Adrianne M. Rosales
University of Colorado, Chemical and Biological Engineering
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EDUCATION

Ph.D. Chemical Engineering, May 2013
University of California, Berkeley – Berkeley, CA
Advisor: Professor Rachel A. Segalman
Dissertation: "Nanostructure Control of Biologically Inspired Polymers"

B.S. Chemical Engineering, May 2007
The University of Texas at Austin – Austin, TX
Graduated *magna cum laude*

RESEARCH & WORK EXPERIENCE

Postdoctoral Fellow 07/2013 - present
Department of Chemical and Biological Engineering, University of Colorado, Boulder
Lab of Professor Kristi Anseth
Visiting Scholar in lab of Jason Burdick, University of Pennsylvania (09/2014 - present)

Graduate Research Assistant 08/2007 – 05/2013
Department of Chemical & Biomolecular Engineering, University of California, Berkeley
Labs of Professor Rachel A. Segalman & Dr. Ronald N. Zuckermann (LBNL)

Undergraduate Research Assistant 01/2005 – 05/2007
Department of Chemical Engineering, University of Texas at Austin
Lab of Professor Nicholas A. Peppas

Polypropylene Licensing& Catalyst Intern 05/2006 – 08/2006
Dow Chemical Company – South Charleston, WV

Beauty Care R&D Intern 06/2005 – 08/2005
Procter & Gamble – Cincinnati, OH

FELLOWSHIPS AND AWARDS

2014 NIH Ruth L. Kirschstein NRSA F32 Postdoctoral Fellowship
2014 American Heart Association Postdoctoral Fellowship (declined to accept NIH F32)
2014 Burroughs Wellcome Fund Postdoctoral Enrichment Program Award
2012 University of California Dissertation Year Fellowship
2012 Carl Storm Underrepresented Minority Fellowship (for travel to 2012 Bioinspired Materials GRC)
2007 National Science Foundation Graduate Fellowship
2007 University of California, Berkeley, Chancellor's Fellowship
2006 Dow Outstanding Junior Award (University of Texas at Austin)
2005 ConocoPhillips SPIRIT Scholars Program (University of Texas at Austin)
2003 National Hispanic Scholar Finalist Scholarship
2003 Robert C. Byrd Scholarship
2003 College of Engineering Friends of Alec Scholarship (University of Texas at Austin)

PUBLICATIONS

9. **A.M. Rosales** and K.S. Anseth. "Capturing Extracellular Matrix Dynamics with Reversible Hydrogels." *Nature Reviews Materials*, invited review, *in preparation*.
8. **A.M. Rosales**, K.M. Mabry, E.M. Nehls, K.S. Anseth. "Photoresponsive Elastic Properties of Azobenzene-Containing Poly(ethylene-glycol)-based Hydrogels." *Biomacromolecules* **2015**, 16(3), 798-806.
7. **A.M. Rosales**, R.A. Segalman, R.N. Zuckermann. "Polypeptoids: A Model System to Study the Effect of Monomer Sequence on Polymer Properties and Self-Assembly." *Soft Matter* **2013**, 9, 8400-8414.
6. H.K. Murnen*, **A.M. Rosales***, A.V. Dobrynin, R.N. Zuckermann, R.A. Segalman. "Persistence Length of Polyelectrolytes with Precisely Located Charges." *Soft Matter* **2013**, 9, 90-98.
5. **A.M. Rosales**, B.L. McCulloch, R.N. Zuckermann, R.A. Segalman. "Tunable Phase Behavior of Polystyrene-Polypeptoid Block Copolymers" *Macromolecules* **2012**, *45*(15),6027-6035
4. **A.M. Rosales**, H.K. Murnen, S.R. Kline, R.N. Zuckermann, R.A. Segalman. "Measurement of the Persistence Length of Helical and Non-Helical Polypeptoids in Solution." *Soft Matter* **2012**, 8, 3673-3680.
3. H.K. Murnen, **A.M. Rosales**, J.N. Jaworski, R.A. Segalman, R.N. Zuckermann. "Hierarchical Self-Assembly of a Biomimetic Diblock Copolypeptoid into Homochiral Superhelices." *Journal of the American Chemical Society* **2010,** 132(45), 16112-16119.
2. **A.M. Rosales**, H.K. Murnen, R.N. Zuckermann, R.A. Segalman. "Control of Crystallization and Melting Behavior in Sequence Specific Polypeptoids." *Macromolecules* **2010**, 43(13), 5627-5636.
1. J.B. Thomas, J.H. Tingsanchali, **A.M. Rosales**, C.M. Creecy, J.W. McGinity, N.A. Peppas. "Dynamics of Poly(ethylene glycol)-tethered, pH Responsive Networks." *Polymer* **2007**, 48(17), 5042-5048.

