/10.1117/12.332611>
83. "Design and Application of Two-Photon Absorption Molecules." S. Barlow, D. Beljonne, J.-L. Brédas, B. Cumpston, M. Dickinson, S. Fraser, J.-Y. Fu, J. Ehrlich, A. Heikal, T. Kogej, M. Levin, D. McCord-Maughon, P. Ng, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, K. Staub, S. Thayumanvan, X.-L. Wu, *SPIE Proceedings*, San Jose, CA (January 1999)
84. "Design and Synthesis of Highly Efficient Chromophores and Polymers for Electro-optic Applications." A. K.-Y. Jen, H. Ma, X. Wu, J. Wu, S. Liu, P. Herguth, S. R. Marder, C.-F. Shu and L. R. Dalton, *Proc. Int. Conf. on Organic Nonlinear Optics ICONO'4* (1999)
85. "Colorless High Dielectric Compounds for Low Voltage Liquid Crystal Application." S.-T. Wu, R. N. Schwartz, Q. T. Zhang, S. R. Marder, C.-S. Hsu, in *Liquid Crystal Materials and Devices*, edited by T.J. Bunning, S.H. Chen, L.C. Chien, S.-C. A. Lien, T. Kajiyama, N. Koide. *Mater. Res. Soc. Symp. Proc.* **559**, 235-242, Warrendale, PA (1999)
86. "Recent Development of Highly Efficient Chromophores and Polymers for Electro-Optic Device Applications." A. K.-Y. Jen, H. Ma, X. Wu, J. Wu, S. Liu, S. R. Marder, L. R. Dalton, C.-F. Shu, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photonic Materials and Devices* **3623**, 112-119 (1999)

87. "Photorefractive Polymers and Polymer-Dispersed Liquid Crystals." B. Kippelen, A. Golemme, E. Hendrickx, J. F. Wang, S. R. Marder, N. Peyghambarian, in *Field Responsive Polymers; Electroresponsive, Photoresponsive, and Responsive Polymers in Chemistry and Biology*, I. M. Khan, J. S. Harrison, Eds, *ACS Symp. Series* **726**, Ch. 14, 204-225 (1999)
88. "Hybrid Bilayer Organic Light-Emitting Devices based on High Tg Hole Transport Polymers." G. E. Jabbour, S. E. Shaheen, M. M. Morrell, J. D. Anderson, P. A. Lee, S. Thayumanavan, S. Barlow, S. R. Marder, E. Bellmann, R. H. Grubbs, B. Kippelen, N. R. Armstrong, N. Peyghambarian, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photonic Materials and Devices* **3623**, 20-27 (1999)
89. "Lightwave Manipulation using Photorefractive Polymers." N. Peyghambarian, B. Kippelen, K. B. Ferrio, J. Herlocker, J.-L. Maldonado, E. Hendrickx, S. Mery, A. Golemme, S. R. Marder, in *Light Wave Manipulation Using Organic Nonlinear Optical Material*, S. Miyata and H. Sasabe (eds), TJI Digital, Padtown, Cornwall, UK, 223-232 (2000)
90. "Influence of a Spacer Group on the Nonlinear Optical Properties of π -Conjugated Compounds." T. Kogej, M. H. Briche, R. Silbey, S. R. Marder, J.-L. Brédas, in *Light Wave Manipulation Using Organic Nonlinear Optical Material*, S. Miyata and H. Sasabe (eds), TJI Digital, Padtown, Cornwall, UK, 205-221 (2000)
91. "Applications of Electron-Poor and Electron-Rich Compounds for Photonics." S. R. Marder, V. Alain, J.-L. Brédas, J. K. Cammack, C. Grasso, M. Halik, S. M. Kuebler, J. W. Perry, M. Rumi, F. Stellacci, W. Wenseleers, Y. Zhang, *Abstracts of Papers of the American Chemical Society 220th National Meeting, PMSE Preprints-054* (2000)
92. "Three-Dimensional Micro-Fabrication Using Two-Photon-Activated Chemistry." S. M. Kuebler, B. H. Cumpston, S. Ananthavel, S. Barlow, J. E. Ehrlich, L. L. Erskine, A. A. Heikal, D. McCord-Maughon, J. Qin, H. Rockel, M. Rumi, M.; S. R. Marder, J. W. Perry, *Proc. SPIE-Int. Soc. Opt. Eng.: Micro- and Nano-photonic Materials and Devices* **3937**, 97-105 (2000); <http://doi.org/10.1117/12.382799>
93. "Recent Progress in Photorefractive Polymers." B. Kippelen, J. A. Herlocker, P. A. Blanche, C. Fuentes-Hernandez, B. Domercq, Y. Zhang, S. R. Marder, J. F. Wang, N. Peyghambarian, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photorefractive Materials VII* **4460** (2001)
94. "Introduction to the Issue on Organics for Photonics." N. Peyghambarian, S. R. Marder, Y. Koike, A. Persoons, *IEEE Journal of Selected Topics in Quantum Electronics*, **7**(5), 757-759 (2001)
95. "Optimization of Photorefractive Polymers Doped with Styrene-based Chromophores." C. Fuentes-Hernandez, J. A. Herlocker, J. F. Wang, Y. Zhang, S. R. Marder, N. Peyghambarian, B. Kippelen, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photonic Materials and Devices III* **4279**, 63-68 (2001)
96. "Photo-Crosslinkable Polymers as Hole Transport Materials." Y. D. Zhang, R. D. Hreh, G. E. Jabbour, B. Kippelen, N. Peyghambarian, S. R. Marder, *Abstracts of Papers of the American Chemical Society 221st National Meeting, PMSE Preprints* **84**, 570-571 (2001)

97. "One- and Two-Photon Induced Growth of Ligand Coated Nanoparticles for 2 & 3D Metal Patterning" F. Stellacci, C. A. Bauer, T. Meyer-Friedrichsen, W. Wenseleers, V. Alain, S. M. Kuebler, S. J. K. Pond, Y. Zhang, S. R. Marder, J. W. Perry, *Proc. SPIE-Int. Soc. Opt. Eng.: Nanoscale Optics and Applications* **4809**, 62-68 (2002)
98. "Colorless Molecular Dopants for Low Voltage Operation of Nematic Liquid Crystals" J. Haddock, J. Schmidtke, S. Kumaraswamy, D. Mathine, S. R. Marder, B. Kippelen, *SPIE-Int. Soc. Opt. Eng.: Liquid Crystals VI* **4799**, 9-16 (2002)
99. "High-Sensitivity Two-Photon Photoacid Generator for Three-Dimensional Microfabrication" S. M. Kuebler, K. L. Braun, W. Zhou, T. Yu, J. K. Cammack, C. K. Ober, S. R. Marder, J. W. Perry, *Proc. SPIE-Int. Soc. Opt. Eng.: Nanoscale Optics and Applications* **4809**, 170-78 (2002)
100. "Polymers for Holographic Imaging and Displays." B. Kippelen, B. Domercq, J. A. Herlocker, R. D. Hreha, J. N. Haddock, C. Fuentes-Hernandez, G. Ramos-Ortiz, P. A. Blanche, N. Peyghambarian, A. Schulzgen, Y. Zhang, S. R. Marder, *Abstracts of Papers of the American Chemical Society 223rd National Meeting, POLY Preprints* **43**(1), 158-159 (2002)
101. "Two-photon positive tone lithography for three-dimensional microfabrication." T. Yu, C. K. Ober, S. M. Kuebler, W. Zhou, S. R. Marder, J. W. Perry, *Abstracts of Papers of the American Chemical Society 223rd National Meeting, PMSE Preprints* **87**, 411 (2002)
102. "New Liquid Crystal Materials Enabling Revolutionary Display Devices." J. Kornfield, L. Dalton, S. R. Marder, J. W. Perry, C. Ober, P. Palffy-Muhoray, N. Thomas, D. Walba, S.-T. Wu, *SPIE-Int. Soc. Opt. Eng.: Cockpit Displays IX: Displays for Defense Applications* **4712**, 336-349 (2002)
103. "Photocrosslinkable Polymers as Hole-Transport Materials for Organic Light-Emitting Diodes." B. Domercq, R. D. Hreha, N. Larribeau, H. N. Haddock, S. R. Marder, B. Kippelen, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photonic Materials and Devices IV* **4642**, 88-96 (2002)
104. "Two-Photon Positive Tone Lithography for 3-D Microfabrication." T. Yue, C. Ober, W. Zhou, S. M. Kuebler, J. W. Perry, S. R. Marder, *Abstracts of Papers of the American Chemical Society 224th National Meeting, PMSE Preprints* **87**, 411 (2002)
105. "Hole Mobility in Substituted N, N-bis-(m-toyl)-N-N-diphenyl-1,1 biphenyl-4,4 diamine (TPD) Derivatives Doped Poly(styrene)." M. Bishop, J.-L. Maldonado, C. Fuentes-Hernandez, B. Domercq, S. Barlow, S. Thayumanavan, M. Malagoli, M. Manoharan, J.-L. Brédas, S. R. Marder, B. Kippelen, *NIP 18 International Conference on Digital Printing Technologies* **18**, 413-417 (2002)
106. "Patternable Polymers as Hole Transport Materials for Organic Light-Emitting Diodes" B. Domercq, R. D. Hreha, N. Larribeau, J. N. Haddock, C. Schultz, Y. Zhang, S. R. Marder, B. Kippelen, *NIP 18 International Conference on Digital Printing Technologies* **18**, 428, (2002)
107. "Effect of Aryl Substitution on the Hole Mobility of Bis-diarylamino-biphenyl Doped Polymer Composites." J.-L. Maldonado, M. Bishop, C. Fuentes-Hernandez, B. Domercq, S. Barlow, S. Thayumanavan, M. Malagoli, M. Manoharan, J.-L. Brédas, S. R. Marder, B.

- Kippelen, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photorefractive and Photosensitive Materials for Holographic Applications* **4802**, 42-50 (2002)
108. "Efficient and Fast Photorefractive Polymers Sensitized by CdSe Nanoparticles." D. J. Suh, C. Fuentes-Hernandez, S. R. Marder, B. Kippelen, *Conference on Lasers and Electro-Optics: Trends in Optics and Photonics* **88**, CFK5/1-CFK5/2 (2003)
 109. "Broadband Efficient Third-Harmonic Generation in an Organic Film." M. Cha, G. Ramos-Ortiz, H. T. Kim, H. Choi, S. Thayumanavan, J. Mendez, S. R. Marder, B. Kippelen, *Conference on Lasers and Electro-Optics: Trends in Optics and Photonics* **88**, CMT2/1-CMT2/2 (2003)
 110. "Efficient Photorefractive Polymers Sensitized by CdSe Nanoparticles." C. Fuentes Hernandez, D. J. Suh, S. R. Marder, B. Kippelen, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Holographic Materials and Applications* **5216**, 221-228 (2003)
 111. "Photorefractive Polymers Based on Bis-triarylamine Side-chain Polymers." C. Fuentes-Hernandez, J. Thomas, R. Termine, M. Eralp, M. Yamamoto, K. Cammack, K. Matsumoto, S. Barlow, G. Walker, G. Meredith, N. Peyghambarian, B. Kippelen and S. R. Marder, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Holographic Materials and Applications* **5216**, 83-90 (2003)
 112. "Information Storage and Retrieval Using Macromolecules as Storage Media." M. Mansuripur, P. K. Khulbe, S. M. Kuebler, J. W. Perry, M. S. Giridhar, J. K. Erwin, K. Seong, S. R. Marder, N. Peyghambarian *Proc. SPIE-Int. Soc. Opt. Eng.: Optical Data Storage* **5069**, 231-243 (2003)
 113. "Organic Light-emitting Diodes Based on Arylamine Molecules and Polymers with a Fluorene Core." B. Domercq, R. D. Hreha, A. Haldi, S. Barlow, C. P. George, S. R. Marder, M. Malagoli, J.-L. Brédas, B. Kippelen, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Light-Emitting Materials and Devices VII* **5214**, 225-232 (2004)
 114. "High-sensitivity Material Systems for Two-photon Three Dimensional Microfabrication." S. M. Kuebler, J. W. Perry, S. R. Marder, C. K. Ober, K. L. Braun, T. Yu, W. Zhou, *Proc. SPIE-Int. Soc. Opt. Eng.: Micromachining Technology for Micro-Optics and Nano-Optics II* **5347**, 111-117 (2004)
 115. "Trapping Mechanisms and Dynamics in Bis-triarylamine-based Photorefractive Polymer Composites." C. Fuentes-Hernandez, J. Thomas, G. R. Meredith, N. N. Peyghambarian, S. R. Marder, B. Kippelen. *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Holographic Materials and Applications II* **5521**, 96-102 (2004)
 116. "Near-infrared Photorefractive Polymer Composites with High Diffraction Efficiency and Fast Response Time." J. Thomas, M. Eralp, S. Tay, G. Li, S. R. Marder, G. R. Meredith, A. Schulzgen, R. A. Norwood, N. N. Peyghambarian. *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Holographic Materials and Applications II* **5521**, 1-8 (2004)
 117. "Modeling of Organic Photovoltaic Cells with Large Fill Factor and High Efficiency." S. Yoo, B. Domercq, S. R. Marder, N. R. Armstrong, B. Kippelen. *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photovoltaics V* **5520**, 110-117 (2004)
 118. "Time-gated Imaging through Scattering Media by Using Efficient THG in Organic Films." G. Ramos-Ortiz, M. Cha, S. Barlow, G. Walker, S. R. Marder, B. Kippelen. *Proc. SPIE-*

Int. Soc. Opt. Eng.: 5th Iberoamerican Meeting on Optics and 8th Latin American Meeting on Optics, Lasers, Their Applications **5622**, 439-444 (2004)

119. "Highly Sensitive Frequency-resolved Optical Fating Based on Third-harmonic Generation in Organic Films." G. Ramos-Ortiz, M. Cha, B. Kippelen, G. A. Walker, S. R. Marder. *Conference on Lasers and Electro-Optics/International Quantum Electronics Conference and Photonic Applications Systems Technologies*, Technical Digest (CD), Optical Society of America, paper CTuZ7 (2004)
120. "Optimization of Multilayer Organic Solar Cells." B. Kippelen, S. Yoo, B. Domercq, S. Barlow, S. R. Marder, *Abstracts of Papers of the American Chemical Society 227th National Meeting, PMSE Preprints* **91**, 798-799 (2004)
121. "Direct Imaging through Scattering Media Using Efficient THG in Organic Materials." G. Ramos-Ortiz, M. Cha, B. Kippelen, G. A. Walker, S. Barlow, S. R. Marder, *Conference on Lasers and Electro-Optics: Trends in Optics and Photonics* **1**, CTuI3 (2004)
122. "Novel IR-sensitive Photorefractive Polymer Composite." S. Tay, M. Eralp, J. Thomas, G. Li, B. Kippelen, G. Meredith, A. Schuelzgen, N. Peyghambarian, S. R. Marder, in *Conference on Lasers and Electro-Optics/International Quantum Electronics Conference and Photonic Applications Systems Technologies*, Technical Digest (CD), Optical Society of America, paper CMT3 (2004).
123. "Analysis of Short-Channel Effects in Organic Field-Effect Transistors." J. N. Haddock, X. Zhang, S. Zheng, S. R. Marder, B. Kippelen. *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Field-Effect Transistors IV* **5940**, 59400H/1-59400H/11 (2005)
124. "Surface Modification of Barium Titanate Nanoparticles for Dielectric Nanocomposites." P. Kim, S. C. Jones, P. H. Hotchkiss, J. N. Haddock, B. Kippelen, S. R. Marder, J. W. Perry. *Abstracts of Papers of the American Chemical Society 231st National Meeting, PMSE Preprints* **94**, 10-11 (2006)
125. "Structure-Property Relationships for Multiphoton Absorption. A Quantum-Chemical Study." E. Zojer, L. Zhu, P. Pacher, Y. Yi, Z. Shuai, D. Beljonne, S. Barlow, J. W. Perry, S. R. Marder, J.-L. Brédas. *Abstracts of Papers of the American Chemical Society 231st National Meeting, PMSE Preprints* **94**, 48-49 (2006)
126. "Two-Photon 3-D Micro- and Nano-Fabrication with Polymer, Metal Nanocomposite and Hybrid Materials." W. Dong, VB. Chem. J. Zhou, S. M. Keubler, K. L. Braun, Y. Wang, U. Bunz, S. R. Marder, J. W. Perry. *Abstracts of Papers of the American Chemical Society 231st National Meeting, PMSE Preprints* **94**, 42-43 (2006)
127. "Highly Processable Polymers with Large Third-Order Nonlinearities in the Near-Infrared." J. M. Hales, S.-H. Chi, J.-Y. Cho, S. Odom, Q. Zhang, R. R. Schrock, T. E. O. Screen. H. L. Anderson, S. R. Marder, J. W. Perry. *Abstracts of Papers of the American Chemical Society 231st National Meeting, PMSE Preprints* **94**, 827-828 (2006)
128. "Tutorial on Two-Photon-Absorbing Materials and Applications." S. R. Marder, *Abstracts of Papers of the American Chemical Society 232nd National Meeting, POLY Preprints* **47** (2), 1057 (2006)
129. "Materials for Fabrication of Nanoscale Structures." S. R. Marder, T. Okada, S. C. Jones, E. Riedo, R. Szoszkiewicz, W. P. King, J. Wang, S. Barlow, J. W. Perry, V. Chen, M.

- Rumi, J. M. Hales, W. Dong, W. Haske. *Abstracts of Papers of the American Chemical Society 232nd National Meeting, POLY Preprints* **27**(2), 1018 (2006)
130. "Modeling and Characterization of Excitonic Multilayer Organic Solar Cells." S. Yoo, W. Potscavage, B. Domercq, S.-H. Han, T.-D. Li, S. Jones, R. Szoszkiewicz, D. Levi, E. Riedo, S. R. Marder, B. Kippelen, *Abstracts of Papers of the American Chemical Society 232nd National Meeting, PMSE Preprints* **47**(2), 1022 (2006)
 131. "Organic Materials for Photovoltaic Applications." S. R. Marder, Z. An, X. Zhan, S. Odom, C. Huang, S. Barlow, S. C. Jones, B. Kippelen, S. Yoo, B. Domercq, W. Postcavage, M. R. Wasielewski, D. McCamant, J. Lockhard, B. Cohen, R. F. Kelly, H. L. Anderson, *Abstracts of Papers of the American Chemical Society 232nd National Meeting, PMSE Preprints* **95**, 99 (2006)
 132. "Conformal mineralization on nanostructured 3-D bioclastic templates using dendritic hydroxyl amplification for enhanced surface sol-gel processing." M. R. Weatherspoon, M. B. Dickerson, G. Want, Y. Cai, S. C. Jones, K. H. Sandhage, S. R. Marder, *Abstracts of Papers of the American Chemical Society 233rd, PMSE Preprints* **96**, 172 (2007)
 133. "Norbornene-based copolymers with pendant heavy-metal phosphors and bis(carbazole) groups and their use in light-emitting diodes." S. Barlow, A. Kimyonok, B. Domercq, A. Haldi, J. Y. Cho, J. R. Carlise, X. Y. Wang, L. E. Hayden, S. C. Jones, Y. Zhang, C. Zuniga, S. R. Marder, B. Kippelen, M. Week, *Abstracts of Papers of the American Chemical Society 235th National Meeting, PMSE Preprints* **98**, 197 (2008)
 134. "Perylene materials for photovoltaic applications." X. Zhan, Z. A. Tan, B. Domercq, Z. S. An, X. A. Zhang, S. Barlow, Y. F. Li, D. B. Zhu, B. Kippelen, S. R. Marder, *Abstracts of Papers of the American Chemical Society 235th National Meeting, PMSE Preprints* **98**, 128 (2008)
 135. "Tutorial on Third-Order Nonlinear Optical/Two-Photon-Absorbing Materials and Applications." Marder S. R., *Abstracts of Papers of the American Chemical Society National Meeting, POLY Preprints* **49**, 1023 (2008)
 136. "Polymer nanocomposite infiltration of silicon photonic crystals." S. Tay, J. Thomas, B. Momeni, M. Askari, P. J. Hotchkiss, S. C. Jones, S. R. Marder, A. Adibi, R. A. Norwood, N. Peyghambarian, *Proc. SPIE-Int. Soc. Opt. Eng.: Photonic Crystal Materials and Devices VII* **6901**, 690114/1 – 690114/11 (2008)
 137. "Two-photon absorption in cross-shaped chromophores with phenylene-vinylene backbones." M. Rumi, S. J. K. Pond, Q. Zhang, M. Bishop, Y. Zhang, S. Barlow, S. R. Marder, J. W. Perry, *Proc. SPIE-Int. Soc. Opt. Eng.: Organic Photonic Materials and Devices X* **6891**, 689104/1 – 689104/12 (2008)
 138. "Linear and nonlinear optical properties of highly transmissive one-dimensional metal-organic photonic bandgap structures." C. Fuentes-Hernandez, L. A. Padilha, D. Owens, S. Y. Tseng, S. Webster, J. Y. Cho, D. J. Hagan, E. W. Van Stryland, S. R. Marder, B. Kippelen, *Proc. SPIE Int. Soc. Opt. Eng.: Linear and Nonlinear Optics of Organic Materials VIII* **7049**, 704900/1-704900/9 (2008)
 139. "Polymer/BaTiO₃ nanocomposites for energy storage." P. Kim, N. Doss, J. Tillotson, P. J. Hotchkiss, J. Li, S. R. Marder, J. W. Perry, *Abstracts of Papers of the American Chemical*

Society 237th National Meeting, PMSE Preprint 100, 750 (2009)

