Table of Contents

SETH R. MARDER

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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 an inclusive environment 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 *Thank a Teacher* 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 Jiaotung 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 Bredas), 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 NOBCChE event at Georgia Tech (September 10, 2013)

Exemplar Speaker, "Enhancing Meaningful Creative Challenges: EMC^2" 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 NOBCChE, 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 OMS^3 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), Andrew "Andy" Redder (2024 – co-advised with Todd Deutsch-NREL), Anthony Gullion (2024 – co advised with Will Medlin), Yoo Joe Jeong (2025 – co advised with Katrina Knauer)

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 Humbolt 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 – 116 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 Franzone (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 2019-2020), 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-), Seamus Brady (October 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 Superieure de Lyon (2012), Cassandre Quinton, Laboratoire Photophysique et Photochimie Supramoleculaires et Macromoleculaires, 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-Ieng 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), Brieuc 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 Hazelton (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 Supramoleculaires et Macromoleculaires, 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 Gieseking (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 – 2023

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

Deloitte Climate Innovation Collaboratory Governance Committee 2023 – present

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

80. 16th International Symposium on Functional π-Electron Systems (F-π-16): June 29-July 7, 2025, Jeju Shinhwa World, Jeju, Korea. Member of the International Advisory Board. Organizing Committee Chair: Taiho Park

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 – 2024

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)
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)

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)
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)
5. "Synthesis and Reactions of Bridging (Vinylcarbyne)diiron Complexes." C. P. Casey, S. R. Marder, *Organometallics* **4**, 411-413 (1985, DOI: 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)
7. "Synthesis of $\{[(C_5H_5)_2(CO)_2Fe_2(\mu\text{-}CO)]_2(\mu\text{-}C_3H_3)\}^+PF_6^-$ 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)
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)
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)
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)
11. "Synthesis and Structure of (*cis*)-[1-ferrocenyl-2-(4-nitrophenyl)ethylene], an Organo-transition 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)
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)
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)
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)

15. "Reactions of Heteroatom and Carbon Nucleophiles with the Cationic Bridging Methylidyne Complex $\{[(C_5H_5)(CO)Fe]_2(\mu\text{-}CO)(\mu\text{-}CH)\}^+PF_6^-$." C. P. Casey, M. Crocker, P. C. Vosejpka, P. J. Fagan, S. R. Marder, M. A. Gohdes, *Organometallics* **7**, 670-675 (1988, DOI: 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)
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)
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)
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)
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)
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)
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)
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)
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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

38. "Second-Order Non-Linear Optical Properties of Diironalkenylidyne Complexes: Crystal Structure of $\{(\eta\text{-}C_5H_5)_2Fe_2(CO)_2(\mu\text{-}CO)(\mu\text{-}(E)\text{-}CCH{=}CHC_6H_4\text{-}(p)\text{-}NMe_2)\}^+BF_4^-$." 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)

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)

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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)

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 Hypolarizability 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)

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)

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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**, 70490O/1-70490O/9 (2008)

139. "Polymer/$BaTiO_3$ nanocomposites for energy storage." P. Kim, N. Doss, J. Tillostson, 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

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)

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

Invited Research Lectures (236)

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 (Arnheim, 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
Novaled, 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
Universidad de Costa Rica, San Pedro, Costa Rica	July 2024
Mississippi State University, MS	September 2024
VinUniversity, Hanoi Vietnam	December 2025

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 Makhlouf 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 Opto-electronics."* 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 Opto-electronics*." 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, Keynote to be presented at the CHEM R&D - 2025 Future of Chemistry conference in Frankfurt, Germany (April 28-30, 2025)

39. *"."* 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 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. 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 Nanotechnolocy 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. *"Dithienopyrolle-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. *"Dithienopyrolle-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 Pacifichem 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 $6x10^{23}$ 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 Baldridge, Stephen Barlow, Jean-Luc Brédas, Yulia Getmanenko, Joel M. Hales, Alex K-Y Jen, Sei-Hum Jang, Yesudas Kada, Hyeongeu 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. Schalnat, 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 Philadephia, 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. Schalnat, 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 Gieseking, Yulia Getmanenko, Joel M. Hales, Alex K-Y Jen, Sei-Hum Jang, Hyeongeu 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 (Fπ-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, 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, 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, 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, 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, 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)

189. *"."* Seth Marder, to be presented at Sir Richard Friend's symposium of the 2025 European Conference on Molecular Electronics (ECME 2025) in Cambridge, United Kingdom (September 22-26, 2025)

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. "S*econd-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

IRES US - Germany: Perovskites - A Solution to Global Energy Conversion Needs. NSF. September 1, 2024 – August 31, 2027. Total award: $450,000. OISE-2419757

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, Jospeh 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. Jospeh 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. Jospeh 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. Jospeh 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

Venture for Innovation in Self-assembly and integration of Optoelectronic Nanostructures (VISION). Michael Scheibner (UC Merced), PI. Seth Marder (CU Boulder PI). September 1, 2024 – August 31, 2027. Total award: $1,000,000. DMR-2425230

Partnership for Education and Advancement of Quantum and nano-Science (PEAQS). Jeff Jessing (Fort Lewis College), PI. Seth Marder (CU Boulder PI). September 1, 2024 – August 31, 2030. Total award: $4,195,764. DMR-2424811

Industrial Support

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

General Electric Company
Lockheed Missiles and Aerospace Company
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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)
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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.
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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.
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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)

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28. *"Carbozole-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.

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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)

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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)

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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)

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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)

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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.
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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.
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