140. "Nonlinear optical properties of a dendronized ruthenium phthalocyanine and naphthalocyanine." M. M. Sartin, M. Cozzuol, R. R. Dasari, S. R. Marder, J. W. Perry, *Abstracts of Papers of the American Chemical Society 238th National Meeting, PMSE Preprints 101, 769 (2009)*
141. "Design and synthesis of donor-acceptor block copolymers for use in photovoltaic cells." K. Woody, D. Collard, S. R. Marder, *Abstracts of Papers of the American Chemical Society 239th National Meeting, PMSE Preprints 216 (2010)*
142. "Dithienopyrrole-based donor-acceptor copolymers: Low gap materials for transport and photovoltaics." S. R. Marder, X. Zhang, T. T. Steckler, R. R. Dasari, S. Ohira, W. J. Potscavage, S. Prakash Tiwari, S. Coppee, S. Ellinger, S. Barlow, J. L. Bredas, B. Kippelen, J. R. Reynolds, *Abstracts of Papers of the American Chemical Society 239th National Meeting, PMSE Preprints 19 (2010)*
143. "Dendronized thiopyrylium cyanines for photonic applications." A. Nantalaksakul, J. M. Hales, A. Scarpaci, J. D. Matichak, S. Barlow, J. W. Perry, S. R. Marder, *Abstracts of Papers of the American Chemical Society 239th National Meeting, ORGN Preprints 699 (2010)***Error! Hyperlink reference not valid.**
144. "Integrating Biological Self-Assembly with Synthetic Chemistry." Y. Fang, M. Dickerson, J. Vernon, Y. Cai, N. Poulsen, S. R. Marder, N. Kroger, R. Naik, K. Sandhage, S. Shian, J. D. Berrigan, *Abstracts from 42nd Central Regional Meeting of the American Chemical Society, CERMACS-65 (2010)*
145. "Applications of Rylene Diimide Containing Materials for Organic Solar Cell Applications." Z. An, S. Barlow, T. M. Clarke, B. Domercq, J. R. Durrant, C. Huang, B. Kippelen, Y. Li, S. Shoaee, Z. Tan, X. Wang, X. Zhan, X. Zhang, E. Zhou, S. R. Marder, *Abstracts of Papers of the American Chemical Society 240th National Meeting, COLL Preprints 505 (2010)*
146. "High Energy Density Nanocomposites Based on Surface Modified BaTiO₃ and Ferroelectric Polymers." J. W. Perry, P. Kim, O. Smith, J. P. Tillotson, S. R. Marder, *Abstracts of Papers of the American Chemical Society 240th National Meeting, PMSE Preprints 5 (2010)*
147. "Putting Product Bonds to Work in Organic Electronics." S. A. Odom, J. E. Anthony, S. R. Marder, J. S. Moore, *Abstracts of Papers of the American Chemical Society 240th National Meeting, AEI Preprints 37 (2010)*
148. "Synthesis of benzobisthiazole derivatives via C-H functionalization." Bon, J. L., D. J. Feng, S. R. Marder, S. B. Blakey, *Abstracts of Papers of the American Chemical Society 245:1 (2013)*
149. "Direct Arylation of Quinoxaline by Novel C-H Activation," A. J. Rojas, J. X. Zhang and S. Marder, *Abstracts of Papers of the American Chemical Society, 246 (2013)*
150. "Optimization of the electronic third-order nonlinearity of cyanine-like molecules for all optical switching." Honghua Hu, Manuel Ferdinandus, Davorin Peceli, Olga V. Prjonskaia, David J. Hagan, Eric W. Van Stryland, Seth R. Marder, Alex K. Y. Jen, Joel

M. Hales, Joseph W. Perry, *SPIE Photonics West Proceedings, Session on Organic Photonic Materials and Devices XVI*, 8983-3 (2014)

151. "Orientation and reaction chemistry of phosphonic acid-modified indium-zinc oxide surfaces in organic photovoltaic devices." L. Z. Sang, D. L. Matz, J. E. Pemberton, M. Gliboff, K. M. Knesting, D. S. Ginger, A. K. Sigdel, J. J. Berry, A. J. Giordano, S. R. Marder, H. Li and J. L. Bredas, *Abstracts of Papers of the American Chemical Society*, **247** (2014)
152. "Effective n-doping of conjugated polymers by dimers of benzimidazoline radicals." B. D. Naab, S. Y. Zhang, K. Vandewaal, E.G.B. Evans, G. L. Millhauser, A. Salleo, S. Barlow, S. R. Marder, Z. A. Bao, *Abstracts of Papers of the American Chemical Society*, **248** (2014)
153. "Surface modification of transparent conducting oxides with functionalized perylene diimide dyes: Characterization of orientation, charge-transfer kinetics, and related OPV performance." Y. L. Zheng, A. J. Giordano, S. R. Cowan, S. R. Fleming, R.C. Shallcross, M. Gliboff, Y. M. Huang, D. S. Ginger, D. V. McGarth, N. R. Armstrong, D. C. Olson, S. R. Marder, S. S. Saavedra, *Abstracts of Papers of the American Chemical Society*, **248** (2014)
154. "Top-gate Organic Field-effect Transistors Fabricated on Shape-memory Polymer Substrates." In *Organic Field-Effect Transistors Xiv; and Organic Sensors and Bioelectronics VIII*. S. Choi, C. Fuentes-Hernandez, C. Y. Wang, A. Wei, W. Voit, Y. D. Zhang, S. Barlow, S. R. Marder and B. Kippelen, *Proc. SPIE-Int. Soc. Opt. Eng.* **9568**, 95680A-1/5 (2015)
155. "Mid-infrared hyperbolic metamaterials based on graphene-dielectric multilayers." In *Metamaterials, Metadevices, and Metasystems*. Y. C. Chang, A. V. Kildishev, E. E. Narimanov, C. H. Liu, S. Y. Zhang, S. R. Marder, Z. H. Zhong, T. B. Norris, *Proc. SPIE* **9544**, 954417-1 (2015). DOI: [10.1117/12.2190367](https://doi.org/10.1117/12.2190367)
156. "Efficient light emission from hybrid inorganic/organic semiconductor structures by energy level optimization." R. Schlesinger, F. Bianchi, S. Blumstengel, B. Kobin, K. Moudgil, S. Barlow, S. Hecht, S. R. Marder, and N. Koch *Proc. SPIE Conf.* **9749**, 874909-1 (February 2016, DOI: [10.1117/12.2217006](https://doi.org/10.1117/12.2217006))
157. "Controllable, wide-ranging n- and p-doping of monolayer transition-metal disulfides and diselenides." S. Y. Zhang, H. Hill, A. H. Walker, S. Barlow, S. Marder, S. Pookpanratana, C. Hacker, *Abstracts of Papers of the American Chemical Society*, **257** (2019)

Technical Reports

1. "Organic Salts with Large Second-Order Optical Nonlinearities" S. R. Marder and J. W. Perry, *NASA Tech. Brief* **14**, 56 (1990)
2. "Organometallic Salts Generate Second Harmonics" S. R. Marder and J. W. Perry, *NASA Tech. Brief* **15**, 54 (1991)
3. "Organic Materials for Nonlinear Optical Devices" J. W. Perry and S. R. Marder, *Space Microelectronics* **36** (1992)

4. "Reverse Saturable Absorber Evaluation" J. W. Perry and S. R. Marder, *Technical Report for the Air Force Wright Laboratory, Materials Directorate* (1994)
5. "Unsymmetrical Squaraine Dyes for Nonlinear Optics" S. R. Marder, C.-T. Chen, L.-T. Cheng, *NASA Tech. Brief* **21**, 65-66 (1997)
6. "Fluorescent Dyes for Two-Photon Microscopy: Suitability for Specific Applications would Depend on Optical, Chemical, and Biological Properties" S. E. Fraser, S. R. Marder, J. W. Perry, *NASA Tech. Brief*, **NPO-20150** (1997)
7. "Metallophthalocyanines for Photonic Applications" T. Wada, M. Tian, J. P. Sokoloff, B. P. McGinnis, J. W. Perry, S. R. Marder, H. Sasabe, *RIKEN Rev.* **15**, 35-36 (1997)
8. "Two-Photon or Higher-Order Absorbing Optical Materials for Generation of Reactive Species" S. R. Marder, *NASA Tech. Brief*, **NPO-20454** (1998)

PRESENTATIONS

Named Lectureships (5)

University of British Columbia	February 1995
3M Lecturer in Materials Science	
Eastman Kodak, Rochester, NY	
Weissberger Williams Lecture Series	May 2000
Peking University, Beijing (China)	March 2005
University of Kentucky, Lexington, KY	October 2016
Lyle Dawson Lecture Series	
University of Los Angeles, CA	November 2016
Aldrich Lecture	

Invited Research Lectures (235)

University of Wisconsin at Madison	September 1983
Oxford University (England)	November 1985
The University, Bristol (England)	January 1986
E. I. DuPont de Nemours and Company Inc.	July 1987
University of Southern California	November 1987
E. I. DuPont de Nemours and Company Inc.	November 1987
University of North Carolina at Chapel Hill	November 1987
AT&T Bell Laboratories	November 1987
University of California at Irvine	December 1987
University of Washington at Seattle	December 1987
IBM Research Center at Almaden	December 1987
University of Arizona at Tucson	December 1987
Pennsylvania State University	December 1987
University of South Carolina at Columbia	December 1987
Ohio State University	January 1988
California Institute of Technology (Inorganic Chemistry)	January 1988

University of California at Berkeley	January 1988
University of Illinois at Champaign-Urbana	January 1988
University of Waterloo (Canada)	June 1988
University of California at Santa Barbara	September 1988
Lawrence Livermore National Laboratory	October 1988
University of Wuhan (China)	October 1988
University of Iowa	December 1988
Iowa State University	December 1988
University of Wisconsin at Madison	December 1988
Lockheed Missiles and Aerospace Corp	May 1989
University of California at San Diego	September 1989
Monsanto Corporate Research	February 1990
General Electric Corporate Research Laboratories	June 1990
Loyola Marymount College	March 1991
University of California at Los Angeles (Materials Science)	November 1991
IBM Research Center at Almaden	March 1992
Lockheed Missiles and Aerospace Corp	March 1992
Raychem Corporation	May 1992
Stanford University	May 1992
E. I. DuPont de Nemours and Company Inc.	August 1992
University of Mons (Belgium)	October 1992
University of California at Los Angeles (Organic Chemistry)	January 1993
Florida State University	March 1993
NASA Marshall Space Flight Center	May 1993
Wright Air Force Laboratory	May 1993
Michigan State University	September 1993
EniChem America	September 1993
University of Rochester	September 1993
University of Waterloo (Canada)	October 1993
Clark Atlanta University	November 1993
Sandia National Laboratory	December 1993
Biosym Inc.	January 1994
California Institute of Technology (Research Director's Conference)	February 1994
University of Arizona at Tucson (Optical Sciences)	March 1994
MIT/Harvard (Joint physical chemistry seminar)	May 1994
Princeton University (Chemistry, POEM)	September 1994
University of California at San Diego	September 1994
EniChem America	October 1994
Princeton University (POEM)	October 1994
University of Leuven (Belgium)	November 1994
University of Southern California	December 1994
University of California at Los Angeles (Inorganic Chemistry)	January 1995
Georgia Institute of Technology	January 1995
University of Texas at Austin	January 1995
California Institute of Technology (Organic Chemistry)	February 1995

Akzo-Nobel (Arnhem, The Netherlands)	February 1995
University of Oregon	March 1995
Biosym Inc. (Paris)	April 1995
Institut de Physique et Chimie des Materiaux de Strasbourg	May 1995
University of California at Santa Barbara	June 1995
University of Cambridge	October 1995
University of Rochester	November 1995
California Institute of Technology (Materials Science)	November 1995
University of Colorado, Boulder	March 1996
Washington University	April 1996
University of Iowa	May 1996
North Carolina State University	June 1996
Argonne National Laboratory	September 1996
Columbia University	September 1996
University of Delaware	September 1996
University of Pennsylvania	October 1996
University of Utah	November 1996
Rice University	November 1996
Duke University	January 1997
Northeastern University	February 1997
Frontier Research Program, RIKEN	March 1997
Tokyo University of Agriculture and Technology	March 1997
University of North Carolina at Chapel Hill	April 1997
University of South Carolina	May 1997
University of Arizona	September 1997
University of California at Berkeley	October 1997
University of California at Santa Barbara	November 1997
Lucent Corporation, AT and T Bell Laboratories	December 1997
Academica Sinica (Taiwan)	March 1998
National Taiwan University (Taiwan)	March 1998
University of Arizona (Materials Science and Eng)	October 1999
University of Arizona (Optical Sciences Center)	October 1999
3M Corporation, St. Paul, MN	January 2000
Cambridge University	March 2000
University of Durham	March 2000
Brewer Science, St. Louis, MO	May 2000
Cornell University	May 2000
Arizona State University	September 2000
Stanford University	November 2000
Northwestern University	February 2001
University of Wisconsin at Madison	February 2001
University of Chicago	February 2001
University of Washington	March 2001
Bowling Green State University	October 2002
Georgia Institute of Technology	January 2003
Tulane University	March 2003

Seoul University (Korea)	November 2003
Pohang Institute of Science and Technology (Korea)	November 2003
University of Illinois	November 2003
University of Missouri	November 2003
University of Pennsylvania (Materials Science)	March 2004
Clark Atlanta University	April 2004
Lintec Corporation (Saitama, Japan)	May 2004
Tokyo University of Agriculture and Technology (Japan)	May 2004
University of Central Florida	May 2004
University of Milano-Bicocca (Milan, Italy)	October 2004
Politechnic Institute of Milan (Milan, Italy)	October 2004
Princeton University	November 2004
Chinese Academy of Sciences (Beijing, China)	March 2005
Peking University (Beijing, China)	March 2005
JSR Corporation	March 2005
University of Victoria (Victoria, Canada)	March 2005
Simon Fraser University (Vancouver, Canada)	March 2005
New Mexico Highlands University	April 2005
Norfolk State University	April 2005
Shanghai Jiaotong University (Beijing, China)	November 2005
Wuhan University (Wuhan, China)	November 2005
University of Michigan	February 2006
Albany State University	April 2006
Norfolk State University	June 2006
Tuskegee University	June 2006
Imperial College London	October 2006
Oxford University	October 2006
JSR Corporation	November 2006
Florida International University (Physics)	March 2007
University of California, San Diego	June 2007
Nitto Denko Technical Corporation, San Diego	June 2007
Swiss Federal Institute of Technology, ETH (Zurich, Switzerland) (Quantum Optics)	September 2007
Swiss Federal Institute of Technology, ETH (Zurich, Switzerland) (Solid State Physics)	September 2007
Institute of Chemistry Chinese Academy of Sciences (Beijing, China)	October 2007
Institute of Physics and Chemistry Chinese Academy of Sciences (Beijing, China)	October 2007
Tsinghau University (Beijing, China)	October 2007
Anhui University (Anhui, China)	October 2007
Florida International University (Chemistry)	November 2007
Solvay (Alpharetta)	May 2008
University of Sydney (Sydney, Australia)	October 2008
University of Wollongong (Wollongong, Australia)	October 2008
University of Melbourne (Melbourne, Australia)	October 2008

Monash University (Melbourne, Australia)	October 2008
California Institute of Technology	April 2009
Solvay-NOH (Brussels, Belgium)	May 2009
South China, University of Technology (Guangzhou, China)	June 2009
University of Science and Technology Beijing (China)	June 2009
Université de Cachan (2) (Cachan, France)	June 2009
Northwestern University	September 2009
University of Minnesota	February 2010
University of Florida	March 2010
Cambridge Display Technology	July 2010
Imperial College London (Physics)	July 2010
Wuhan University (2)	September 2010
Chinese University of Hong Kong	September 2010
Hong Kong University of Science and Technology	September 2010
E. I. DuPont de Nemours and Company Inc.	October 2010
Max Planck Institute (Mainz, Germany)	November 2010
Tsinghua University	March 2011
Ecole Polytechnique Fédérale – Lausanne (Switzerland)	June 2011
Cambridge Display Technology (CDT)	June 2011
Nitto Denko Technical Corporation, San Diego	July 2011
PPG Industries, Monroeville, PA	February 2012
Columbia University, NY	March 2012
Clemson University	October 2012
Southern Illinois University	November 2012
Ecole Polytechnique Fédérale – Lausanne (Switzerland) (2)	December 2012
IBM (Zurich, Switzerland)	December 2012
Emory University	January 2013
University of Würzburg, Würzburg, Germany	May 2013
Laboratoire de Chimie, Ens de Lyon, Lyon Cedex, France	June 2013
National Center for Photovoltaics at NREL, Golden, CO	June 2013
Georgia Institute of Technology, Atlanta, GA	October 2013
University of Wisconsin, Madison, WI	February 2014
Oxford Photovoltaics, Oxford, United Kingdom	May 2014
Novald, Dresden, Germany	May 2014
Humboldt-University, Berlin, Germany	May 2014
University of Cologne, Köln, Germany	September 2014
InnovationLaB GmbH, Heidelberg, Germany	September 2014
Case Western University, Cleveland, OH	October 2014
University of Georgia, Athens, GA	October 2014
University of Pennsylvania	October 2014
Cambridge Display Technology (CDT)	November 2014
University of Cambridge	November 2014
Monash University, Melbourne, Australia	December 2014
University of Melbourne, Melbourne, Australia	December 2014
King Abdullah University of Science and Technology, Thuwal, Saudi Arabia	January 2015

Mitsubishi Chemical Group, Yokohama, Japan	March 2015
University of Texas – Austin	April 2015
University of Strasbourg, Strasbourg, Alsace, France	September 2015
Johns Hopkins University, Baltimore, Maryland	October 2015
ZAE Bayern, Erlangen, Germany	November 2015
McGill University, Montreal, Quebec, Canada	January 2016
University of Montreal, Montreal, Quebec, Canada	January 2016
Laval University, Quebec City, Quebec, Canada	January 2016
Columbia University, New York	April 2016
Oxford Photovoltaics, Oxford	May 2016
National University of Singapore, Singapore	July 2016
Dow – Electronic Materials Division, Boston	July 2016
Heriot-Watt University, Edinburgh, United Kingdom	September 2016
University of Colorado Boulder, Boulder, Colorado	October 2016
University of Tennessee, Knoxville, Tennessee	March 2016
Los Alamos National Laboratory, New Mexico	January 2017
ChinaRay, Guangzhou, China	February 2017
University of Tennessee, Knoxville, Tennessee	March 2017
University of Massachusetts, Amherst, MA	March 2017
Argonne-Northwestern Solar Energy Research (ANSER) Center, Northwestern University, Evanston, IL	April 2017
Peking University, Beijing, China	May 2017
Hasselt University, Diepenbeek, Belgium	September 2017
North Carolina State University, Raleigh, NC	November 2017
University of Arizona, Tucson, AZ	December 2017
Monash University, Victoria, Australia	January 2018
University of New South Wales, Kensington, Australia	February 2018
University of Melbourne, Victoria, Australia	February 2018
National University of Singapore (Chem), Singapore	February 2018
National University of Singapore (ChBE), Singapore	February 2018
Humboldt University of Berlin, Berlin, Germany	March 2018
Graz University of Technology, Petersgasse, Austria	March 2018
Ecole polytechnique fédérale de Lausanne (EPFL) Lausanne, Switzerland	March 2018
University of Cambridge, Cambridge, England	April 2018
Oxford University, Oxford, England (Oxford Martin School)	April 2018
Cambridge Display Technology, Cambridge, England	April 2018
University of Bordeaux	June 2018
Potsdam University	July 2018
Rice University, Houston, TX	October 2018
University of Southern California	December 2018
Peking University, Beijing, China	December 2018
Wuhan University, Hubei, China	December 2018
Tianjin University, Tianjin, China	December 2018
Institute of Chemistry, Chinese Academy of Sciences Beijing, China	December 2018

Purdue University, West Lafayette, Indiana	January 2019
University of Valencia, Valencia, Spain	February 2019
University of Cologne, Germany	September 2019
Cambridge Display Technology, Cambridge, England	September 2019
University of Georgia, Athens, GA	September 2019
Air Force Research Laboratory, Dayton, OH	January 2020
Princeton University (PRISM/PCCM), Princeton, NJ	February 2020
Tianjin University (TJ-MOS), China	(virtual) July 2020
Kent State University, Kent, Ohio	(virtual) November 2020
Karlsruhe Institute of Technology, Germany	(virtual) October 2021
Oregon State University, Corvallis, OR	(virtual) April 2022
Stony Brook University, Stony Brook, NY	(virtual) May 2022
University of Colorado, Boulder, CO	April 2022
Humboldt University Berlin	October 2023
University of North Texas, Denton, TX	October 2023
Mississippi State University, MS	September 2024

Plenary and Keynote Lectures at Scientific Meetings

1. "*Rational Design of Nonlinear Optical Materials.*" S. R. Marder, (presented by F. Meyers) at the Royal Society of Chemistry's Second International Meeting on Materials Chemistry, Kent, England (1995)
2. "*Chromophores for Multiphoton Processes.*" S. R. Marder, presented at the Fifth International Conference of Unconventional Photoactive Systems, Nara, Japan (1997)
3. "*An Efficient Two-photon Photoacid and Radical Initiators and Their Application to 3D Microfabrication.*" W. Zhou, S. M. Kuebler, K. L. Braun, T. Yu, J. K. Cammack, J. Wang, N. Tucker, S. Barlow, C. K. Ober, J. W. Perry, and S. R. Marder, presented at XIXth IUPAC Symposium on Photochemistry, Budapest, Hungary (2002)
4. "*Two-Photon Activated Chemistry: A New Approach to Patterning of Photonic and Electronic Materials.*" S. R. Marder, presented at Advanced Electro-Optical Applications at the Polymers for Advanced Technology Symposium, American Chemical Society, Fort Lauderdale, FL (September 2003)
5. "*Synthesis, Electronic Structure and Properties of Molecular, Liquid Crystalline and Polymeric Transport Materials.*" S. R. Marder, Richard D. Hreha, Ya-Dong Zhang, presented at the 6th International Symposium on Functional π -Electron Systems, Cornell University, Ithaca, NY (2004)
6. "*Recent Advances in Organic Semiconductors and their Application in Displays and Photovoltaics.*" B. Kippelen, S. Yoo, B. Domercq, S. Barlow, R. D. Hreha, Y.-D. Zhang and S. R. Marder, presented at the World Polymer Congress Macro 2004, 40th International Symposium on Macromolecules, Paris, France (July 4-9, 2004)
7. "*Recent Advances in Two-Photon Absorbing Materials.*" S. R. Marder, presented at the 8th International Conference on Frontiers of Polymers and Advanced Materials, Cancun, Mexico (2005)

8. *"Advances in Third-Order Nonlinear Optical Materials."* S. R. Marder, presented at the Optoelectronics 2006 Photonics West Conference, The International Society for Optical Engineering (SPIE), San Jose, CA (2006)
9. *"New Materials and Processing Opportunities for Organic Electronics and Optoelectronics."* S. R. Marder, presented at the Japan-America Frontiers of Engineering Symposium, Tsukuba, Japan (2006)
10. *"New Materials and Processing Opportunities for Organic Electronics and Optoelectronic."* S. R. Marder, presented at the European Congress on Advanced Materials and Processes (EUROMAT), Nürnberg, Germany (September 2007)
11. *"Perylene Materials for Photovoltaic Applications."* X. Zhan, Z.-A. Tan, B. Domercq, Z. An, X. Zhang, S. Barlow, Y. Li, D. Zhu, B. Kippelen, S. R. Marder, presented at the 235th ACS National Meeting, New Orleans, LA (April 6-10, 2008)
12. *"Materials for Third Order Nonlinear Optics."* S. R. Marder, presented at the 8th International Symposium on Functional Pi-Electron Systems, Graz, Austria, (July 23, 2008)
13. *"Chromophore Design for Third-Order Nonlinear Optics."* S. R. Marder, presented at the International Symposium on Materials and Devices for Nonlinear Optics (ISOPL'5), Ile de Porquerolles, France (June 29, 2009)
14. *"Applications of Transition Metal Containing Materials for Optical and Electronic Applications."* S. R. Marder, presented at the RSC Coordination Chemistry Discussion Group, Bath, UK (July 1-2, 2010)
15. *"Development of Materials for Organic Electronics."* Seth R. Marder, Stephen Barlow, Jean-Luc Brédas, Song Guo, Antoine Kahn, Sang Bok Kim, Bernard Kippelen, Swagat Mohapatra, Laxman Pandey, Lauren E. Polander, Yabing Qi, Chad Risko, Tissa Sajoto, Brian M. Seifried, Shree P. Tiwari, Qing Zhang, presented at the Tenth International Conference on Materials Chemistry, Manchester, UK (July 4-7, 2011)
16. *"Organic Semiconductor Chemistry."* Seth R. Marder, Lauren E. Polander, Stephen Barlow, Shree P. Tiwari, Brian M. Seifried, Bernard Kippelen, Chad Risko, Jean-Luc Brédas, Tissa Sajoto, Sang-Bok Kim, Swagat Mohapatra, Song Guo, presented at the International Conference on Organic Photonics and Electronics 2011 / The 12th International Conference on Organic Nonlinear Optics, held in Dublin, Ireland (September 6 – 9, 2011)
17. *"Advances in Third-Order Nonlinear Optical Materials."* Seth R. Marder, Stephen Barlow, Jean-Luc Brédas, San-Hui Chi, David J. Hagan, Joel M. Hales, Yesudas Kada, Hsin-Chieh Lin, Jon Matichak, Shino Ohira, Lazaro Padilha, Joseph W. Perry, Yanrong Shi, Eric W. Van Stryland, Scott Webster, presented at "Organic Photonic Materials and Devices XIV" part of SPIE OPTO, held in San Francisco, CA (January 21-26, 2012)
18. *"Chromophore Design for Third-Order Nonlinear optics."* Seth R. Marder, presented at the joint meeting of the American Chemical Society Northwest Region and the American Association for the Advancement of Science Pacific Division (the NORM/AAAS 2012 meeting), held in Boise, ID (June 24-27, 2012)

19. *“Design, Synthesis, and Applications of Solution Processable n- and p-Dopants for Carbon-based Electronics.”* Seth R. Marder, presented at the 12th International Conference on Frontiers of Polymers and Advanced Materials (12th ICFPAM), held in Auckland, New Zealand (December 8-12, 2013)
20. *“The Design of Third-Order Nonlinear Optical Materials.”* Seth R. Marder, presented at the 13th European Conference on Molecular Electronics (ECME 2015), held in Strasbourg, France (September 1-5, 2015)
21. *“Modification of Electrode Interfaces for Organic Electronics and Opto-electronics.”* Seth R. Marder, presented at Symposium E: Surface and Interface Engineering for Electronics of the 2016 International Conference on Electronic Materials (ICEM2016) will be held in Singapore (July 4-8, 2016)
22. *“The development of polymethine dyes for third-order nonlinear optical applications.”* Seth R. Marder, to be presented at the SPIE Conference on “Optical Materials and Biomaterials in Security and Defense Systems Technology” in Edinburgh, United Kingdom (September 26-29, 2016)
23. *“The Design of Organic Molecules and Materials for Nonlinear Optical Applications.”* Seth R. Marder, presented at the 2016 Makhoul Haddadin Symposium at the American University of Beirut in Beirut, Lebanon (October 20-21, 2016)
24. *“The Development of Acceptors and Dopants for Organic and Hybrid Electronics.”* Seth R. Marder, presented at the International Symposium of Materials Horizons in Beijing, China (June 2-4, 2017)
25. *“Interface Chemistry for Organic Electronics and Opto-electronics.”* Seth R. Marder, presented at the Centre for Plastic Electronics Symposium 2017 at Imperial College London in Kensington, London (June 27, 2017)
26. *“The Use of Dopants to Modulate the Properties of Organic Semiconductors, 2D Materials and Electrodes.”* Seth R. Marder, presented at the NANOTEXNOLOGY 2017 during the Plenary Session of the 14th International Conference on Nanosciences & Nanotechnologies (NN17) and 10th International Symposium on Flexible Organic Electronics (ISFOE17) in Thessaloniki, Greece (July 1-8, 2017)
27. *“The Use of Dopants to Modulate the Properties of Organic Semiconductors, 2D Materials and Electrodes.”* Seth R. Marder, presented at the International Workshops on Nano and Bio-Photonics (IWNBP) in Vogüé, France (September 24-29, 2017)
28. *“The Development of Acceptors and Dopants for Organic and Hybrid Electronics.”* Seth R. Marder, presented at the Materials Horizons Symposium: Electronic & Photonic Materials at the Kyoto University in Kyoto, Japan (November 15, 2017) and at the National Institute for Materials Science (NIMS) in Tsukuba, Japan (November 17, 2017)
29. *“The Integration of Theory and Experiment for the Design of Organic Electronic Materials.”* Seth R. Marder, presented at the International Symposium on Molecular Design of Optoelectronic Materials in Celebration of the Contributions of Jean-Luc Bredas that was held at the Institute of Chemistry of the Chinese Academy of Sciences (ICCAS) in Beijing, China (May 22-24, 2019)

30. *"Development of Redox Dopants for Organic Semiconductors and Interface Modification."* Seth R. Marder, presented at the 14th International Symposium on Functional π -Electron Systems in Berlin, Germany (June 2-7, 2019)
31. *"Development of redox dopants for organic semiconductors and interface modification."* Seth R. Marder, presented at the International Conference on Interface Properties in Organic and Hybrid Electronics: Key Challenges (IPOE 2019) at the University of Cergy-Pontoise in Cergy-Pontoise, France (July 8-11, 2019)
32. *"Development of Redox Dopants for Organic Semiconductors and Interface Modification."* Seth R. Marder, presented at the ACS Cope Scholar Symposium of the Southeastern Regional Meeting of the American Chemical Society (SERMACS 2019) in Savannah, GA (October 20-23, 2019)
33. *"Synthesis and Applications of Conjugated Materials for Electronics and Optical-Electronic Applications."* Seth R. Marder, presented at the Stille Symposium, Colorado State University, Fort Collins, CO (August 6, 2022)
34. *"Promoting Inclusivity in Workforce from an Academic Perspective."* Seth R. Marder, presented at ASES SOLAR 2023: Transforming the Energy Landscape for All, University of Colorado Boulder, Boulder, CO (August 8-11, 2023)
35. *"Interface Chemistry for Organic and Organic Inorganic Hybrid Electronics and Optoelectronics."* Seth R. Marder, presented at ACS Rocky Mountain Regional Meeting (RMRM) 2023, University of Wyoming, Laramie, WY (September 15-17, 2023)
36. *"Interface Chemistry for Organic and Hybrid Organic Inorganic Electronics and Optoelectronics."* S. Marder, Plenary talk to be presented at the International Conference on Science and Technology of Synthetic Electronic Materials (ICSM 2024) in Dresden, Germany (June 23-28, 2024)
37. *"Interfacial Chemistry for Energy and Opto-electronic Applications."* Seth R. Marder, Plenary talk to be presented at the 2nd Costa Rican Congress of Chemistry 2024 at Universidad Nacional in Heredia, Costa Rica (July 23-26, 2024)
38. *"."* Seth Marder, to be presented at the 16th International Symposium on Functional π -Electron Systems (Fpi16) in Jeju, Korea (June 29 – July 3, 2025)

Invited Talks and Papers at Scientific Meetings and Workshops

1. *"New Organic and Organometallic Salts for Second-Order Nonlinear Optics."* S. R. Marder, J. W. Perry, W. P. Schaefer, B. G. Tiemann, P. C. Groves, and K. J. Perry, presented at SPIE National Meeting, San Diego, CA (August 1989)
2. *"The Design and Synthesis of Nonlinear Optical Materials."* S. R. Marder, presented at New Trends in Chemical, Biological and Medical Physics Research, Ribeirao Preto, S. P. Brazil (January 1990)
3. *"Chemical Perspectives on Molecular Electronics."* S. R. Marder, presented at New Trends in Chemical, Biological and Medical Physics Research, Ribeirao Preto, S. P. Brazil (January 1990)

4. *"Structure Property Relationships for Second-Order Nonlinear Optics."* S. R. Marder, B. G. Tiemann, L.-T. Cheng, W. Tam, J. W. Perry, and W. P. Schaefer, presented at the Second International Conference on Organic Materials for Nonlinear Optics, Oxford, England (September 1990)
5. *"Optimizing the Second-Order Optical Nonlinearities of Organic Molecules."* S. R. Marder, D. N. Beratan, L.-T. Cheng, B. G. Tiemann, presented at the Society for Photooptical and Instrumentation Engineers National Meeting, San Diego, CA (July 1991)
6. *"A Chemist's View of Nonlinear Optical Materials."* S. R. Marder, presented at the International Conference on Molecular Electronics Science and Technology, St. Thomas, U.S. Virgin Islands (December 1991)
7. *"Structure Property Relationships for Nonlinear Optical Materials."* S. R. Marder, L.-T. Cheng, C. B. Gorman, B. G. Tiemann, W. P. Schaefer, presented at the American Chemical Society Division of Polymer Chemistry Workshop on Organic Optoelectronic Materials, Monterey, CA (March 1992)
8. *"Bond Alternation and Nonlinear Optical Properties of Organic Compounds."* G. H. Bourhill, L.-T. Cheng, S. Gilmour, C. B. Gorman, K. Mansour, S. R. Marder, J. W. Perry, B. G. Tiemann, presented at Progress in Nonlinear Optics: Organic and Polymeric Materials, Pullman, WA (July 1992)
9. *"Optimizing the Second-Order Optical Nonlinearities of Organic Molecules: Asymmetric Cyanines and Highly Polarized Polyenes."* S. R. Marder, L.-T. Cheng, C. B. Gorman, J. Murdoch, B. G. Tiemann, presented at the Society for Photo-Optical and Instrumentation Engineers National Meeting, San Diego, CA (July 1992)
10. *"Basic Design Strategies for Nonlinear Optical Materials."* S. R. Marder, Presented at the American Chemical Society National Meeting, Washington, DC (August 1992)
11. *"The Relationship Between Bond Length Alternation and Nonlinear Hyperpolarizabilities."* S. R. Marder, S. G. H. Bourhill, L.-T. Cheng, A. Friedli, S. Gilmour, C. B. Gorman, K. Mansour, J. W. Perry, and B. G. Tiemann, presented at the US-France Workshop on Optical Materials, Maubaisson, France (September 1992)
12. *"A Chemist's View of Nonlinear Optical Materials."* S. R. Marder, presented at the National Academy of Sciences Frontiers in Science Conference, Irvine, CA (November 1992)
13. *"Optimizing the Nonlinear Optical Properties of Organic Materials."* S. R. Marder, presented at the Ultrafine Particles in Glassy Matrices Conferences, Sponsored by Nippon Sheet Glass, Osaka, Japan (November 1992)
14. *"Structure Property Relationships for Nonlinear Optical Properties of Hyperpolarizabilities."* S. R. Marder, presented at the 5th Winter Conference of the Inter-American Photochemical Society, Clearwater Beach, FL (January 1993)
15. *"Relationships Between Linear and Nonlinear Polarizabilities and Bond Length Alternation in Organic Molecules."* S. R. Marder, presented at the Canadian Chemical Society National Meeting, Sherbrooke, Quebec, Canada (May 1993)
16. *"Optimizing the First and Second Hyperpolarizabilities of Organic Dyes."* G. H. Bourhill, J.-L. Brédas, L.-T. Cheng, A. C. Friedli, C. B. Gorman, S. R. Marder, F. Meyers, J. W.

- Perry, B. M. Pierce, J. Skindhøj, B. G. Tiemann, presented at the Optical Society of America Topical Meeting: Organic Thin Films for Photonic Applications, Toronto, Canada (October 1993)
17. *"Attempts to Understand Relationships Between Chemical Structure and the Second- and Third-Order Optical Nonlinearities of Organic Molecules and Materials."* S. R. Marder, presented at the First NSF-Sponsored Materials Chemistry Workshop, Albuquerque, NM (October 1993)
 18. *"Structure Property Relationships for Second- and Third-Order Nonlinear Optics."* S. R. Marder, B. G. Tiemann, J. W. Perry, G. H. Bourhill, C. B. Gorman, A. C. Friedli, L.-T. Cheng, F. Meyers, J.-L. Brédas, and B. M. Pierce, presented at the Materials Research Society National Meeting, Boston, MA (November 1993)
 19. *"A Chemists View of the Science and Technology of Organic Nonlinear Optical Materials."* S. R. Marder, presented at the American Chemical Society National Meeting, San Diego, CA (March 1994)
 20. *"Designing Highly Nonlinear Organic Dyes."* S. R. Marder, presented at the Fourth Iketani Conference, The International Conference on Optical Nonlinear Organic Materials and Applications, Kona, HI (May 1994)
 21. *"The Relationship Between Ground-State Polarization and Molecular Polarizability and Hyperpolarizabilities of Organic Dyes."* S. R. Marder, presented at the Gordon Research Conference on Electronic Properties of the Organic Solid State, Andover, NH (July 1994)
 22. *"Simple Models for Nonlinear Polarization in Organic Dyes."* S. R. Marder, presented at the Fifth Annual Symposium of the NSF Center for Photo-Induced Charge Transfer, Rochester, NY (August 1994)
 23. *"Nonlinear Optical Properties of Organic Dyes."* S. R. Marder, presented at the Gordon Research Conference on Electron Donor-Acceptor Interactions, Salve Regina, RI (August 1994)
 24. *"Optimizing Molecular Hyperpolarizabilities in Linear Conjugated Organic Molecules."* S. R. Marder, presented at the Joint American Chemical Society, Optical Society of America Topical Meeting: Organic Thin Films for Photonic Applications, Washington, DC (August 1994)
 25. *"Attempts to Understand and Control the Nonlinear Optical Properties of Polymethine Dyes."* S. R. Marder, presented at the Advanced Materials for Molecular Electronics and Photonics, Mons, Belgium (December 1994)
 26. *"Design of Chromophores for Second-Order Nonlinear Optical Applications."* S. R. Marder, presented at the American Chemical Society National Meeting, Anaheim, CA (April 1995)
 27. *"Design of Highly Nonlinear Chromophores for Electro-Optic Applications."* S. R. Marder, (presented by Rafael Ortiz) Presented at the International Conference on Advanced Materials, Sponsored by the International Research Society, Cancun, Mexico (August 1995)

28. *"Design of Chromophores for Electro-Optic Applications."* S. R. Marder, presented at the Optical Society of America/American Chemical Society Joint Topical Meeting: Organic Thin Films for Photonic Applications, Portland, OR (September 1995)
29. *"Materials for Electro-Optic Applications."* S. R. Marder, presented at the Materials Research Society National Meeting, Boston, MA (November 1995)
30. *"Organometallic Chromophores for Nonlinear Optical Applications."* S. R. Marder, presented at the American Chemical Society National Meeting, New Orleans, LA (March 1996)
31. *"Recent Advances in the Design and Application of Organic Molecules with Conjugated Second- and Third-Order Optical Nonlinearities."* S. R. Marder, presented at the Belgium Chemical Society International Conference on Conjugated Polymers, Mons, Belgium (October 1996)
32. *"Recent Advances in the Design and Use of the Real and Imaginary Third-Order Optical Nonlinearities of Organic Dyes."* S. R. Marder, presented at the Third International Conference on Organic Nonlinear Optics, Marco Island, FL (December 1996)
33. *"Nonlinear Absorbing Chromophores."* S. R. Marder, presented at the American Physical Society National Meeting, Kansas City, MO (March 1997)
34. *"Optimizing the Real and Imaginary Third-Order Optical Nonlinearities of Organic Molecules."* S. R. Marder, OPTIMAS Workshop on Nonlinear-Optical Properties of Polymers and Related Topics, Bayreuth, Germany (June 1997)
35. *"Structure-Property Relationships for, and Applications of Two-Photon Absorbing Organic Molecules."* S. Barlow, B. H. Cumpston, J. Erlich, A. A. Heikal, D. McCord-Maughon, S. R. Marder, J. W. Perry, H. Röckel, S. Thayumanavan, S. X.-L. Wu, presented at Nonlinear Optical Properties of Organic Materials X, Society for Photo-Optical and Instrumentation Engineers National Meeting, San Diego, CA (July 1997)
36. *"Design and Applications of Two-Photon Absorbing Materials."* S. R. Marder, presented at the American Chemical Society National Meeting, Las Vegas, NV (September 1997)
37. *"Materials for Photonic Applications."* S. R. Marder, presented at the Materials Research Society National Meeting, Boston, MA (December 1997)
38. *"The Design of Molecules with Large Two-Photon Absorptivities."* M. Rumi, J. Ehrlich, A. Heikal, J. Fu, S. Barlow, M. Levin, L. Erskine, D. McCord-Maughon, H. Röckel, G. Subramaniam, S. Thayumanavan, J. Perry, S. R. Marder, presented at the *CLEO 98*, San Francisco, CA (May 1998)
39. *"Design, Synthesis and Applications of Organic Nonlinear Optical Materials."* S. R. Marder, J. W. Perry, J.-L. Brédas, D. McCord-Maughon, M. E. Dickinson, S. E. Fraser, D. Beljonne, T. Kogej, presented at International Forum on New Frontiers in Functional Organic Nanomaterials, Munich, Germany (June 1998)
40. *"New Molecules for EO Polymers."* A. Galvan-Gonzalez, M. Canva, G. Stegeman, S. Marder, S. Thayumanavan, R. Twieg, T. Kowalczyk, X. Zhang, H. Lackritz, presented at IEEE/LEOS, Monterey, CA (July 1998)

41. *"Design, Synthesis and Applications of Two-Photon Absorbing Organic Molecules."* S. Barlow, D. Beljonne, J.-L. Brédas, B. Cumpston, J. Fu, J. Ehrlich, A. Heikal, T. Kogej, M. Levin, S. R. Marder, D. McCord-Maughon, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, S. Thayumanvan, X. Wu, Presented at American Chemical Society Meeting, Boston, MA (August 1998)
42. *"Design, Synthesis and Applications of Two-Photon Absorbing Chromophores."* S. Barlow, D. Beljonne, J.-L. Brédas, B. Cumpston, M. Dickinson, S. Fraser, J.-Y. Fu, J. Ehrlich, A. Heikal, T. Kogej, M. Levin, S. R. Marder, D. McCord-Maughon, P. Ng, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, K. Staub, S. Thayumanvan, X.-L. Wu, presented at ICONO'4, Hokkaido, Japan (October 1998)
43. *"Design, Synthesis and Applications of Two-Photon Absorbing Chromophores."* S. Barlow, D. Beljonne, J.-L. Brédas, B. Cumpston, M. Dickinson, S. Fraser, J.- Y. Fu, J. Ehrlich, A. Heikal, T. Kogej, M. Levin, S. R. Marder, D. McCord-Maughon, P. Ng, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, K. Staub, S. Thayumanavan, X.-L. Wu, presented at International Francqui Symposium, Belgium (October 1998)
44. *"Design and Applications of Organic Molecules with Large Two-Photon Absorption Cross Sections."* M. Albota, D. Beljonne, J.-L. Brédas, J. Ehrlich, J. Fu, A. Heikal, T. Kogej, M. Levin, S. R. Marder, D. McCord-Maughon, J. W. Perry, H. Röckel, M. Rumi, G. Subramaniam, W. W. Webb, X.-L. Wu, C. Xu, Materials Research Society Meeting, San Francisco, CA (April 1999)
45. *"Design and Applications of Molecules with Large Multiphoton Absorption Cross Section."* S. R. Marder, presented at the NATO Advanced Research Workshop, Menton, France (August 1999)
46. *"Tuning Electronic Delocalization in Organometallic Complexes: Consequences on Structure and Optical Properties."* S. Barlow, L. W. Henling, J. C. Green, G. U. Bublitz, S. G. Boxer, J. W. Perry, S. R. Marder, XIIIth Fechem Conference on Organometallic Chemistry, Lisbon, Portugal (August 1999)
47. *"Applications of Molecules with Large Two-Photon Absorption Cross Sections."* K. Cammack, S. Kuebler, S. R. Marder, J. W. Perry, B. Cumpston, D. Dyer, E. Hendrickx, B. Kippelen, M. Lipson, N. Peyghambarian, Materials Research Society Meeting, Boston, MA (November 1999)
48. *"Applications of Molecules with Large Two-Photon Absorption Cross Sections."* V. Alain, A. Ananthavel, J. K. Cammack, M. Halik, S. Kuebler, S. R. Marder, J. W. Perry, M. Rumi, S. Thayumanavan, W. Wenseleers, B. Cumpston, M. Dickinson, S. E. Fraser, A. Heikal, M. Lipson, International Conference on Organic Nonlinear Optics, Davos, Switzerland (March 2000)
49. *"Applications of Molecules with Large Two-Photon Absorption Cross Sections Multiphoton Approaches to Optical Limiting Materials."* V. Alain, S. P. Ananthavel, J.-L. Brédas, J. K. Cammack, M. Halik, S. M. Kuebler, S. R. Marder, T. Parker, J. W. Perry, M. Rumi, S. Thayumanavan, W. Wenseleers, Eighth International Kyoto Conference on New Aspects of Organic Chemistry, Kyoto, Japan (July 2000)

50. *"3D Chemistry and Imaging Enabled by Two-Photon Absorbing Molecules."* S. R. Marder, Eighth International Kyoto Conference on New Aspects of Organic Chemistry, Kyoto, Japan (July 2000)
51. *"Two-Photon Materials and Processes."* S. R. Marder, presented at the American Chemical Society Meeting, San Diego, CA (April 2001)
52. *"Organic Materials for Optical Switching."* S. R. Marder, presented at the American Chemical Society Meeting, San Diego, CA (April 2001)
53. *"Applications of Molecules with Large Two-Photon Absorption Cross Sections to Microfabrication."* V. Alain, J.-L. Brédas, K. Braun, J. K. Cammack, M. Halik, S. Kuebler, J. W. Perry, S. R. Marder, M. Rumi, W. Wenseleers, W. Zhou, B. Cumpston, M. Lipson, American Chemical Society Meeting, San Diego, CA (April 2001)
54. *"Photocrosslinkable Polymers for Hole Transport Materials."* Y. Zhang, R. D. Hreha, G. E. Jabbour, B. Kippelen, N. Peyghambarian, S. R. Marder, presented at the American Chemical Society Meeting, San Diego, CA (April 2001)
55. *"Donor-acceptor Linked Photoacid Generators for Microfabrication Applications."* W. Zhou, S. M. Kuebler, S. R. Marder, J. W. Perry, American Chemical Society Meeting, San Diego, CA (April 2001)
56. *"Photorefractive Properties of Polymer Composites Fabricated by Injection Molding."* J. A. Herlocker, C. Fuentes-Hernandez, J. R. Wang, N. Peyghambarian, B. Kippelen, Y. Zhang, S. R. Marder, presented at the Conference on Lasers and Electro-Optics, CLEO/QELS 2001, Baltimore, MD (May 2001)
57. *"Design and Applications of Molecules with Large Two-Photon Absorption Cross Sections."* J.-L. Brédas, D. Carrig, M. Halik, S. Kuebler, T. Mangel, S. R. Marder, T. Parker, J. W. Perry, S. Pond, M. Rumi, W. Zhou, M. Dickinson, S. E. Fraser, A. Heikal, S. Huang, C. Ober, W. W. Webb, T. Yu, Novel Optical Materials and Applications 5th Mediterranean Workshop and Topical Meeting, (May 2001)
58. *"Recent Advances in Two-Photon Chromophores and Processes."* T. Meyer-Friedrichsen, V. Alain, K. Cammack, C. Grasso, M. Halik, S. Kuebler, S. Pond, M. Rumi, F. Stellacci, T. Watanabe, W. Wenseleers, W. Zhou, J.-L. Brédas, J. W. Perry, S. R. Marder, presented at the International Society for Optical Engineering, San Diego, CA (July 2001)
59. *"Design, Synthesis and Applications of Two-Photon Absorbing Dyes."* S. R. Marder, International Conference on Science and Technology of Synthetic Metals, Shanghai, China (June 2002)
60. *"Electronic and Optical Properties of Electron-Deficient Conjugated Organic Compounds."* S. R. Marder, presented at the Gordon Research Conference, Newport, RI (July 2002)
61. *"Two-Photon Absorption Chemistry."* S. R. Marder, presented at the American Chemical Society National Meeting, Boston, MA (August 2002)
62. *"Design Synthesis and Applications of Two-Photon Absorbing Molecules and Materials."* S. R. Marder, presented at the American Chemical Society National Meeting, Boston, MA (August 2002)

63. *"Chemistry in Three Dimensions Using Two-Photon Absorption."* S. R. Marder, presented at the 2003 Photonics Initiative Workshop, Tucson, AZ (January 2003)
64. *"New Capabilities for Fabricating Micro and Nanoscale 3D Structures in the 21st Century."* S. R. Marder, presented at Arizona/Los Alamos Days, Tucson, AZ (February 2003)
65. *"Optimization of Chromophores for Nonlinear Optical Applications."* S. R. Marder, presented at the Chemistry of Materials Award Symposium on Optoelectronics: From Nanostructured Materials to Devices, honoring Larry Dalton, American Chemical Society Meeting, New Orleans, LA (March 2003)
66. *"Optimizing Organic Nonlinear Optical Molecules."* S. R. Marder, presented at the 2003 CLEO/QELS, Baltimore, MD (June 2003)
67. *"Two-Photon Micro and Nanofabrication of 3D Structures "* S. R. Marder, presented at the Foresight Conference on Nanotechnology San Francisco, CA (October 2003)
68. *"Recent Advances in Two-Photon Absorption Materials and Applications."* S. R. Marder, presented at the 7th International Conference on Organic Nonlinear Optics/International Conference on Organic Photonics and Electronics, Sorak, Korea (November 2003)
69. *"Two Photon Activated Chemistry: A New Approach to Patterning of Photonic and Electronic Materials."* S. R. Marder, presented at the Fragrant Hills Symposium on "Molecular and Plastic Electronics and OptoElectronics", Beijing, China (May 2004)
70. *"Recent Advances In Two-Photon Absorbing Materials."* S. R. Marder, presented at the SPIE Annual Meeting, Denver, CO (August 2004)
71. *"Advances in Two-photon and Other Nonlinear Optical Materials for Optical Limiting and Photonics Applications."* S. R. Marder, presented at The International Society for Optical Engineering (SPIE) Symposium on Optics/Photonics in Security & Defence, London, United Kingdom (October 2004)
72. *"Development of Hole and Electron Transport Materials."* S. R. Marder, presented at the ICOPE 2005/ICONO'08 Conference in Tokyo, Japan (March 2005)
73. *"Recent Advances in Multiphoton-Absorbing and Third-Order Nonlinear Optical Materials."* S. R. Marder, presented at the 1st International Symposium on Optoelectronics in Optics Valley of China, Wuhan, Hubei, P.R. China (November 2005)
74. *"Recent Advances in Third-Order Nonlinear Optical Materials."* S. R. Marder, presented at the 3rd International Conference on Photoresponsive Organics and Polymers (3rd ICOP), Val Thorens, France (January 2006)
75. *"Design and Synthesis of Conjugated Materials for Photonic and Opto-electronic Applications."* S. R. Marder, presented at the International Conference on Science and Technology of Synthetic Metals (ICSM) in Dublin, Ireland (July 2006)
76. *"Organic Materials for Photovoltaic Applications."* S. R. Marder, presented at the ACS National Meeting in San Francisco, CA, (September 2006)
77. *"Tutorial on Two Photon Absorbing Materials and Applications."* S. R. Marder, presented at the ACS National Meeting in San Francisco, CA, (September 2006)

78. "*Organic Thin Films for Photonic Applications.*" S. R. Marder, presented at the ACS National Meeting in San Francisco, CA, (September 2006)
79. "*Materials and Techniques for Novel Lithographies.*" S. R. Marder, presented at the Thirtieth Asilomar Conference on Polymeric Materials, Asilomar State Park, Pacific Grove, CA, (February 2007)
80. "*Organic Materials for Solar Cells.*" S. R. Marder, presented at the National Nanomanufacturing Network on Advancing Solar Energy Conversion Devices Through Nanotechnology and Nanomanufacturing, Amherst, MA (May 2007)
81. "*Organic Materials for Photovoltaic Applications.*" S. R. Marder, presented at the 13th International Conference on Unconventional Photoactive Systems in Evanston, IL (UPS-13), (August 2007)
82. "*Recent Advances in Third-Order Nonlinear Optical Materials.*" S. R. Marder, presented at the International Conference on Molecular Photonics: Interaction of Light with Nanostructured Materials at the Friday Harbor Laboratories, Friday Harbor, WA (August 2007)
83. "*New Organic Electron-Transport Materials.*" S. R. Marder, presented at the 9th European Conference on Molecular Electronics in Metz, France (September 2007)
84. "*Materials and Techniques for Novel Lithographies.*" S. R. Marder, presented at the 9th International Symposium on Polymers for Advances Technologies, Shanghai, China (October 2007)
85. "*Perylene Materials for Photovoltaic Applications.*" S. R. Marder, presented at the ACS National Meeting in New Orleans, LA (April 2008)
86. "*The Relationship Between Chemical Structure and Nonlinear Optical Properties.*" S. R. Marder, presented at the Gordon Research Conference on Organic Structures and Properties, Barga, Italy (April 2008)
87. "*Structure-properties relationships for third-order nonlinear optics.*" S. R. Marder, presented at the ICONO/ICOPE Conference in Santa Fe, NM (May 2008)
88. "*Structure-Property Relationships for Nonlinear Optical Molecules.*" S. R. Marder, presented at the Special Session on Nonlinear Optical Polymers: In Recognition of the Contributions made by Professor Larry Dalton, held at the SPIE NanoScience & Engineering Symposium, San Diego, CA (August 2008)
89. "*Electronic Structure and Properties Dithienothiophene and Dithienopyrrole Containing Materials.*" S. R. Marder, presented at the ACS National Meeting in Philadelphia, PA (August 2008)
90. "*Tutorial on Third-Order Nonlinear Optical/Two-Photon-Absorbing Materials and Applications.*" S. R. Marder, presented at the ACS National Meeting held at Philadelphia, PA, (August 2008)
91. "*Nonlinear Optical Materials for Optical Pulse Suppression.*" S. R. Marder, presented at the SPIE Conference on Optical Materials in Defence Systems Technology, Cardiff, Wales (September 2008)

92. *"Surface Modification of Transparent Electrodes for Organic Electronics."* S. R. Marder, 3rd Solvay-COPE Symposium, Beijing, China (June 2009)
93. *"Materials for Third-Order Nonlinear Optics."* S. R. Marder, presented at the 8th International Conference on Optical Probes of Conjugated Polymers and Organic Nanostructures, Beijing, China (June 2009)
94. *"Materials for Third-Order Nonlinear Optics."* S. R. Marder, presented at SPIE Conference on Optics + Photonics in San Diego, CA (August 2009)
95. *"Functionalization of Surfaces for Hybrid Materials"* S. R. Marder, presented at Composites at Lake Louise 2009 held in Lake Louise, Alberta, Canada (October 2009)
96. *"Polymers for Optoelectronics and Nanolithography."* S. R. Marder, presented at 61st Southeastern Regional Meeting of the ACS (SERMACS) in San Juan, PR (October 2009)
97. *"Dithienopyrrole-Based Donor-Acceptor Copolymers: Low Band-Gap Materials for Transport and Photovoltaics."* S. R. Marder, presented at Pacific Polymer/DEST-ISL ICOS Conference in Cairns, Australia (December 2009)
98. *"Dithienopyrrole-Based Donor-Acceptor Copolymers: Low Gap Materials for Transport and Photovoltaics."* S. R. Marder, presented at the 239th ACS National Meeting held in San Francisco, CA (March 21-25, 2010)
99. *"Conjugated Materials for Opto-Electronics."* S. R. Marder, presented at the 2010 MRS Spring Meeting held in San Francisco, CA (April 5-9, 2010)
100. *"Materials for Organic Electronics Applications."* S. R. Marder, presented at the 4th Solvay-COPE Symposium held in Leuven, Belgium (May 6-7, 2010)
101. *"New Insights into Third-Order Optical Nonlinearities of Molecular Systems."* S. R. Marder, presented at the Gordon Research Conference on Electronic Processes in Organic Materials, held in South Hadley, MA (July 25-30, 2010)
102. *"Development of Chromophores for Third-Order Nonlinear Optics."* S. R. Marder, presented at SPIE Conference on Optics + Photonics in San Diego, CA (1-5 August 2010)
103. *"Polymers and Composites for Efficient Production, Storage and Utilization of Energy."* S. R. Marder, presented at the 240th ACS National Meeting held in Boston, MA (August 22-26, 2010)
104. *"Applications of Rylene Dimide Containing Materials for Organic Solar Cell Applications."* S. R. Marder, presented at the 240th ACS National Meeting held in Boston, MA (August 22-26, 2010)
105. *"Room-Temperature Discotic Liquid-Crystalline Materials Exhibiting High Charge-Carrier Mobilities in Air."* S. R. Marder, presented at the Pacificchem 2010 conference held in Honolulu, HI (December 15-20, 2010)
106. *"The Relationship Between Chemical Structure and Two Photon Cross Sections in Organic Molecules."* S. R. Marder, presented at Multiphoton Imaging: The next 6x10²³ femtoseconds held at Janelia Farm Research Campus, Ashburn, VA (April 3-6, 2011)

107. *“Interfacial Chemistry for Organic Electronics.”* Sergio A. Paniagua, Anthony Giordano, Hong Li, Pavel B. Paramonov, Bernard Kippelen, Jean-Luc Brédas, Tissa Sajota, Sang-Bok Kim, Swagat Mohapatra, Brad MacLeod, Kristina Knesting, Andreas Tillack, David Ginger, Yabing Qi, Wei Zhao, Antoine Kahn, Stephen Barlow, and Seth R. Marder, presented at the 2011 MRS Spring Meeting - Symposium CC: Hybrid Interfaces and Devices, held in San Francisco, CA (April 25-29, 2011)
108. *“Chromophore Design for Third-Order Nonlinear Optics.”* S. R. Marder, presented at Florida Annual Meeting, held in Tampa, FL (May 13-14, 2011)
109. *“Chromophore Design for Third-Order Nonlinear Optics.”* S. R. Marder, presented at the 2011 ACS Fall Meeting, held in Denver, CO (August 28 – September 1, 2011)
110. *“Development of Materials for Organic Electronics.”* Seth R. Marder, Stephen Barlow, Jean-Luc Brédas, Song Guo, Antoine Kahn, Sang Bok Kim, Bernard Kippelen, Swagat Mohapatra, Laxman Pandey, Lauren E. Polander, Yabing Qi, Chad Risko, Tissa Sajoto, Brian M. Seifried, Shree P. Tiwari, Qing Zhang. Presented at the 10th “International Symposium on Functional pi-electron systems” held in Beijing, China (October 13 – 17, 2011)
111. *“Polymethine Dyes for Third-order Nonlinear Optics.”* Seth R. Marder, Anthony Baldrige, Stephen Barlow, Jean-Luc Brédas, Yulia Getmanenko, Joel M. Hales, Alex K-Y Jen, Sei-Hum Jang, Yesudas Kada, Hyeongeun Kim, Jon Matichak, Timothy C. Parker, Joseph W. Perry, Qing Zhang, Yadong Zhang. Presented at the International Workshop on Organic / Hybrid Materials and Devices for Photonics and Energy, held in Wuhan, China (October 17 – 19, 2011)
112. *“Development of Materials for Third-Order Nonlinear Optics.”* Seth R. Marder, Stephen Barlow, Jean-Luc Brédas, San-Hui Chi, David J. Hagan, Joel M. Hales, Yesudas Kada, Hsin-Chieh Lin, Jon Matichak, Shino Ohira, Lazaro Padilha, Joseph W. Perry, Yanrong Shi, Eric W. Van Stryland, Scott Webster. Presented at the 2011 MRS Fall Meeting, held in Boston, MA (November 28 – December 2, 2011)
113. *“Organic Semiconductor Chemistry.”* Seth R. Marder, Lauren E. Polander, Stephen Barlow, Shree P. Tiwari, Brian M. Seifried, Bernard Kippelen, Chad Risko, Jean-Luc Brédas, Tissa Sajoto, Sang-Bok Kim, Swagat Mohapatra, Song Guo. Presented at the 2011 MRS Fall Meeting, held in Boston, MA (November 28 – December 2, 2011)
114. *“Development of Materials for Organic Electronics and Optoelectronics.”* Seth R. Marder. Presented at the Second US-Mexico Meeting “Advances in Polymer Sciences” and XXIV SPM National Congress, held in Riviera Maya / Cancun, Mexico (December 7-10, 2011).
115. *“Organic Semiconductor Chemistry.”* S. R. Marder, L. E. Polander, S. Barlow, S. P. Tiwari, B. M. Seifried, B. Kippelen, C. Risko, J. L. Brédas, T. Sajoto, S.-B. Kim, S. Mohapatra, S. Guo, Y. Qi, W. Zhao, A. Kahn. Presented at the International Symposium on Electronic/Optic Functional Molecules (ISEOFM), held in Shanghai, China (March 11-13, 2012)
116. *“Interfacial Modification for Photovoltaic Applications.”* Stephen Barlow, Jean-Luc Brédas, Anthony Giordano, Song Guo, Andreas Haldi, Peter J. Hotchkiss, Sang-Bok Kim, Bernard Kippelen, Hong Li, Swagat Mohapatra, Seth R. Marder, Sergio A. Paniagua, Pavel

- B. Paramonov, William J. Potscavage Jr., Asha Sharma, O'Neil Smith, Neal R. Armstrong, Judith L. Jenkins, Hsiao-Chu Lin, Anoma Mudalige, Saehan Park, Jeanne E. Pemberton, Erin L. Ratcliff, S. Scott Saavedra, Lingzi Sang, Matthew C. Schalnatt, Anne M. Simon, Antoine Kahn, Yabing Qi, Wei Zhao, David S. Ginger, Matthew Gliboff, Kristina M. Knesting, Bradley A. MacLeod, Gerald T. Seidler. Presented at the conference on "Organic Photovoltaics XIII", part of the International Symposium on Photonic Devices + Applications, part of the SPIE Optics + Photonics Annual Meeting, held in San Diego, CA (August 12-16, 2012)
117. *"Electronic Transport Materials for Organic Electronics."* S. Marder. Presented during the ACS Award in Applied Polymer Science: Symposium in Honor of John Reynolds at the Fall 2012 American Chemical Society National Meeting, held in Philadelphia, PA (August 19 – 23, 2012)
 118. *"Interfacial Modification for Photovoltaic Applications."* S. Barlow, J.-L. Brédas, A. Giordano, S. Guo, A. Haldi, P. J. Hotchkiss, S.-B. Kim, B. Kippelen, H. Li, S. Mohapatra, S. R. Marder, S. A. Paniagua, P. B. Paramonov, W. J. Potscavage Jr., A. Sharma, O. Smith, N. R. Armstrong, J. L. Jenkins, H.-C. Lin, A. Mudalige, S. Park, J. E. Pemberton, E. L. Ratcliff, S. S. Saavedra, L. Sang, M. C. Schalnatt, A. M. Simon, A. Kahn, Y. Qi, W. Zhao, D. S. Ginger, M. Gliboff, K. M. Knesting, B. A. MacLeod, G. T. Seidler, presented at the International Organic Solar Cells Conference 2012 (IOESC:2012) in Queensland, Australia (September 4 – 7, 2012)
 119. *"Organic Semiconductor Chemistry."* S. R. Marder, L. E. Polander, S. Barlow, S. P. Tiwari, B. M. Seifried, B. Kippelen, C. Risko, J. L. Brédas, T. Sajoto, S.-B. Kim, S. Mohapatra, S. Guo, J. Wood, D. -Y. Kang, B. Wunsch, N. Deb, D. Bucknall, Y. Qi, W. Zhao, A. Kahn., presented at the 2012 International Symposium on Organic Electronics in Okinawa, Japan (October 3 – 5, 2012)
 120. *"Design of Materials for Two-Photon Absorption and All Optical Signal Processing."* Seth. R. Marder, presented at the Indian Association for Cultivation of Sciences (IACS) in Kolkata, India (February 5, 2013)
 121. *"Design of Materials for Two-Photon Absorption and All Optical Signal Processing."* Seth. R. Marder, presented at the Indian Institute of Science (IISc) in Bangalore, India (February 7, 2013)
 122. *"Design of Materials for Two-Photon Absorption and All Optical Signal Processing."* Seth. R. Marder, presented at the National Chemical Laboratory (NCL) in Pune, India (February 11, 2013)
 123. *"Linear and Third-order Nonlinear Optical Properties of Sterically Hindered Polymethine Dyes for All-Optical Switching Applications."* Seth R. Marder, Stephen Barlow, Jean-Luc Brédas, Iryna Davidenko, Rebecca Giesecking, Yulia Getmanenko, Joel M. Hales, Alex K-Y Jen, Sei-Hum Jang, Hyeongeun Kim, Zhong'an Li, Timothy C. Parker, Joseph W. Perry, Yadong Zhang, presented at the 2013 Materials Research Society (MRS) Spring Meeting in San Francisco, CA (April 1-5, 2013)
 124. *"Chromophore Design for All Optical Switching Applications."* S. R. Marder, presented at the 245th Spring National Spring Meeting of the American Chemical Society in New Orleans, LA (April 7-11, 2013)

125. “*Organic Semiconductor Chemistry.*” S. R. Marder, the 245th Spring National Spring Meeting of the American Chemical Society in New Orleans, LA (April 7-11, 2013)
126. “*Design, Synthesis, and Applications of n- and p-Dopants for Carbon-based Electronics.*” Jose Baltazar, Stephen Barlow, Jean-Luc Brédas, Jared Delcamp, Song Guo, Sam Graham, Cliff Henderson, Swagat K. Mohapatra, Sergio A. Paniagua, Chad Risko, Sanjeev Singh, Hossein Sojoudi, Siyuan Zhang, Yinhua Zhou, Bernard Kippelen, Seth R. Marder, presented at the 7th Solvay-COPE Symposium in Bordeaux, France (May 15-16, 2013)
127. “*Design, Synthesis, and Applications of n- and p-Dopants for Carbon-based Electronics.*” Jose Baltazar, Stephen Barlow, Jean-Luc Brédas, Jared Delcamp, Walt DeHeer, Song Guo, Sam Graham, Cliff Henderson, Yike Hu, Swagat K. Mohapatra, Sergio A. Paniagua, Chad Risko, Sanjeev Singh, Hossein Sojoudi, Siyuan Zhang, Yinhua Zhou, Bernard Kippelen, Seth R. Marder, Claire Berger, An Dai, Antoine Kahn, Lynn Loo, Selina Olthof, Yabing Qi, Wei Zhao, Benjamin Naab, Zhenan Bao, presented at the 9th International Conference on Organic Electronics (ICOE 2013), Grenoble, France (June 17-20, 2013)
128. “*Organic Semiconductor Chemistry.*” S. R. Marder, presented at the 15th IUPAC Symposium on MacroMolecular Complexes (MMC-15:2013), Clemson, SC (August 13-16, 2013)
129. “*Interfacial modification for organic electronic applications.*” Stephen Barlow, Jean-Luc Brédas, Jared Delcamp, Anthony Giordano, Song Guo, Bernard Kippelen, Hong Li, Swagat Mahopatra, Seth R. Marder, Sergio A. Paniagua, O’Neil Smith, Yadong Zhang, presented at the Physical Chemistry of Interfaces and Nanomaterials XII conference of the NanoScience + Engineering 2013 Symposium, San Diego, CA (August 25-29, 2013)
130. “*Advances, Challenges and Opportunities for n- and p-Dopants for Carbon-based Electronics.*” S. R. Marder, presented at the Centre Européen de Calcul Atomique et Moléculaire (CECAM) workshop on Structure-property Relationships of Molecular Precursors to Organic Electronics, Lausanne, Switzerland (October 22-25, 2013)
131. “*Tuning Charge Injection, Collection, and Transport in Carbon-based Electronics.*” S. R. Marder, presented at the International Conference on Flexible Electronics and Photovoltaics, King Abdullah University of Science and Technology (KAUST), Saudi Arabia (November 2-5, 2013)
132. “*Charge Injection and Collection at Electrode Interfaces.*” S. R. Marder, presented at the Workshop on Smart Selection of High Performance Materials for Organic Photovoltaics held at the University of Melbourne in Victoria, Australia (December 16, 2013)
133. “*Identify high-impact research collaborations, outline/develop a strategic plan to become global players.*” S. R. Marder, Keynote address at the Carbon Photonics and Electronics Triangle Research Forum/Workshop, Durham, NC (February 4, 2014)
134. “*Development of Third-Order Nonlinear Optical Materials.*” S. R. Marder, presented at the POLY Synthesis and Applications of Conjugated Materials: Contributions from Texas and Beyond symposium, 247th ACS National Meeting in Dallas, TX (March 16-20, 2014)
135. “*Application of Organic and Metallo-organic Dopants in Carbon-based Electronics.*” S. R. Marder, presented at the PMSE Conjugated Polymers for Optoelectronics and

Electronics and Biosensors symposium, 247th ACS National Meeting in Dallas, TX (March 16-20, 2014)

136. *"Interface Modification for Organic Electronics and Opto-electronics."* Seth R. Marder, presented at the 2014 Gordon Research Conference on Hybrid Electronic and Photonic Materials, Hong Kong University of Science and Technology, Hong Kong, China (June 22-27, 2014)
137. *"Doping and Interfacial Chemistry for Organic Electronics."* Seth R. Marder, presented at the International Conference of Science and Technology of Synthetic Metals (ICSM2014) in Turku, Finland (June 30-July 5, 2014)
138. *"Interfacial Chemistry for Photovoltaics."* Seth R. Marder, presented at the Excitonic Photovoltaics (XPV) 2014 Meeting in Telluride, Colorado (August 11-15, 2014)
139. *"Interfacial Modification and Interphases for Organic Opto-Electronic Applications."* Seth R. Marder, presented at the Tenth International Conference on Electroluminescence and Optoelectronic Devices (ICEL-10) in Cologne, Germany (August 31 – September 3, 2014)
140. *"Interface Chemistry for Organic Electronics and Opto-electronics."* Seth R. Marder, presented at the Southeastern Regional Meeting of the American Chemical Society (SERMACS) symposium on "Conjugated Organic Materials for Energy Storage, Energy Conversion, and Charge Transport" in Nashville, TN (October 16-19, 2014)
141. *"Design, Synthesis, and Properties of Organic Semiconductors and Dopants."* Seth R. Marder, presented at the "Fundamentals of Organic Semiconductors: Synthesis, Morphology, Devices, and Theory" symposium of the Fall 2014 MRS meeting in Boston, MA (November 30 – December 5, 2014)
142. *"The Design, Synthesis, and Characterization of Near-Infrared Absorbing Dyes for Mesoscopic Solar Cells."* Seth R. Marder, presented at the 9th Aseanian Conference on Dye-Sensitised and Organic Solar Cells (DSC-OPV9) in Sydney, Australia (December 8-10, 2014)
143. *"The Design of Organic Molecules and Materials for Nonlinear Optical Applications."* S. R. Marder, presented at the MRS Spring Meeting, held in San Francisco (April 6-10, 2015)
144. *"Design Synthesis, and Properties of 3D Molecules for Organic Photovoltaic Applications."* Seth R. Marder, presented at the Next Generation Solar Cells symposium at the IX International Congress on Chemical Sciences, Technology and Innovation (QUIMICUBA 2015) in Havana, Cuba (October 13-16, 2015)
145. *"Advances, challenges and opportunities for direct C-H bond functionalization in materials chemistry."* S. R. Marder, presented at the Symposium on Advances in Organic and Inorganic Chemistry – Enhancing International Cooperation, Julius-Maximilians-University of Würzburg in Würzburg, Germany (November 16, 2015)
146. *"Advances, challenges and opportunities for direct C-H bond functionalization in materials chemistry."* S. R. Marder, J. Zhang, A. Rojas, T. Parker, S. B. Blakey, Q. Shi, C. N. Scott, presented at the Symposium on "C-H Functionalization" at Pacifichem 2015, held in Honolulu, HI (December 15-20, 2015)

147. *“Organic Light-Emitting Diodes: Approaches to facilitating charge-carrier injection and for efficient emissive layers.”* S. Barlow, D. Cai, C. Fuentes-Hernandez, M. P. Gaj, A. Giordano, W. Haske, X. He, D.-Y. Kang, T. M. Khan, B. Kippelen, Seth R. Marder, K. Moudgil, S. Paniagua, F. Pulvirenti, S. Zhang, Y. Zhang, C. Zuniga, presented at the Symposium on “Advances in Organic Light-Emitting Diodes” at Pacifichem 2015, held in Honolulu, HI (December 15-20, 2015)
148. *“Design, synthesis, and properties of 3D molecules for organic photovoltaic applications.”* S. R. Marder, presented at the Polymer Related Energy Conversion & Storage symposium of the 251st ACS National Meeting in San Diego, CA (March 14-18, 2016)
149. *“Design and Synthesis of Organic Semiconductors.”* S. R. Marder, presented at Antonio Facchetti ACS Award for Creative Invention Symposium of the 251st ACS National Meeting in San Diego, CA (March 14-18, 2016)
150. *“Linear and Third-Order Nonlinear Optical Properties Of Polymethine Dyes.”* S. R. Marder, presented at the Materials and Processes for Nonlinear Optics (II) symposium at the Spring 2016 MRS meeting, held in Phoenix, Arizona (March 28 – April 1, 2016)
151. *“Modification of interfaces for organic electronic and opto-electronic applications.”* S. R. Marder, presented at the 2016 Gordon Research Conference on Electronic Processes in Organic Materials, held in Lucca (Barga), Italy (June 5-10, 2016)
152. *“Advances, challenges and opportunities for direct C-H bond functionalization in materials chemistry.”* S. R. Marder, Junxiang Zhang, Anthony Rojas, Timothy Parker, Simon Blakey, Qinqin Shi, Jennifer Bon, and Colleen Scott, presented at the 2016 International Conference on Science and Technology of Synthetic Metals (ICSM), held in Guangzhou, China (June 26-July 1, 2016)
153. *“Advances in conjugated materials for organic electronics.”* S. R. Marder, presented at “Polymer and Polymer Hybrid Electronics and Biosensors” Symposium in the Division of Polymeric Materials Science and Engineering of the 252nd ACS National Meeting & Exposition in Philadelphia, Pennsylvania (August 21-25, 2016)
154. *“Opportunities to explore unusual properties in organic materials with unusual structure and bonding.”* S. R. Marder, presented at the Zing Organic Semiconductors Conference, held in Dubrovnik, Croatia (September 22-25, 2016)
155. *“The Development of Organic Semiconducting Materials for Photovoltaic Applications.”* S. R. Marder, presented at the “Synthesis, Processing and Device Engineering of Polymeric Electronic Materials” Symposium in the Division of Polymeric Materials Science and Engineering of the 253rd ACS National Meeting & Exposition in San Francisco, CA (April 2-6, 2016)
156. *“Design and Applications of Dopants and Acceptors for Organic Electronic Applications.”* S. R. Marder, presented at the “ACS Award in Applied Polymer Science Symposium in Honor of Zhenan Bao” of the 253rd ACS National Meeting & Exposition in San Francisco, CA (April 2-6, 2016)

157. *"The Use of Dopants to Modulate the Properties of Organic Semiconductors and 2D Materials."* S. R. Marder, presented at the 13th International Symposium on Functional π -Electron Systems (F π -13) held in Hong Kong (June 4-9, 2017)
158. *"Synthesis of Molecules and Dopants for Organic Electronic Applications."* S. R. Marder, presented at the International Symposium on Novel Aromatics (ISNA 17) held in at Stony Brook University, in Stony Brook, NY (July 23-28, 2017)
159. *"The Design and Synthesis of n-Dopants and TADF Materials for OLED Applications."* S. R. Marder, presented at the "Organic Light-Emitting Materials and Devices XXI" SPIE International Symposium on Optics & Photonics 2017 held in San Diego, CA (August 6-10, 2017)
160. *"Design of Organic Molecules and Materials for Nonlinear Optical Applications."* Seth R. Marder, presented at the "Polymers for Aerospace Applications: Celebrating the Lifetime Contributions of Charles Lee" Symposium of the 2017 Fall 254th National ACS Meeting in Washington, DC (August 20-24, 2017)
161. *"Interface Chemistry for Organic Electronics and Opto-electronics."* Seth R. Marder, presented at CIMTEC 2018 - 14th International Conference on Modern Materials and Technologies of the 8th Forum on New Materials held in Perugia, Italy (June 10-14, 2018)
162. *"The Use of Dopants to Modulate the Properties of Organic Semiconductors, 2D Materials and Electrodes."* Seth R. Marder, presented at the 14th International Conference on Organic Electronics 2018 (ICOE 2018) held in Bordeaux, France (June 18-22, 2018)
163. *"Design, Synthesis and Application of Materials for Opto-electronic Applications."* Seth R. Marder, presented at the Symposium on Materials for Organic Electronics: Synthesis, Spectroscopy and Theory held in Heidelberg, Germany (June 29-30, 2018)
164. *"The Development and Use of Dopants to Modulate the Electrical Properties of Conjugated Polymers."* Seth R. Marder, presented at the MRS Fall 2018 Symposium TP03: Emerging Low-Temperature Thermal Energy Conversion Technologies held in Boston, MA (November 25-30, 2018)
165. *"Interface Chemistry for Organic Electronics and Opto-electronics."* Seth R. Marder, presented at the International Conference on Interfaces in Organic and Hybrid Thin-Film Optoelectronics (INFORM19) held in Valencia, Spain (March 5-7, 2019)
166. *"The Development of Stable n-Dopants for Organic Electronics and Opto-electronics."* Seth R. Marder, presented at the ACS 95th Florida Annual Meeting and Exposition (FAME 2019) held in Palm Harbor, FL (May 11, 2019)
167. *"The Role of Redox in Doping Organic Electronics and Opto-electronics."* Seth R. Marder, presented at the 47th IUPAC World Chemistry Congress (IUPAC-2019) held in Paris, France (July 12-17, 2019)
168. *"Tutorial I — Chemistry of Dopants for Organic Semiconductors."* Seth R. Marder, presented at the Denning Global Engagement Seed Fund: Workshop I held in Merida, Mexico (November 18-19, 2019)

169. *"Perspectives and Opportunities Related to Excited States in Organic Molecules."* Seth R. Marder, presented at the 2019 Exciton Science Annual Workshop held in Melbourne, Australia (December 9-11, 2019)
170. *"Opportunities for Collaborative Interactions on materials for Solar Cells."* Seth Marder, presented at the Photovoltaics Workshop organized by the International Network of Excellence in Photovoltaics held in Clayton, Australia (December 12-13, 2019)
171. *"A Framework FOR A Network of Agile Science and Engineering Centers (NASEC)".* Seth Marder, presented at the Government-University-Industry Research Roundtable (GUIRR) of the National Academies of Sciences, Engineering, and Medicine meeting on 'Learning from Rapid Response, Innovation and Adaptation to the COVID Crisis: Informing Future Emergency Preparedness Efforts' held virtually (October 14, 2020)
172. *"The Role of Redox Doping in Organic Electronics and Opto-electronics."* Seth Marder, presented at the National Postdoctoral Appreciation Week (NPAW) of the Clemson University Post-Doctoral Association held virtually (October 20-24, 2021)
173. *"Role of Redox Doping in Organic Electronics and Optoelectronics."* Seth Marder, presented at the Illuminating the Field of Photophysics: 101 Years of Michael Kasha symposium of the 263rd ACS National Meeting in San Diego, CA (March 20-24, 2022)
174. *"Studies on the Formation, Properties and Applications of Conjugated Covalent Organic Frameworks (COFs)."* Seth R. Marder, presented at the International Conference on the Science and Technology of Synthetic Metals (ICSM 2022) in Glasgow, UK (July 17-22, 2022)
175. *"The Role of Redox Doping in Organic Electronics and Opto-electronics."* Seth R. Marder, presented at CU's Innovation in Materials Science 2022 Symposium, University of Colorado Boulder in Boulder, CO (August 11, 2022)
176. *"Role of redox doping in organic electronics and opto-electronics."* Seth R. Marder, presented at Functional Conjugated Polymers: From Fundamental Synthetic & Physical Chemistry to Emerging Applications symposium of the ACS Fall 2022 National Meeting in Chicago, IL (August 21-25, 2022)
177. *"2D Polymers: Progress, Opportunities and Challenge."* Seth Marder, presented at the Opening Ceremony of Integrative Research Institute for the Sciences (IRIS Adlershof) building in Berlin, Germany (October 5, 2022)
178. *"Interface Chemistry for Hybrid Organic Inorganic Electronics and Opto-electronics."* Seth Marder, presented at the 4th Symposium on Hybrid Inorganic/Organic Systems for Opto-Electronics 2022 in Berlin, Germany (October 6-7, 2022)
179. *"Electronic dopants and surface modifiers for electronic and opto-electronics."* Seth R. Marder, presented at the Polymer-Based Light Absorbers and Conductors workshop as part of the US-German Workshop on Artificial Photosynthesis held virtually (March 2, 2023)
180. *"Electronic and Optical Properties of Organic Semiconductor/Dopant Systems."* Seth R. Marder, presented at the 10th Conference on Excited State Processes in Electronic and Bio Nanomaterials (ESP-2023) in Santa Fe, NM (June 5-8, 2023)

181. *"Interfacial chemistry for organic and hybrid electronics and opto-electronics."* Seth R. Marder, presented at the 15th Symposium of pi-functional Materials Systems (fpi-15) in Raleigh, NC (June 17-21, 2023)
182. *"The Role of Redox Doping in Organic Electronics and Opto-electronics."* Seth R. Marder, presented at the MRS Fall 2023 Symposium EL16: Carrier-Dopant Interactions in Organic Semiconductors in Boston, MA (November 26 – December 1, 2023)
183. *"The Role of Redox Doping in Organic Electronics and Opto-electronics."* Seth Marder, presented at the Organic Optoelectronics and Photonics II session of the 2024 APS March Meeting in Minneapolis, MN (March 4-8, 2024)
184. *"Adventures with conjugated materials and the folks that develop them."* Seth R. Marder, to be presented at Luping Yu's Symposium at the University of Chicago in Chicago, IL (April 13, 2024)
185. *"The design, synthesis, and application of molecular dopants for electronics and opto-electronics."* Seth R. Marder, to be presented at the Charge Carrier Transport in Organic and Organic-Inorganic Hybrid Materials Symposium of the 2024 MRS Spring Meeting and Exhibit in Seattle, WA (April 22-26, 2024)
186. *"Interface chemistry for nano- hybrid materials for electronics and opto-electronics."* Seth Marder, to be presented at the Colloidal Semiconductor Nanocrystals (Including Perovskite Nanocrystals) Symposium of the 2024 ACS Fall Meeting in Denver, CO (August 22-24, 2024)
187. *"Interface chemistry for hybrid organic-inorganic electronics and opto-electronics."* Seth Marder, to be presented at the Chemistry and Physics of Polymer Interlayers for Solar Cells Symposium of the 2024 ACS Fall Meeting in Denver, CO (August 22-24, 2024)
188. *"The design, synthesis and application of molecular dopants for electronics and opto-electronics."* Seth Marder, to be presented at the 7th Annual CME NASA Symposium as part of the Polymer Chemistry (POLY) Division program at the 2024 ACS Fall Meeting in Denver, CO (August 22-24, 2024)

Contributed Papers at Scientific Meetings

1. *"Thermal Rearrangement of a Bridging Alkylidyne Diiron Complex to a Bridging Diiron Vinyl Complex."* C. P. Casey, S. R. Marder, Presented at the American Chemical Society National Meeting, Washington, DC (August 1983)
2. *"Reactions of Diiron Vinylidene Complexes with Electrophiles."* C. P. Casey, S. R. Marder, A. L. Rheingold, Presented at the American Chemical Society National Meeting, Philadelphia, PA (August 1984)
3. *"Conversion of Diiron μ -Alkenyl Complexes to Monoiron Alkenyl Complexes and to Alkenes."* C. P. Casey, S. R. Marder, R. E. Colborn, P. E. Goodson, Presented at the American Chemical Society National Meeting, New York, NY (April 1986)
4. *"The Synthesis and Third-Order Nonlinear Optical Properties of Soluble Polymers Derived from the Ring Opening Metathesis Copolymerization of Cyclooctatetraene and*

- 1,5- Cyclooctadiene.*" S. R. Marder, J. W. Perry, F. L. Klavetter, R. H. Grubbs, Presented at the International Conference on Organic Materials for Nonlinear Optics, Oxford, England (June 1988)
5. *"The Synthesis and Nonlinear Optical Properties of Organometallic Donor-Acceptor Molecules."* J. A. Bandy, H. E. Bunting, M. H. Garcia, M. L. H. Green, S. R. Marder, M. E. Thompson, D. Bloor, P. U. Kolinsky, R. J. Jones, Presented at the International Conference on Organic Materials for Nonlinear Optics, Oxford, England (June 1988)
 6. *"Second and Third-Order Nonlinear Optical Properties of End-Capped Acetylenic Oligomers."* J. W. Perry, A. E. Stiegman, S. R. Marder, D. R. Coulter, Presented at the International Conference on Organic Materials for Nonlinear Optics, Oxford, England (June 1988)
 7. *"New Organic and Organometallic Materials for Second-Order Nonlinear Optics."* S. R. Marder, J. W. Perry, W. P. Schaefer, Presented at Molecular Electronics: Science and Technology, Kona, HI (February 1989)
 8. *"Organic, Organometallic and Polymeric Materials with Unusual Electronic and Nonlinear Optical Properties."* S. R. Marder, J. W. Perry, W. P. Schaefer, E. J. Ginsburg, C. B. Gorman, R. H. Grubbs, Presented at the Materials Research Society National Meeting, Boston, MA (November 1989)
 9. *"New Organic and Organometallic Materials with Large Second-Order Nonlinear Optical Susceptibilities."* S. R. Marder, J. W. Perry, B. G. Tiemann, W. P. Schaefer, Presented at the 1989 International Chemical Congress of Pacific Basin Societies, Honolulu, HI (December 1989)
 10. *"Second-Order Molecular and Macroscopic Optical Nonlinearities of Organic and Organometallic Compounds."* S. R. Marder, B. G. Tiemann, J. W. Perry, L.-T. Cheng, W. Tam, W. P. Schaefer, R. E. Marsh, Presented at the American Chemical Society National Meeting, Boston, MA (April 1990)
 11. *"Optimizing the Second-order Optical Nonlinearities of Organic Molecules."* S. R. Marder, D. N. Beratan, L.-T. Cheng, B. G. Tiemann, Presented at the American Chemical Society National Meeting, Atlanta, GA (April 1991)
 12. *"The Effect of Bond Length Alternation on the Molecular Hyperpolarizabilities of Polymethine Dyes."* L.-T. Cheng, A. C. Friedli, S. Gilmour, C. B. Gorman, S. R. Marder, J. W. Perry, K. W. Perry, J. Skindhøj, B. G. Tiemann, E. Yang, Presented at the International Conference on Organic Nonlinear Optics, Val Thorens, France (January 1994)
 13. *"Second-Order Nonlinear Optical Properties of Polymers Containing Polyene and Thiophene Based Dyes."* S. Gilmour, J. W. Perry, J. Skindhøj, S. R. Marder, A. J. Niessink, L.-T. Cheng, Presented at the OL/LASE Conference, Los Angeles, CA (January 1994)
 14. *"The Photochemistry and Photophysics of Some Rationally Designed Two-Photon Absorbing Chromophores."* M. Lipson, M. D. Levin, J. W. Perry, S. R. Marder, Presented at the American Chemical Society National Meeting, Boston, MA (August 1998)
 15. *"A Versatile Approach for the Synthesis of Side-Chain Aromatic Polyquinolines for E-O Devices."* H. Ma, S. Liu, X. Wu, X. Wang, A. K.-Y. Jen, G. Levina, K. Staub, S. R. Marder, Presented at the American Chemical Society National Meeting, Boston, MA (August 1998)

16. *"Design of Organic Molecules with Large Two-Photon Cross Sections."* J. W. Perry, M. Albota, S. P. Ananthavel, D. Beljonne, J.-L. Brédas, B. H. Cumpston, D. L. Dyer, J. E. Ehrlich, A. A. Heikal, S. E. Hess, T. Kogej, S. M. Kuebler, I.-Y. S. Lee, M. D. Levin, S. R. Marder, D. McCord-Maughon, H. Röckel, M. Rumi, G. Subramaniam, W. W. Webb, X.-L. Wu, C. Xu, Presented at the American Chemical Society National Meeting, Anaheim, CA (March 1999)
17. *"Conjugated Molecules with Large Two-Photon Cross Sections."* J. W. Perry, S. P. Ananthavel, S. M. Kuebler, S. R. Marder, M. Rumi, D. L. Dyer, M. D. Levin, D. McCord-Maughon, H. Röckel, B. H. Cumpston, A. A. Heikal, J. E. Ehrlich, D. Beljonne, T. Kogej, J.-L. Brédas, Presented at the American Chemical Society National Meeting, New Orleans, LA (August 1999)
18. *"Photo-crosslinkable Polymers as Hole Transport Materials."* Y. Zhang, R. D. Hreha, E. Ghassan, B. Kippelen, N. Peyghambarian, S. R. Marder, Presented at the American Chemical Society National Meeting, San Diego, CA (April 2001)
19. *"Applications of Molecules with Large Two-Photon Absorption Cross Sections to Microfabrication."* S. R. Marder, V. Alain, J.-L. Brédas, K. Braun, J. K. Cammack, M. Halik, S. Kuebler, J. W. Perry, M. Rumi, W. Wenseleers, W. Zhou, B. Cumpston, M. Lipson, Presented at the American Chemical Society, San Diego, CA (April 2001)
20. *"Toward the Synthesis of Dendritic Water Soluble Two-Photon Dyes."* C. A. Kernag, L. Dollinger, D. McGrath, S. R. Marder, Presented at the American Chemical Society National Meeting, San Diego, CA (April 2001)
21. *"Two-Photon Initiators for Highly Efficient Three-Dimensional Lithographic Microfabrication."* S. M. Kuebler, M. Rumi, T. Watanabe, K. Braun, B. H. Cumpston, A. A. Heikal, L. L. Erskine, S. Thayumanavan, S. Barlow, S. R. Marder and J. W. Perry, Presented at the Second International Conference on Photonics Science and Technology, Chitose, Japan (September 2001)
22. *"Organic Thin Film Transistors Using the Nearly Isotropic Conductive Planar Stacking Compound BTQBT, Grown by Organic Molecular Beam."* J. Xue, S. R. Forrest, J. Qin, P. V. Bedworth, K. Kustedjo, S. R. Marder, Presented at the Materials Research Society, Boston, MA (November 2001)
23. *"Structure to Property Relationships for the Two-Photon Absorption Properties of Conjugated Organic Molecules."* E. Zojer, W. Wenseleers, D. Beljonne, Z. Shuai, S. R. Marder, J. W. Perry, J.-L. Brédas, Presented at the Materials Research Society, Boston, MA (November 2001)
24. *"3-D Microfabrication in a Chemically Amplified Positive Resist."* T. Yue, C. Ober, S. M. Kuebler, W. Zhou, S. R. Marder, J. W. Perry, Presented at the Materials Research Society, Boston, MA (November 2001)
25. *"Two-Photon Positive Tone Lithography for 3-D Microfabrication."* T. Yue, C. Ober, W. Zhou, S. M. Kuebler, J. W. Perry, S. R. Marder, Presented at the American Chemical Society, Boston, MA (August 2002)
26. *"Metallocene-Terminated Allylium Salts: The Effect of the End Group on Localization in Polymethines."* S. R. Marder, S. Barlow, L. M. Henling, M. W. Day, W. P. Schaefer, T.

Haskell, Presented at the American Chemical Society National Meeting, Boston, MA (August 2002)

27. *"New Capabilities for Fabricating Micro and Nanoscale 3D Structures in the 21st Century."* S. R. Marder, presented at the National Science Foundation Workshop on Technological Challenges for Flexible, Light-weight, Low-cost and Scalable Organic Electronics and Photonics, Washington, DC (January 2003)
28. *"Two-Photon Absorption and Mixed Valence Properties of Dioxaborine Derivatives."* S. Barlow, J.-L. Brédas, V. Coropceanu, C. Grasso, M. Halik, S. R. Marder, J. W. Perry, C. Risko, F. Stellacci, W. Wenseleers, E. Zojer, presented at the 225th American Chemical Society Meeting, New Orleans, LA (March 2003)
29. *"Synthesis and Characterization of Efficient Two-Photon Acid Generators for 3D Microfabrication"*. J. Wang, W. Zhou, K. L. Braun, S. Barlow, S. M. Kuebler, J. W. Perry, S. R. Marder, presented at the 225th American Chemical Society Meeting, New Orleans, LA (March 2003)
30. *"Preparation of Bridged Diarylmethane Fluorescent Probes for Labeling Biomolecules."* W. Zhou, Z. An, J. Levin, S. Marder, presented at the 225th American Chemical Society Meeting, New Orleans, LA (March 2003)
31. *"Synthesis and Polymerization of Reactive Monoacylglycerols to Stabilized Bicontinuous Cubic Nanoparticles."* D. Yang, S. Liu, D. F. O'Brien, S. R. Marder, presented at the 225th American Chemical Society Meeting, New Orleans, LA (March 2003)
32. *"Broadband Efficient Third-Harmonic Generation in an Organic Film."* M. Cha, G. Ramos-Ortiz, H. T. Kim, H. Choi, S. Thayumanavan, J. Mendez, S. R. Marder and B. Kippelen, presented at the CLEO/QELS Meeting, Baltimore, MD (June 2003)
33. *"Efficient Third Harmonic Generation in Organic Thin Films and its Applications."* M. Cha, G. Ramos-Ortiz, H. T. Kim, H. Choi, S. Thayumanavan, J. Mendez, S. R. Marder, B. Kippelen, X.-Y. Wang, presented at the 7th International Conference on Organic Nonlinear Optics/International Conference on Organic Photonics and Electronics 2003, Sorak National Park, Korea (May 2003)
34. *"Microfabrication of Hydrogel and Liquid Crystalline Polymers by Two-Photon Initiated Polymerization."* T. Watanabe, N. Kimura, Y. Kazama, Y. Lu, F. Hasegawa, K. Totani, S. Kuebler, S. R. Marder, J. W. Perry, presented at the 7th International Conference on Organic Nonlinear Optics/International Conference on Organic Photonics and Electronics 2003, Sorak National Park, Korea (November 2003)
35. *"Applications of Solution Processable n- and p-Dopants for Carbon-based Electronics."* Jose Baltazar, Claire Berger, Stephen Barlow, Jean-Luc Brédas, An Dai, Jared H. Delcamp, Walter DeHeer, Song Guo, Samuel Graham, Clifford L. Henderson, Yike Hu, Antoine Kahn, Swagat K. Mohapatra, Sergio A. Paniagua, Chad Risko, Sanjeev Singh, Hossein Sojoudi, Siyuan Zhang, Yinhua Zhou, Bernard Kippelen, Seth R. Marder, presented at the 2013 European Conference on Molecular Electronics (ECME 2013) at the Imperial College, London, United Kingdom (September 3-7, 2013)

FUNDING HISTORY

Grants with SRM as Principal Investigator

Symposium on "New Materials for Nonlinear Optics," held at The American Chemical Society National Meeting, Boston, MA, April 22-27, 1990. Air Force Office of Scientific Research. April 1990 - April 1991. Total award: \$12,500

Symposium on "New Materials for Nonlinear Optics," held at The American Chemical Society National Meeting, Boston, MA, April 22-27, 1990. Strategic Defense Initiative Office, Center for Space Microelectronics Technology. April 1990 - April 1991, \$3,000

Electron Transfer Modules for Science and Technology (with D. N. Beratan, J. W. Perry, J. J. Hopfield). Jet Propulsion Laboratory, Director's Discretionary Fund. November 1989 - January 1991, \$60,000

Approaches for Optimizing the First Electronic Hyperpolarizabilities of Conjugated Organic Molecules (with D. N. Beratan, J. W. Perry). Air Force Office of Scientific Research / Defense Advanced Research Projects Agency. August 1, 1991 - March 31, 1994. Total award: \$423,000

High Contrast Organic Crystal Optical Modulator for Phased Array Antenna and Optical Signal Processing Systems. Air Force Office of Scientific Research/ Defense Advanced Research Projects Agency. October 1, 1991 - September 30, 1994. Total award: \$376,200

Structure Property Relationships for Second-Order Organic Nonlinear Optical Materials (with D. N. Beratan, J. W. Perry). National Science Foundation Award No. CHE-9106689, Materials Chemistry Initiative. September 1, 1991 - August 31, 1994. Total award: \$426,000

Theoretical, Spectroscopic, Nonlinear Optical Studies of Organometallic Chromophores (with J. W. Perry, J. C. Green). North Atlantic Treaty Organization Collaborative Research Grant. January 1, 1992 - March 31, 1994. Total award: \$7,340

Structure/Property Relationships for Third-Order Organic Nonlinear Optical Materials. Air Force Office of Scientific Research. March 1, 1992 - February 28, 1995. Total award: \$269,527

Materials for Second- and Third-Order Nonlinear Optical Applications. Air Force Office of Scientific Research AASERT Program. June 1, 1992 - May 31, 1995. Total award: \$155,383

Structure/Property Relationships for Third-Order Organic Nonlinear Optical Materials, Equipment Supplement (for purchase of Silicon Graphics Indigo workstation for the existing proposal). Air Force Office of Scientific Research, June 1, 1992 - May 31, 1995. Total award: \$24,491

Systematic Optimization of Second-Order Nonlinear Optical Materials (with J. W. Perry). Air Force Office of Scientific Research/Ballistic Missile Defense Organization. May 1, 1993 - April 30, 1996. Total award for SRM: \$255,000 AFOSR Award No. FA9620-93-1-0314

Structure Property Relationships for Second- and Third-Order Organic Nonlinear Optical Materials. (with J. W. Perry). National Science Foundation, Materials Chemistry Initiative.

September 1, 1994 - June 30, 1997. Total award: \$853,600. Total award for SRM: \$240,000
Award No. CHE-9408701

Chromophores for Electro-optics and Optical Switching. Air Force Office of Scientific Research. March 1, 1995 - February 28, 1998. Total award: \$405,011

The Third, Fourth and Fifth NSF Materials Chemistry Workshops. National Science Foundation, Materials Chemistry Initiative. March 1, 1995 - March 15, 1998. Total award: \$72,000. NSF Award No. CHE- 9509629

Chromophores for Electro-optic and Photorefractive Applications (with J. W. Perry). Air Force Office of Scientific Research/Ballistic Missile Defense Organization. May 1, 1996 - April 30, 1999. Total award for SRM: \$300,000

Systematic Optimization of Second-Order Nonlinear Optical Materials (with R. H. Grubbs). Air Force Office of Scientific Research/Ballistic Missile Defense Organization. June 1, 1996 - May 31, 1999. Total award: \$225,000

Materials for Enhanced Optical Limiting (with J. W. Perry). Jet Process Corporation. January 1, 1997 - August 31, 1998. Total award for SRM: \$75,000

Instrumentation for Characterization of Two Photon Absorbing Organic Materials (with J. W. Perry). Defense University Research Instrumentation Program (DURIP), Airforce Office of Scientific Research. April 15, 1997 - April 14, 1998. Total award: \$229,360 (\$66,500 for SRM)

Structure Property Relationships for Second- and Third-Order Organic Nonlinear Optical Materials (with J. W. Perry). National Science Foundation Award No. CHE-9996314, Materials Chemistry Initiative. February 15, 1999 - November 14, 1999. Total award: \$140,233.00. Total award for SRM: \$60,000

The Development of Lightfast Dyes for Inkjet Printing (with J. W. Perry). Hewlett Packard Corporation. July 1, 1997 - June 28, 1999. Total award for SRM: \$60,000

Approaches to Advanced Materials for Photorefractive Applications and Radiation Hardening. Air Force Office of Scientific Research. December 1, 1998 - November 30, 2001, Total award: \$360,000

Photorefractive Applications and Radiation Hardening. Office of Naval Research. March 31, 1999 - April 1, 2000. Total award: \$223,988

Fluorescent Two-Photon Absorbing Molecules (with J. W. Perry). National Institutes of Health. July 1, 1999 - June 30, 2002. Total direct costs awarded for SRM: \$367,000

Materials for BARCS. Brewer Science, Inc. Rolla, MO August 1, 1999 - July 31, 2000. Total award: \$90,000

International Conference on Organic Nonlinear Optics. National Science Foundation, September 1, 2001 - August 31, 2002. Total award: \$6,250. Award No.

International Conference on Organic Nonlinear Optics. Office of Naval Research September 1, 2001 - August 31, 2002. Total award: \$6,250

International Conference on Organic Nonlinear Optics. Air Force, September 1, 2001 - August 31, 2002. Total award: \$6,250

International Conference on Organic Nonlinear Optics. DARPA, September 1, 2001 - August 31, 2002. Total award: \$6,250

International Conference on Organic Nonlinear Optics. Research Corp., September 1, 2001 - August 31, 2002. Total award: \$5,000

Two-Photon Structure/Property Relationships and Photochemistry (with J. W. Perry). National Science Foundation. August 25, 2001 - July 31, 2004. Total award: \$495,000. Total award for SRM: \$247,500 Award No. CHE-0107105

High Performance Nanostructured Polymer Composites for Capacitor Applications. ONR. May 1, 2003 – September 30, 2004. Total award: \$180,000 Award No. N00014-03-1-0731

Science and Technology Center on Materials and Devices for Information Technology Research, National Science Foundation (L. Dalton, PI for entire award, University of Washington, S. R. Marder, PI for Georgia Tech) August 1, 2003 - July 31, 2013. Total award (w/o cost share): Award Amount:\$36,331,318. Total award for Georgia Tech: \$9,264,022. NSF Grant No. DMR-0120967

Templation of long chain sequence-controlled heteropolymers (with B. Kippelen, M. Weck). ONR MURI. April 1, 2003 – May 29, 2009. Total award for Georgia Tech: \$1,829,790. Award No. N00014-03-1-0793

Studies of Metal-Organic and Organic Charge-Transport for Plastic Opto-electronics (with B. Kippelen, S. Barlow). National Science Foundation. September 1, 2003 - August 31, 2007. Total award: \$486,000 Award No. ECCS-0309131

Photorefractive Polymer Composite Devices (Prime University of Arizona). March 01, 2004 – December 31, 2006. Total award for SRM: \$104,997.35

High Performance Nanostructured Polymer Composites for Capacitor Applications. ONR. June 1, 2005 - May 31, 2008. Total award: \$235,767.19. Award No. N00014-05-1-0760

University of Central Florida/MURI - Engineered Multifunctional Nanophotonic Materials for Ultrafast Optical Switching. US Army. May 15, 2006 - August 14, 2011. Total award for Georgia Tech: \$1,680,000. Award No. W911NF-06-1-0283

Photorefractive Polymers for Updateable 3D displays (with N. Peyghambarian at Univ. AZ, J. W. Perry and B. Kippelen). AFOSR. January 1, 2007 – November 30, 2009, \$105,000 for SRM. Award No. FA9550-07-1-0071

High Performance Nanostructured Polymer Composites for Capacitor Applications. ONR. April 1, 2008 – March 31, 2010. Total award: \$400,000. Award No. N00014-08-1-0662

Instrumentation for the Surface Characterization of Thin Films of Organic and Organic/Inorganic Materials for Energy Conversion and Storage Applications. ONR DURIP. April 15, 2009 – April 14, 2010. Total award: \$208,700. Award No. N00014-09-1-0778

University of Arizona – ARRA: Center for Interface Science: Hybrid Solar-Electric Materials (PI: N. Armstrong; with W. A. De Heer, B. Kippelen, S. Graham, J. L. Bredas at GT). DOE EFRC. August 01, 2009 – July 31, 2014. Total award: \$13,000,000. Total award for Georgia Tech: \$3,773,611. Award No. DE-SC0001084

Global: Conference Support for the 9th International Symposium on Functional Pi-Systems. NAVY/ONR. September 1, 2009 – August 31, 2010. Total award: \$13,000. Award No. N00014-09-1-1109

New Mexico Highlands University. Light – Matter Interactions: Theory and Applications (LMITA). PI: T. Timofeeva. NSF. October 1, 2009 – September 30, 2014. Total award for Georgia Tech: \$476,355. NSF Award No. DMR-0934212

Conference Support for the 9th International Symposium on Functional Pi-Systems. NSF. February 15, 2010 – January 31, 2011. Total award: \$10,000. NSF Award No. DMR-0962831

Center for Organic Materials for All Optical Switching. AFOSR MURI. October 1, 2010 – March 31, 2016. Total award: \$7,500,000. Award No. FA9550-10-1-0558

Chromophores with hypersensitivity to electric fields for highly sensitive voltage imaging. NIH. June 1, 2013 – May 30, 2015. Total award: \$400,194. Award No. R21NS0834353

Synthetic and Mechanistic Studies of Air-Stable Organometallic Dimers as n-Dopants for Organic Electronics, NSF. August 15, 2013 – July 31, 2017. Total award: \$358,497. DMR-1305247

Work function Tuning of Conducting Oxides Using Molecular n-Dopants. Samsung. November 15, 2013 – November 14, 2014. Total award: \$99,999. Contract No. AGMT DTD 1/7/2014

Scaled Up Synthesis of Materials for Fundamental Photophysical and Structural Studies for Photovoltaic Systems. ONR. July 1, 2014 – June 30, 2016. Total award: \$100,000. Award No. N00014-14-1-0711

Center for Advanced Organic Photovoltaics. ONR-MURI. July 1, 2014 – June 30, 2019. Total award: \$7,500,000. Award Nos. N00014-14-1-0580 and N00014-16-1-2520

Carbazole-Oxadiazole Delayed Fluorescence Materials. Samsung GRO. October 1, 2014 – September 30, 2015. Total award: \$99,999. Contract No. AGMT DTD 10/9/14

Characterization and optimization of p-channel organic field-effect transistors. Mitsubishi Chemical. September 1, 2014 – March 30, 2015. Total award: \$120,000. Contract No. AGR DTD 09/01/14

Interfacial Investigation of Perovskite Opto-Electronic Materials and Devices. AFOSR. March 15, 2015 – March 14, 2018. Total award: \$560,000. Award No. FA9550-15-1-0115. Supplement for Student Research Exchange awarded in 2017 in the amount of \$14,530.

Organic light-emitting diodes with 100% internal quantum efficiency based on noble-metal free hosts and emitters. Mitsubishi Chemical. April 1, 2015 – September 30, 2018. Total award: \$400,000. Contract No. AGR DTD 4/1/15

Material Scale-Up to Support Synthetic and Fundamental Photophysical and Structural Studies for Advanced Organic Photovoltaics. ONR. June 1, 2016 – May 31, 2018. Total award: \$120,000. Award No. N00014-16-1-2678

Instrumentation for the Analysis of Organic and Hybrid Materials. AFOSR DURIP. June 15, 2016 – June 14, 2017. Total award: \$192,000. Award No. FA9550-16-1-0263

Carbazole-Oxadiazole Delayed Fluorescence Materials. Samsung GRO. April 1, 2016 – March 31, 2017. Total award: \$150,000. Contract No. AGR DTD 8/01/16

Subcontract for a Project under an ARENA-funded Strategic Research Initiative in Photovoltaics (1-SRI001). ARENA / University of New South Wales. April 1, 2017 – December 31, 2020. Total award: \$50,000. Contract No. AGR DTD 3/1/17

Collaborative Research: Development of Dimeric Molecular n- and p-Dopants and their Application in Organic Light-emitting Diodes. NSF. July 1, 2018 – June 30, 2022. Total award: \$650,000. Award No. DMR-1807797

Perovskite Deposition and Characterization Station at Controlled Environment. AFOSR. July 1, 2018 – June 30, 2019. Total award: \$195,607. Award No. FA9550-18-1-0460

Effects of Redox, molecular, and Ionic Dopants on the Structure and Electronic Behavior of Haloplumbate Perovskites. AFOSR. August 15, 2018 – August 14, 2021. Total award: \$762,822. Award No. FA9550-18-1-0499

Development, Characterization, and Quantification of Different Mandates. Capacitor Sciences Inc. September 1, 2018 – May 31, 2019. Total award: \$45,000. AGR DTD 9/4/2018

Solution-Processed Bulk Heterojunctions Based on Conjugated Polymers and Small Molecules for Near-Infrared Detectors. Cambridge Display Technology. November 1, 2018 – March 31, 2019. Total award: £50,000.

New Insights into Structure-Property Relations for Non-Fullerene Acceptors for Organic Photovoltaics. ONR. January 24, 2020 – January 22, 2022. Total award: \$120,000. N00014-20-1-2167

Sixth Year Program for MURI Center for Advanced Organic Photovoltaics: Pushing Non-Fullerene Acceptors Further. ONR. February 11, 2021 – February 10, 2024. Total award: \$405,000. N00014-21-1-2180

Collaborative Research: New Approaches to Narrow-Band Electrochromics. NSF. May 1, 2021 – April 30, 2024. Total award: \$360,000. CHE-2147487

ECCS-EPSRC Superlattice Architectures for Efficient and Stable Perovskite LEDs. NSF-EPSRC. September 1, 2021 – August 31, 2025. Total award: \$400,000. ECCS-2141949.

Chromophores and Solvents for Quasi-Phase Matched Difference Frequency Generation in Liquid Filled Fibers. AFRL. January 1, 2023 – December 31, 2023. Total award: \$24,868. FA8651-23-2-0002

Characterization of Solar-Cell Material Stability - Compact Mass Spectrometer, Thermogravimetric Analysis, and Inert-Atmosphere Glove-Box. ONR DURIP. December 1, 2022 – November 30, 2023. Total award: \$190,342. N00014-23-1-2058

Understanding the Relationships Between the Structural, Optical, Electronic and Spintronics Properties of Chiral Organic Semiconducting and Conducting Materials. AFOSR. September 30, 2023 – September 29, 2026. Total award: \$960,000. FA9550-23-1-0648

Dopants, Interface Modifiers, and Film Tethering for Organic Semiconductors. ONR. January 1, 2024 – December 31, 2027. Total award: \$660,000. N00014-24-1-2115

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Grants with SRM as Co-Principal Investigator or Co-Investigator or Contributor

Organic Materials for Nonlinear Optics (J. W. Perry, Principal Investigator). Innovative Science and Technology Office, Strategic Defense Initiative Organization. January 1, 1994 - December 31, 1996. Total award for SRM: \$150,000

Materials for Optical Limiting (J. W. Perry, Principal Investigator). U.S. Air Force, Wright Laboratory. November 1, 1994 - October 31, 1996. Total award for SRM: \$120,000

Vacuum Deposited Organic Thin Films and Quantum Structures (P. Eisenberger, Principal Investigator). National Science Foundation MRSEC (through Princeton University). September 1, 1994 - February 28, 1998. Total award for SRM: \$360,000

Chemical Approaches for Achieving Smart Laser Protection (W. A. Goddard, Principal Investigator). Office of Naval Research/Advanced Research Projects Agency. September 1, 1995 - October 31, 1996. Total award for SRM: \$100,000

Center for Advanced Multi-Functional Nonlinear Optical Polymers and Molecular Assemblies (Nasser Peyghambarian, Principal Investigator). Office of Naval Research. September 15, 1995 - July 31, 2000. Total award for SRM: \$875,000

Photodegradation of Electro-Optic Polymers (G. I. Stegeman, Principal Investigator). National Science Foundation. July 1, 1996 - June 30, 1999. Total award for SRM: \$150,000

Chemical Approaches for Achieving Smart Laser Protection (W. A. Goddard, Principal Investigator). Office of Naval Research/Advanced Research Projects Agency. July 1, 1996 - June 3, 1999. Total award for SRM: \$247,500

Chromophores for Absorptive Filter Applications (W. A. Goddard, Principal Investigator), Air Force Wright Laboratory, through Anteon Associates. November 1, 1996 - May 31, 1997. Total award for SRM: \$43,000

Alignment and Packing Behavior of Liquid Crystals and Liquid Crystalline Polymers and Their Effect on Optical and Mechanical Properties (J. A. Kornfield, Principal Investigator). Air Force Office of Scientific Research. November 1, 1996 - August 31, 2001. Total award: \$375,000

Electric Field Effects of Excited State and Electron Transfer Dynamics (S. G. Boxer, Principal Investigator). National Science Foundation. July 15, 1996 - July 15, 1997. Total award for SRM: \$30,000

Synthesis and Characterization of Second Order NLO Chromophores for Waveguides (N. Peyghambarian, Principal Investigator). Defense Advanced Research Projects Agency. December 1, 1996 - November 31, 1999. Total award for SRM: \$120,000

Acquisition of a Tunable Femtosecond Laser System for Two-Photon 3D Lithography and Optical Recording and for Training Students (J. W. Perry, Principal Investigator). National Science Foundation. August 15, 1999 - July 31, 2001. Total award: \$160,125. NSF Award No. DMR-9975961

Nitto Denko Photorefractive (N. Peyghambarian, Principal Investigator) Nitto Denko Technical Corporation. October 1, 2000 - September 30, 2003. Total award for SRM: \$120,000

Biophotonics: Two-Photon Fluorescent Labels with Enhanced Sensitivity for Biological Imaging (J. W. Perry, Principal Investigator). National Science Foundation, September 1, 2000 - August 31, 2002. Total award: \$499,999 (\$250,000 for SRM). NSF Award No. CBET-0086944

Thermally Stable Organic Films for Photovoltaic and Electroluminescence Applications (B. Kippelen, Principal Investigator). Office of Naval Research, March 1, 2001 - February 29, 2004. Total award for SRM: \$185,000

Photorefractive Polymers with Infrared Sensitivity (N. N. Peyghambarian, Principal Investigator). Nippon Sheet Glass, Inc. June 1, 2001 - May 31, 2003. Total award for SRM: \$120,000

Acquisition of an Organic Thin Film Deposition System for Research and Training in Molecular Electronics and Nanophotonics (B. Kippelen, Principal Investigator). National Science Foundation, August 1, 2001 - July 31, 2002, \$179,077 total award

Novel Organic Electroluminescent Materials and Devices for Display Applications (B. Kippelen, Principal Investigator). Durel Corporation, August 1, 2001 - July 31, 2002, Total award: \$396,545 (\$198,273 for SRM)

Evaluation of Molecular Photonic Technologies for DOD Applications (J. W. Perry, Principal Investigator). Defense Advanced Research Projects Agency, March 1, 2002 - June 30, 2002. Total award for SRM: \$166,977 (\$45,000 for SRM)

Liquid Crystal-Based Photovoltaic Technologies (N. Armstrong, Principal Investigator). National Renewable Energy Laboratory, June 1, 2002 - May 31, 2004. Total award: \$498,672 (\$123,000 for SRM)

Nanocomposite Materials and Microstructured Devices for Optical Limiting and Switching (J. W. Perry, Principal Investigator). Air Force Office of Scientific Research, July 1, 2002 - June 30, 2003. Total award: \$236,017

New Materials for Optoelectronics: High electron mobility discotic columnar oxadiazole liquid crystals for optoelectronics (B. Kippelen PI with S. R. Marder Co PI). LINTEC CORPORATION, September 1, 2003 - August 31, 2006. Total award: \$480,000

NSF REU supplement: Studies of metal-organic and organic charge-transport for plastic optoelectronics. NSF, September 1, 2003 - August 31, 2006. Total award: \$5,000

NIRT: Optical and Electronic Processes in Metal Nanoparticle-Conjugated Organic Materials (Georgia Tech Subawardee J. Perry, PI, with S. Marder Co PI; Awardee, Wayne State then Univ Michigan - Ted Goodson PI) NSF. September 1, 2003 - August 31, 2006. Total GT: [\$76,956 through Wayne State and \$373,549 through U MI). NSF Award Nos. DMR-0303973 (total award: \$980,000) and DMR-0454533 (total award: \$354,792.00)

Molecular Photonics: High-speed Materials for Optical Signal Processing (J. W. Perry PI with S. R. Marder Co-PI). ONR, November 1, 2003 – October 31, 2007. Total award: \$1,665,000. ONR Award No. N00014-04-1-0095

Photorefractive Polymer Composite Device (N. N. Peyghambarian PI, Univ. of AZ with S. R. Marder Co-PI). AFOSR/UA, January 1, 2004 - December 31, 2006. Total award: \$105,000

High mobility organic Materials for Photovoltaic Applications (PI: B. Kippelen). ONR. February 1, 2004 – March 31, 2010. Total award: \$1,759,599.35. Award No. N00014-04-1-0120

Nonlinear Optics for Optical Limiting (GT name: Materials for Optical Limiting) (PI: E. Van Stryland; Seth Marder co-PI). Univ. of Central Florida/Army Research Laboratory, February 1, 2004 – September 30, 2009. Total award: \$702,000. ARL Award No. W911NF-04-2-0012

Fast and Accurate Fabrication of 3-D Photonic and Phononic Crystals by Optical Patterning and Chemical Modification. PI: A. Adibi. ONR MURI. March 1, 2005 – August 31, 2010. Total award: \$6,939,439. Award No. N00014-05-1-0303

Polymeric Materials for New Generations of Displays and Solid-State Light Sources, Jean-Luc Brédas (PI), Seth Marder, Bernard Kippelen (Co-PIs), Solvay SA, April 1, 2006 - December 31, 2008. Total award: \$1,920,000

Materials for High-Performance Light Emitting Diodes: Surface Modification of Charge-Injection Layers, Jean-Luc Brédas (PI), Seth Marder, Bernard Kippelen (Co-PIs), Solvay SA, April 1, 2006 - December 31, 2008. Total award: \$1,170,000

Molecular Photonics: High-speed Materials for Optical Signal Processing, Joseph W. Perry (PI), Seth Marder, Uwe Bunz, Jean-Luc Brédas, Bernard Kippelen (co-PIs). ONR DARPA/MORPH, N00014-06-1-0897, June 1, 2006 – August 31, 2010. Total award: \$4,795,759

Organic Materials for New Generations of Solar Cells for Portable Power, Jean-Luc Brédas (PI), Seth Marder, Bernard Kippelen (Co-PIs), Solvay SA. October 1, 2006 – March 30, 2010. Total award: \$1,170,000

Hybrid Organic Materials with White Electroluminescence for Lighting. Jean-Luc Brédas (PI), Seth Marder, Bernard Kippelen (Co-PIs), Solvay SA, February 1, 2007 – June 30, 2008. Total award: \$825,000

MRSEC: The Georgia Tech Laboratory for New Electronic Materials. PI: Dennis Hess (Seth Marder co-PI in 2012). NSF. September 1, 2008 – August 31, 2015. Total award: \$9,211,293. NSF Award No. DMR-0820382

Organic Thin-Film Transistors for Plastic Electronics. Jean-Luc Brédas (PI), Seth Marder, Bernard Kippelen (Co-PIs), Solvay SA, October 1, 2008 – December 31, 2012. Total award for Georgia Tech: \$5,995,000

Air Force Center of Excellence on Bio-nano-enabled Inorganic/Organic Nanostructures and Improved Cognition (BIONIC). Ken Sandhage (Pi), Vladimir Tsukruk, Shella Keilhoz, Michelle LaPlaca, Eric Schumacher, Nils Kroger, Bernard Kippelen, Seth Marder, Mostafa El-Sayed (Co-Pis). AFOSR and AF Wright Laboratory. March 1, 2009 – September 30, 2014. Total award for Georgia Tech: \$8,000,000. Award No. FA9550-09-1-0162

Solution-Processible Emitters and Devices for Lightning. Jean-Luc Brédas (PI), Seth Marder, Bernard Kippelen (Co-PIs), Solvay SA, April 1, 2009 – March 30, 2011. Total award for Georgia Tech: \$2,235,000

Materials and Devices for Zeno-Based Opto-Electronics. Joseph W. Perry (PI), Seth Marder (co-PI) ARMY DARPA. September 30, 2009 – May 1, 2013. Total award: \$7,217,750. Award No. W31P4Q-09-1-0012

Nanocomposite Materials for High Energy Density Capacitors. Joseph W. Perry (PI), Seth Marder (co-PI), ONR N00014-10-1-0263, December 1, 2009 – April 30, 2011. Total award for Georgia Tech: \$60,000

OPV – New Materials for High Efficiency Solar Cells and Integrated Modules. Bernard Kippelen (PI), Seth Marder (co-PI). ONR N00014-10-1-0392, February 1, 2010 – May 31, 2011. Total award: \$300,000

ZnO-HyLED. Jean-Luc Brédas (PI), Seth Marder, Bernard Kippelen (Co-PIs), Solvay SA, July 1, 2010 – June 30, 2011. Total award for Georgia Tech: \$390,000

Organic Solar Cells Based on Metal-Organic Compounds. Bernard Kippelen (PI), Seth Marder (Co-PI), ONR, February 1, 2011 – April 30, 2014. Total award: \$750,000 (\$375,000 for SRM). Award No. N00014-11-1-0313

Nanocomposite Materials for High Energy Density Capacitors. Joseph W. Perry (PI), Seth Marder & Bernard Kippelen (co-PIs), ONR N00014-11-1-0462, May 1, 2011 – June 30, 2014. Total award: \$611,612

SoPEL-3 Project: Materials for Emissive and Charge-Transport Layers and Devices for OLED Applications. Jean-Luc Brédas (PI), Seth Marder and Bernard Kippelen (co-PIs), Solvay, April 1, 2011 – March 31, 2012. Total award for Georgia Tech: \$800,000

IGERT: Nanostructured Materials for Energy Storage and Conversion. Elsa Reichmanis (PI). NSF. September 1, 2011 – August 31, 2016. Total award for Georgia Tech: \$3,000,000

CCI Center in Selective C-H Functionalization. Huw Davies, Emory University (PI). NSF. September 15, 2012 – August 31, 2017. Total award: \$20,000,000 (\$130,000/year for SRM). NSF Award No. CHE-1205646

Theory and Experiment of Cocrystals: Principles, Synthesis and Properties. Adam Matzger, University of Michigan (PI). ARO MURI. July 1, 2013 – June 30, 2018. Total award: \$3,750,000 (\$1,650,000 for Georgia Tech). Award No. W911NF-13-1-0387

Organic Photovoltaic Materials and Devices with Improved Understanding and Performance. Bernard Kippelen (PI). ONR. January 1, 2014 – December 31, 2016. Total award: \$420,000 (\$210,000 for SRM). Award No. N00014-14-1-0126

REU: Hooked on Photonics, a collaborative REU program. Philip Reid (now Christine Luscombe) (PI). NSF CHE- 1156598. University of Washington subcontract. August 1, 2012 – July 31, 2015. Total award: \$250,000. CHE-1156598

Center for Advanced 2D-Organic Polymers. William Dichtel (Cornell), PI. ARO MURI. September 1, 2015 – August 31, 2020. Total award: \$7,500,000. (\$1,000,001 for Georgia Tech). Award No. W911NF-15-1-0447

Practical, High Performance p-type and n-type Organic Thermoelectric (OTE) Materials for Through-Plane, Solution Processible, Thermoelectric Generators. Shannon Yee (Georgia Tech), PI. Cambridge Display Technology. September 1, 2016 – September 1, 2017. Total award: \$160,000 (\$68,943 for SRM). Contract No. AGR DTD 09/01/16

Hyperspectral imaging platform for in-situ monitoring of functional thin-film formation and solution-processed devices with spatial and temporal resolution. John Reynolds (Georgia Tech), PI. ONR-DURIP. June 1, 2017 – May 31, 2019. Total award: \$479,643.

Stable White Organic Light-Emitting Diodes Enabled by New Materials with Reduced Excited-State Lifetime. Bernard Kippelen (Georgia Tech), PI. DOE. September 1, 2017 – August 31, 2019. Total award: \$896,000 plus \$224,000 in cost sharing. DE-EE0008205

DMREF: Metallic-type transport in polymers: Establishing materials design criteria and predicting structure/property interrelations. Natalie Stingelin (Georgia Tech), PI. NSF-DMREF. October 1, 2017 – September 30, 2021. Total award: \$1,500,000. DMR-1729737

Developing Narrow-Band Electrochromic Dyes. John Reynolds (Georgia Tech), PI. NXN Licensing. December 20, 2017 – January 20, 2020. Total award: \$543,041. AGR DTD 12/20/2017

Approaching the Radiative Efficiency Limit in Perovskite Solar Cells with Scalable Defect Passivation and Selective Contacts. David Ginger (University of Washington), PI. June 16, 2019 – December 31, 2022. Total award: \$1,249,997 from DOE. Cost Share from UW and GT: \$312,628. Total amount: \$1,562,625. DE-EE0008747

Development of Materials and Processes for Tandem Perovskite / Silicon Solar Cells. David Ginger (University of Washington), PI. June 8, 2020 – April 30, 2024. Total award: \$1,200,000. N00014-20-1-2587

The Development of Scalable Materials and Processes for OPV Modules. Michael Toney (University of Colorado Boulder), PI. April 19, 2021 – April 18, 2024. Total award: \$669,000. N00014-21-1-2097

STC: Center for Integration of Modern Optoelectronic Materials on Demand (IMOD). David Ginger (University of Washington), PI. October 1, 2021 – September 30, 2026. Total award: \$25,000,000. DMR-2019444

Kinetically Stable Redox-Based Approaches to Energy Storage for Selective Electron-to-Molecule Chemistry in the Context of a Circular Economy. NREL LDRD. Stephen Barlow (CU Boulder), PI. October 1, 2021 – September 30, 2024. Total award: \$550,000.

Center for Soft PhotoElectroChemical Systems (SPECS). DOE EFRC. Erin Ratcliff (Univ AZ), PI. August 1, 2022 – July 31, 2026. Total award at CU: \$1,510,211. DE-SC0023411

Center for Hybrid Organic Inorganic Semiconductors for Energy (CHOISE). DOE EFRC. Matt Beard (NREL), PI. August 1, 2022 – July 31, 2026. Total award at CU: \$1,615,000. Contract No. DE-AC36-08GO28308.

Semiconducting Paramagnetic Covalent Organic Frameworks as a New Class of Organic Electronics and Spintronic Materials. ARO. Will Dichtel (Northwestern), PI. September 1, 2023 – August 31, 2026. Total award at CU: \$420,000. W911NF2310306

TEAMUP: Tandems for Efficient and Advanced Modules using Ultrastable Perovskites. DOE. Mike McGehee (CU Boulder), PI. October 1, 2023 – June 30, 2027. Total award: \$12,497,965. DE-EE0010502

Scalable Stable Perovskite Solar Cells for Soldier & Small Unit Tactical Energy Technology.
(Univ Delaware), PI. Mike McGehee (CU Boulder PI). September 25, 2024 – March 24, 2026.
Total award: \$2,250,000. W56KGU-24-C-0029

Industrial Support

Support in the form of unrestricted gifts, grants, and software

General Electric Company
Lockheed Missiles and Aerospace Company
EniChem America
E. I. DuPont De Nemours and Company Inc.
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JSR Corporation
Lumera Corporation
Solvay, SA
Plextronics, Inc.
Total American Services, Inc.
Sigma-Aldrich (Aldrich Materials Science)
Cambridge Display Technology
Mitsubishi Chemical
BASF

PATENTS

Granted U.S. Patents (includes U. S. and international filing dates when applicable)

1. “*Unsymmetrical Squaraines for Nonlinear Optical Materials.*” S. R. Marder, C.-T. Chen, L.-T. Cheng, U.S. Patent 5,500,156, filed April 11, 1994, awarded March 19, 1996. (<https://www.google.com/patents/US5500156>)
2. “*Nonlinear Optical Materials with Reduced Aromaticity and Bond Length Alternation.*” S. R. Marder, L.-T. Cheng, U.S. Patent 5,670,090, filed June 1, 1995, awarded September 23, 1997. (www.google.com/patents/US5670090)
3. “*Nonlinear Optical Materials with Reduced Aromaticity and Bond Length Alternation.*” S. R. Marder, L.-T. Cheng, U.S. Patent 5,670,091, filed June 1, 1995, awarded September 23, 1997. (www.google.com/patents/US5670091)

4. *“Nonlinear Optical Materials with Reduced Aromaticity and Bond Length Alternation.”* S. R. Marder, L.-T. Cheng, U.S. Patent 5,804,101, filed August 22, 1997, granted September 8, 1998. (www.google.com/patents/US5804101)
5. *“Process of Changing the Refractive Index of a Composite Containing a Polymer and a Compound having Large Dipole Moment and Polarizability and Applications Thereof.”* S. R. Marder, N. Peyghambarian, B. Kippelen, B. Volodin, E. Hendrickx, U.S. Patent 6,090,332, filed May 13, 1998, awarded July 18, 2000. (www.google.com/patents/US6090332)
6. *“Two-Photon or Higher-Order Absorbing Optical Materials and Methods of Use.”* S. R. Marder and J. W. Perry, U.S. Patent 6,267,913, filed November 7, 1997, awarded July 31, 2001. (www.google.com/patents/US6267913)
7. *“Method and Apparatus for Optical Data Storage using Non-Linear Heating by Excited State Absorption for the Alteration of Pre-Formatted Holographic Gratings.”* B. H. Cumpston, J. W. Perry, S. R. Marder, U.S. Patent 6,322,931, filed July 29, 1999, awarded November 27, 2001. (<https://www.google.com/patents/US6322931>)
8. *“Thermally Stable Molecules with Large Dipole Moments and Polarizabilities and Applications Thereof.”* S. R. Marder, N. Peyghambarian, B. Kippelen, B. Volodin, E. Hendrickx, U.S. Patent 6,402,994, filed May 24, 2000, awarded June 11, 2002. (<https://www.google.com/patents/US6402994>)
9. *“Two-Photon or Higher-Order Absorbing Optical Materials for Generation of Reactive Species.”* B. Cumpston, M. Lipson, S. R. Marder, J. W. Perry, U.S. Patent 6,608,228, filed April 15, 1999, awarded August 19, 2003 (<https://www.google.com/patents/US6608228>). (Licensed)
10. *“Two-Photon or Higher-Order Absorbing Optical Materials and Methods of Use.”* S. R. Marder and J. W. Perry, U.S. Patent 8,197,722, filed July 30, 2001, awarded June 12, 2012. (www.google.com/patents/US8197722)
11. *“Polymer, Producing Method Thereof, and Photorefractive Composition.”* M. Yamamoto, S. R. Marder and B. Kippelen, U.S. Patent 6,610,809, filed March 29, 2002, awarded August 26, 2003. (<https://www.google.com/patents/US6610809>) PCT Int. Appl. US2003/008541, filed March 19, 2003. Eur. Patent 1578884B1 on April 24, 2013. (<https://www.google.com/patents/EP1578884B1>)
12. *“Photorefractive Composition.”* M. Yamamoto, S. R. Marder, B. Kippelen, U.S. Patent 6,653,421, filed March 29, 2002, awarded November 25, 2003. (<https://www.google.com/patents/US6653421>)
13. *“Dopants for Liquid-Crystal Devices.”* S.-T. Wu, S. R. Marder, Q. Zhang, U.S. Patent 6,852,248, filed April 2, 1999, awarded February 8, 2005. (www.google.com/patents/US6852248). PCT Int. Appl. US2000/008488 filed March 29, 2000.
14. *“Polydioxaborines, their Monomers and their Preparation.”* J. K. Cammack, S. R. Marder and B. Kippelen, U.S. Patent 6,916,894, filed September 3, 2002, awarded July 12, 2005. (www.google.com/patents/US6916894). PCT Int. Appl. US2003/004846 filed February 14, 2003.

15. *"Photorefractive Composite."* J. K. Cammack, P. Wang, S. R. Marder, B. Kippelen. U. S. Patent 7,067,230, filed January 14, 2004, awarded June 27, 2006. (<https://www.google.com/patents/US7067230>)
16. *"Two-Photon or Higher-Order Absorbing Optical Materials for Generation of Reactive Species."* B. Cumpston, M. Lipson, S. R. Marder, J. W. Perry, U.S. Patent 7,235,194, filed May 20, 2003, awarded June 26, 2007 (<https://www.google.com/patents/US7235194>). (Licensed)
17. *"Two-Photon or Higher-Order Absorbing Optical Materials for Generation of Reactive Species."* S. R. Marder, J. W. Perry, B. Cumpston M. Lipson, U.S. Patent 8,597,549, Serial Number 11/768,898, filed June 26, 2007, issued December 3, 2013. (<https://www.google.com/patents/US8597549>)
18. *"Method for Patterning Metal Using Nanoparticle Containing Precursors."* J. W. Perry, S. R. Marder, F. Stellacci, US Patent 7,252,699, filed December 17, 2001, awarded August 7, 2007. (<https://www.google.com/patents/US7252699>). PCT Int. Appl. US2001/047724 filed December 17, 2001.
19. *"Materials, Methods & Uses for Photochemical Generation of Acids and/or Radical Species."* S. R. Marder, J. W. Perry, W. Zhou, S. M. Kuebler, J. K. Cammack, U.S. Patent 7,459,106, filed April 1, 2002, awarded December 2, 2008. (www.google.com/patents/US5670090). PCT Int. Appl. US2002/008227 filed April 1, 2002.
20. *"Third-Order Optical Harmonic Generator and Methods for Producing a Third Harmonic Signal and Autocorrelator for Time-Domain Operation at the Telecommunication Wavelengths."* G. Ramos-Ortiz, M. Cha, S. R. Marder, B. Kippelen, U.S. Patent 7,612,935, filed December 19, 2003, awarded November 3, 2009. (<https://www.google.com/patents/US7612935>). PCT Int. Appl. PCT/US2003/037093 filed December 19, 2003.
21. *"Perylene Charge-Transport Materials, Methods of Fabrication Thereof, and Methods of Use Thereof."* S. R. Marder, Z. An, S. Barlow, B. Kippelen, U.S. Patent 8,344,142, filed June 14, 2005, awarded January 1, 2013. (<https://www.google.com/patents/US8344142>). PCT Int. Appl. US2005/020815 filed June 14, 2005.
22. *"Transition-Metal Charge-Transport Materials, Methods of Fabrication Thereof, and Methods of Use Thereof."* S. R. Marder, B. Kaafarani, S. Barlow, B. Kippelen, B. Domercq, Q. Zhang, T. Kondo, U.S. Patent 7,842,830, filed on June 14, 2005, awarded on November 30, 2010. (www.google.com/patents/US7842830). PCT Int. Appl. US2005/020872 filed on June 14, 2005.
23. *"N-Type Doping of An Electron Transport Material and Methods of Use Thereof."* A. Kahn, C. Chan, S. Barlow, S. Marder, U.S. Patent 7,981,328, filed June 22, 2007, granted July 19, 2011. (www.google.com/patents/US7981328)
24. *"Printable Thin-Film Transistors with High Dielectric constant Gate Insulators and Methods for Producing Same."* P. Kim, B. Kippelen, J. W. Perry, S. R. Marder, S. Jones, J. N. Haddock, X. Zhang, B. Domercq, P. J. Hotchkiss, U.S. Patent 8,405,069, filed November 13, 2007, awarded March 26, 2013.

- (<http://www.google.com/patents/US8405069>). PCT Int. Appl. US2007/023835, filed November 13, 2007.
25. *"Charge-Transport Materials, Methods of Fabrication Thereof, and Methods of Use Thereof."* S. R. Marder, B. Kaafarani, S. Barlow, B. Kippelen, B. Domercq, Q. Zhang, T. Kondo, U.S. Patent 7,994,423, filed June 14, 2005, granted on August 9, 2011. (www.google.com/patents/US7994423). PCT Int. Appl. US2005-020998, filed June 14, 2005.
 26. *"Coronene Charge-Transport Materials, Methods of Fabrication, and Methods of Use Thereof."* S. R. Marder, Z. An, J. Yu, B. Kippelen. U.S. Patent 8,039,625, filed February 28, 2006, granted October 18, 2011. (www.google.com/patents/US8039625). PCT Int. Appl. US2006/007094, filed February 28, 2006.
 27. *"Systems and Methods for Producing Low Work Function Electrodes."* Bernard Kippelen, Yinhua Zhou, Canek Fuentes-Hernandez, Jae Won Shim, Seth R. Marder, Antoine Kahn, Jens Meyer, U.S. Patent 8,203,780, filed January 2, 2008, granted June 19, 2012. (<https://www.google.com/patents/US8203780>) PCT/US2012/038125 filed on January 2, 2008, Eur. Patent 2126625B1 on February 22, 2012. (<https://www.google.com/patents/EP2126625B1>)
 28. *"Carbazole-Based Hole-Transport and/or Electron Blocking Materials and/or Host Polymer Materials."* Y. Zhang, S. R. Marder, C. Zuniga, S. Barlow, B. Kippelen, A. Haldi, B. Domercq, M. Weck, A. Kimyonok, U.S. Patent 8,546,505, filed December 19, 2008, awarded October 1, 2013 (<https://www.google.com/patents/US8546505>). PCT Int. Appl. EP2008/068124 filed December 19, 2008.
 29. *"Stable Electrodes with Modified Work Functions and Methods for Organic Electronic Devices."* A. Sharma, P. Hotchkiss, S. Marder, B. Kippelen, B. Domercq, U.S. Patent 8,586,208, filed July 18, 2008, awarded November 19, 2013 (<https://www.google.com/patents/US8586208>). PCT Int. Appl. EP2009/059027 filed July 15, 2009.
 30. *"Method for Patterning Metal Using Nanoparticle Containing Precursors."* Joseph W. Perry, Seth R. Marder, Francesco Stellacci, U.S. Patent 8,557,017, filed October 23, 2009, awarded October 15, 2013. (www.google.com/patents/US8557017)
 31. *"Thermochemical Nanolithography Components, Systems, and Methods."* E. Riedo, S. R. Marder, D. Wang, J. Curtis, U.S. Patent 8,468,611, filed June 1, 2010, granted June 18, 2013. (<https://www.google.com/patents/US8468611>). PCT Int. Appl. US2010/36871 filed June 10, 2010. (Licensed 2015 to SwissLitho)
 32. *"Electronic devices comprising novel phosphonic acid surface modifiers."* P. Hotchkiss, S. Marder, A. Giordano, T. D. Anthopoulos. US Application 13/262,739 filed on April 2, 2010, PCT/EP2010/054466 filed on April 2, 2010. U.S. Patent 8,846,978 granted September 30, 2014. (<https://www.google.com/patents/US8846978>)
 33. *"Method for Patterning Metal Using Nanoparticle Containing Precursors."* Joseph W. Perry, Seth R. Marder, Francesco Stellacci, U.S. Patent 8,779,030, filed April 18, 2007, awarded July 15, 2014. (www.google.com/patents/US8779030)

34. *"Stannyl Derivatives of Naphthalene Diimides and Related Compositions and Methods."* L. E. Polander, S. R. Marder. US Provisional 61/475,888 filed April 15, 2011, PCT/US2012/33598 filed April 13, 2012. U.S. Patent 8,921,553 awarded December 30, 2014. (www.google.com/patents/US8921553)
35. *"Systems and Methods for Producing Low Work Function Electrodes."* Bernard Kippelen, Canek Fuentes-Hernandez, Yinhua Zhou, Antoine Kahn, Jens Meyer, Jae Won Shim, Seth R. Marder, U.S. Patent Application 14/117,965, filed May 16, 2012, US2014/03131858 published May 15, 2014, U.S. Patent 9,076,768 issued July 7, 2015. (<http://www.google.com/patents/US9076768>)
36. *"Ambipolar Small Molecule Hosts for Phosphorescent Guest Emitters."* Y. Zhang, C. Zuniga, G. Deshayes, J. Leroy, S. Barlow, S. R. Marder, S.-J. Kim, B. Kippelen. US Patent Application 13/379,595 filed on June 21, 2010, PCT Int. Appl. EP2010/058732 filed June 21, 2010. U.S. Patent 9,133,177 issued September 15, 2015. (<http://www.google.com/patents/US9133177>)
37. *"Materials Having Electron Deficient Moieties and Methods of Synthesizing Thereof."* Junxiang Zhang, Timothy Parker, Seth Marder, US Provisional Patent 61/934,283, filed on January 31, 2014, US Application 14/609,491 filed on January 30, 2015. U.S. Patent 9,315,477 issued April 19, 2016. (<https://patents.google.com/patent/US9315477B2>)
38. *"Naphthalene-Diimide-Heterocycle-Naphthalene Diimide Oligomers as Organic Semiconductors and Transistors Therefrom."* L. E. Polander, S. P. Tiwari, S. R. Marder, B. Kippelen, R. R. Dasari, Y. Getmanenko, D. K. Hwang, M. Fenoll. U.S. Patent Application 13/942,642 filed July 15, 2013. U.S. Patent 8,912,535 issued December 16, 2014. International Patent Application PCT/US2012/033590 filed April 13, 2012. (<https://patents.google.com/patent/US8912535B2>)
39. *"N-Doping of Organic Semiconductors by Bis-Metallosandwich compounds."* S. Barlow, Y. Qi, A. Kahn, S. R. Marder, S. B. Kim, S. K. Mohapatra, S. Guo. US Provisional Application 61/496,667 filed June 14, 2011 and PCT/US2012/042287 filed June 13, 2012. Published on October 9, 2014. U.S. Patent 9,231,219 issued January 5, 2016. (<https://www.google.com/patents/US9231219>)
40. *"Devices with Organic Semiconductor Layers electronically-doped over a Controlled Depth."* B. Kippelen, N. Aizawa, C. Fuentes-Hernandez, J. Kido, S. Marder, F. A. Larrain, W.-F. Chou, V. Kolesov. U.S. Provisional Patent Application 15/735,549, filed on June 3, 2016 and PCT/US2016/035790 filed on December 11, 2017. U.S. Patent 10,763,447 issued September 1, 2020.

Patent Applications (includes U.S. and international filing dates when applicable)

1. *"Hole-Transporting Polymers from Triarylamine Monomers."* E. Bellmann, S. Thayumanavan, S. Barlow, R. H. Grubbs, S. R. Marder, B. Kippelen, N. R. Armstrong, U.S. Patent Application 9/780,314 filed February 8, 2001.
2. *"Deprotection of Functional Groups by One and Multi-Photon-Induced Electron Transfer."* S. R. Marder, S. Barlow, J. Wang, U.S. Provisional Patent Application 60/830,159 filed December 7, 2006.

3. *"Deprotection of Functional Groups by One and Multi-Photon-Induced Electron Transfer."* S. R. Marder, S. Barlow, J. Wang, U.S. Patent Application 12/373,318 and PCT Int. Appl. US2007/015971 filed July 12, 2007.
4. *"Norbornene-Based Copolymers with Iridium Complexes and Exciton Transport Groups in Their Side-Chains and Use Thereof."* A. Kimyonook, B. Domercq, A. Haldi, J.Y. Cho, J.R. Carlisle, X.Y. Wang, L.E. Hayden, S.C. Jones, S. Barlow, S.R. Marder, B. Kippelen, M. Weck, U.S. Provisional Patent Application 60/956,492, filed August 17, 2007 and 61/040,212, filed March 28, 2008, U.S. Patent Application 12/673,299 and PCT Int. Appl. US2008/073491, filed August 18, 2008.
5. *"Silole-Based Monomers and Polymers for Organic Light-Emitting Diode Devices."* A. Hayek, X. Zhan, S. R. Marder, B. Kippelen, B. Domercq, A. Haldi, U. S. Provisional Patent Application 61/015650, filed December 20, 2007, U.S. Patent Application 12/808,739 and PCT Int. Appl. EP2008/068118 filed December 19, 2008.
6. *"ROMP-Polymerizable Electron Transport Materials Based on a Bis-Oxadiazole Moiety."* S. R. Marder, S. Barlow, Y. Zhang, S. Pal, B. Kippelen, B. Domercq, A. Haldi, M. Weck, A. Kimyonok, U.S. Provisional Patent Application 61/015777, filed December 21, 2007, U.S. Patent Application 12/808,743 and PCT Int. Appl. EP2008/068119, filed December 19, 2008.
7. *"Polymeric Ambipolar Hosts for Phosphorescent Guest Emitters."* Y. Zhang, C. Zuniga, G. Deshayes, J. Leroy, S. Barlow, S. R. Marder, S.-J. Kim, B. Kippelen. US Provisional Application 61/220,116 filed June 24, 2009, PCT Int. Appl. EP2010/058728 filed June 21, 2010.
8. *"Polymerizable Ambipolar Hosts for Phosphorescent Guest Emitters."* Y. Zhang, C. Zuniga, G. Deshayes, J. Leroy, S. Barlow, S. R. Marder, S.-J. Kim, B. Kippelen. US Patent Application 13/379,599 and PCT Int. Appl. EP2010/058730 filed on June 21, 2010.
9. *"Method Of Making Coupled Heteroaryl Compounds Via Rearrangement of Halogenated Heteroaromatics Followed By Oxidative Coupling."* S. R. Marder, Y. A. Getmanenko, U.S. Patent Application 13/578,238 filed February 9, 2011. PCT Int. Appl. EP2011/051913 filed February 9, 2011.
10. *"Remote n-doping of Organic Thin Film Transistors."* W. Zhao, Y. Qi, A. Kahn, S. R. Marder, U.S. Patent Application 13/094,608 filed Apr 26, 2011, PCT/EP2011/056584 filed April 26, 2011.
11. *"Bis(Sulfonyl)Biaryl Derivatives as Electron Transporting and/or Host Material."* S. Barlow, D. Cai, S.-J. Kim, B. Kippelen, J. Leroy, S. R. Marder, A. Scarpaci. U.S. Provisional Patent Application 61/421016 filed December 8, 2010. PCT Int. Appl. EP2011/0808409 filed December 7, 2011. US Patent Application 13/882110 and PCT/US11/63760 published on March 6, 2014.
12. *"2-Alkyl-5-Phenyl Oxadiazole-Carbazole Hosts for Guest Emitters."* Y. Zhang, C. Zuniga, D. Cai, S. R. Marder, B. Kippelen. U.S. Provisional Patent 61/426015 filed December 22, 2010. PCT/US2011/066597 filed on December 21, 2011.

13. *"Blends of Polynorbornenyl Polymers Comprising Hole Transporting Side Groups and Polynorbornenyl Polymers Comprising Electron Transporting Side Groups, as Host Materials for OLEDs."* Y. Zhang, C. Zuniga, X. He, D. Cai, S. R. Marder, B. Kippelen. U.S. Provisional Patent Application 61/426,027 filed December 22, 2010. PCT/US2011/066599 filed on December 21, 2011.
14. *"Coupled Heteroaryl Compounds via Rearrangement of Halogenated Heteroaromatics Followed by Oxidative Coupling (Acyl Moieties)."* Y. A. Getmanenko, B. Kippelen, D. K. Hwang, S. R. Marder. US Provisional Application 61/522,124 filed August 10, 2011, PCT/US2012/050214 filed August 9, 2012.
15. *"Coupled Heteroaryl Compounds via Rearrangement of Halogenated Heteroaromatics Followed by Oxidative Coupling (Heteroarylene Spacer Moieties)."* Y. A. Getmanenko, B. Kippelen, D. K. Hwang, S. R. Marder. US Provisional Application 61/522,143 filed August 10, 2011, PCT/US2012/050216 filed August 9, 2012.
16. *"Coupled Heteroaryl Compounds via Rearrangement of Halogenated Heteroaromatics Followed by Oxidative Coupling (Coupled Tricyclic Core Compounds)."* Y. A. Getmanenko, B. Kippelen, D. K. Hwang, S. R. Marder. US Provisional Application 61/522,159 filed August 10, 2011, PCT/US2012/050217 filed August 9, 2012.
17. *"Coupled Heteroaryl Compounds via Rearrangement of Halogenated Heteroaromatics Followed by Oxidative Coupling (Electron Withdrawing Groups)."* Y. A. Getmanenko, B. Kippelen, D. K. Hwang, S. R. Marder. US Provisional Application 61/522,188 filed August 10, 2011, PCT/US2012/050215 filed August 9, 2012.
18. *"Diimides/Diethynylaryl Copolymers and Devices."* T. Sajoto, S. P. Tiwari, S. R. Marder, B. Kippelen. US Provisional 61/545,686 filed October 11, 2011.
19. *"Non-Crosslinked Polystyrene Triscarbazole Hole Transport Materials."* Y. Zhang, S. R. Marder, H. Wojciech, B. Kippelen, M. Roland. US Provisional 61/579,394 filed December 22, 2011, PCT/US2012/071511 filed December 21, 2012.
20. *"Small Molecules Crosslinking Triscarbazole Hole Transport Materials."* C. Zuniga, S. R. Marder, H. Wojciech, B. Kippelen, M. Roland, J. Abdallah. US Provisional 61/579,418 filed December 22, 2011, PCT/US2012/071363 filed December 21, 2012.
21. *"Crosslinking Triscarbazole Hole Transport Polymers."* C. Zuniga, S. R. Marder, H. Wojciech, B. Kippelen, M. Roland, J. Abdallah. US Provisional 61/579,402 filed December 22, 2011.
22. *"Blends of Organic Semiconductor Compounds and Electrically Insulating Amorphous Polymers, Methods and Devices."* D. K. Hwang, B. Kippelen, L. E. Polander, R. R. Dasari, S. R. Marder. PCT/US12/32559 filed April 6, 2012.
23. *"Stannyl Derivatives of Naphthalene Diimides and Related Compositions and Methods."* L. E. Polander, S. R. Marder. US Provisional 61/579,608 filed December 22, 2011, PCT/US2012/071503 filed December 21, 2012.
24. *"Oxadiazole and Triazole Meta-linked n-Phenyl Carbazole Ambipolar Host Materials."* C. Zuniga, S. R. Marder, W. Haske, B. Kippelen. US Provisional 61/669,620 filed July 9, 2012, PCT/US2013/049329 filed July 3, 2013

25. *"High Glass Transition Temperature "Medium Sized" Ambipolar Host Materials."* C. Zuniga, X. He, Y. Zhang, S. Marder, W. Haske, B. Kippelen. US Provisional 61/669,654 filed July 9, 2012, PCT/US2013/049303 filed July 3, 2013.
26. *"Carbazole Substituted Triazole, Triazine, and Tetrazine Ambipolar Host Materials and Devices."* C. Zuniga, S. Marder, W. Haske, B. Kippelen. US Provisional 61/669,635 filed July 9, 2012, PCT/US2013/049394 filed July 3, 2013.
27. *"Phosphine Oxide-Carbazole Compounds for OLEDs."* X. He, Y. Zhang, S. Barlow, S. Marder, W. Haske, B. Kippelen. US provisional 61/692,608 filed August 23, 2012.
28. *"Ambipolar Host Material Class VI"*. Y. Zhang, X. He, S. Marder, B. Kippelen, W. Haske, S. Barlow. US provisional 61/694,111 filed August 28, 2012.
29. *"Metasulfonyl Carbazole Ambipolar Compounds and Compositions and Associated Methods and Devices."* Y. Zhang, X. He, S. Barlow, S. Marder, B. Kippelen, W. Haske. US provisional 61/693,773 filed August 27, 2012.
30. *"Asymmetric Sulfonyl Compounds and Compositions and Associated Methods and Devices."* Y. Zhang, X. He, S. Barlow, S. Marder, B. Kippelen, W. Haske. US provisional 61/693,769 filed August 27, 2012.
31. *"Ambipolar Host Material Class V."* Y. Zhang, X. He, S. Marder, B. Kippelen, W. Haske. US provisional 61/694,117 filed August 28, 2012.
32. *"Bis- and Tris- Sulfonyl Compounds and Compositions and Associated Methods and Devices."* Y. Zhang, X. He, S. Barlow, S. Marder, B. Kippelen, W. Haske. US provisional 61/693,772 filed August 27, 2012.
33. *"Oligomers and Polymers and Polymers and Methods Derived From Stannyl Derivatives Of Naphthalene Diimides."* L. E. Polander, R. R. Dasari, S. Marder, D. K. Hwang, B. Kippelen, S. Singh, Q. Shi, US provisional application 61/579,608 filed December 22, 2011, EP application 12189299.6 filed October 19, 2012, PCT/US2012/071514 filed December 21, 2012.
34. *"Coupled Heteroaryl Compounds via Rearrangement of Halogenated Heteroaromatics Followed by Oxidative Coupling (Electron Withdrawing Groups)."* Y. A. Getmanenko, S. R. Marder, B. Kippelen, D. K. Hwang. US Application 14/237,437 filed on February 6, 2014.
35. *"Systems and Methods for Producing Low Work Function Electrodes."* Bernard Kippelen, Yinhua Zhou, Canek Fuentes-Hernandez, Yinhua Zhou, Antoine Kahn, Jens Meyer, Jae Won Shim, Seth R. Marder, U.S. Patent Application 14/117,965, filed May 16, 2012, US2014/03131858 published May 15, 2014.
36. *"Controlling the Solubility and Electrical Conductivity of Organic Semiconductor Films by Reversible Doping."* U.S. Provisional Patent Application 62/173,067, filed on June 9, 2015.
37. *"Remote Doping of Organic Thin Film Transistors."* W. Zhao, Y. QI, A. Kahn, S. R. Marder, S. Barlow, U.S. Provisional Patent Application 14/092,523, filed on November 27, 2013.

38. *“Devices with Organic Semiconductor Layers Electrically-doped over a Controlled Depth.”* Bernard Kippelen, Naoya Alzawa, Canek Fuentes-Hernandez, Junji Kido, Seth Marder, Felipe A. Larrin, Wen-Fang Chou, Vladimir Kolesov, Mark Lehi Jones, International Patent Application PCT/US2016/035790, filed on June 3, 2016. Published January 12, 2017.
39. *“Tautomeric sensing using a covalent organic framework.”* Seth R. Marder, William R. Dichtel, Samik JHULKI, Stephen Barlow, Austin M. Evans. U.S. Provisional Patent Application 17 / 753,517, PCT / US2020 / 049668 filed on Sep. 8, 2020. Provisional application No. 62 / 896,358 , filed on Sep. 5 , 2019. US Patent Application Publication US 2022/0341851 A1. Published Oct. 27, 2022.
40. *“Methods for the electrochemical degradation of polyester polymers.”* Oana Luca, Seth Marder, Stephen Barlow, Phuc Hoang Pham. PCT Application No. PCT/US2024/030026 filed on May 17, 2024.