CONTRIBUTED PRESENTATIONS

13. Oral presentation. "A Strategy for Reversible Control of Hydrogel Modulus to Probe Myofibroblast Activation." Society for Biomaterials Meeting, Charlotte, NC, 2015.
12. Oral presentation. "A Light-Responsive Strategy for Reversible Control of Elastic Modulus in PEG-based Hydrogels." American Chemical Society, Denver, CO, 2015.
11. Oral presentation. "A Hydrogel-Based Cell Culture Platform with Reversible Stiffening via an Azobenzene-Containing Crosslinker." American Institute for Chemical Engineers (AIChE), Atlanta, GA, 2014.
    **Recognized as a "Best Presentation" of the Biomaterials session*
10. Poster presentation. "Reversibly Stiffening Hydrogels to Probe Myofibroblast Activation." Signal Transduction in Engineered Extracellular Matrices Gordon Research Conference, Waltham, MA, 2014.
9. Oral presentation. "Reversibly Stiffening Hydrogels to Probe Myofibroblast Activation." Society for Biomaterials Meeting, Denver, CO, 2014.
8. Oral presentation. "Self-Assembly of Peptoid Block Copolymers with Tunable Conformational Asymmetry." APS March Meeting, Baltimore, MD, 2013.
7. Poster presentation. "Tunable Phase Behavior of Polypeptoid-Containing Block Copolymers." 8th Peptoid Summit, Berkeley, CA, 2012.
6. Poster presentation. "Tunable Phase Behavior of Polypeptoid-Containing Block Copolymers." Bioinspired Materials Gordon Research Conference, Davidson, NC, 2012.
5. Oral presentation. "Effect of Chain Shape on the Self-Assembly of Bioinspired Block Copolymers." APS March Meeting, Boston, MA, February 2012.

4. Oral presentation. “Effect of Monomer Sequence on the Self-Assembly of Bioinspired Block Copolymers.” APS March Meeting, Dallas, TX, March 2011.
3. Poster presentation. “Self-assembly of Polypeptoid Block Copolymers in the Bulk.” 7th Peptoid Summit, Berkeley, CA, August 2010.
2. Oral presentation. “Self-assembly of Crystalline Bioinspired Block Copolymers.” APS March Meeting, Portland, OR, March 2010.
1. Oral presentation. “Self-assembly of Bioinspired Block Copolymers.” APS March Meeting, Pittsburgh, PA, March 2009.

GRANTSMANSHIP

2015 (P.I. K.S. Anseth)	R21 “Dynamic Hydrogel Substrates for Studying the Effects of Stiffness on Fibrosis” (resubmission, pending results)
2014 (P.I. K.S. Anseth)	R01 “Biomaterial Niches to Study VICs and Their Myofibroblast Properties”
2014 (P.I. K.S. Anseth)	R21 “Dynamic Hydrogel Substrates for Studying the Effects of Stiffness on Fibrosis” (22nd percentile)
2014	AHA Postdoctoral Fellowship (Funded – 8th percentile)
2014	BWF Postdoctoral Enrichment Program Award (Funded)
2013 (resubmission)	F32 “Engineered Hydrogels with Reversible Moduli to Probe Myofibroblast Activation” (Funded – 33rd percentile)

PROFESSIONAL DEVELOPMENT

Analytical and Quantitative Light Microscopy course (2015)
Marine Biological Laboratory, Woods Hole, MA
Preparing for an Engineering Faculty Career course (2014)
University of Colorado, Boulder, CO
Future Faculty Workshop: Diverse Leaders of Tomorrow (2011)
Organized by Professor Timothy Swager, Dedham, MA

TEACHING AND MENTORING EXPERIENCE

Undergraduates Mentored

Eric Michael Nehls (University of Colorado, Boulder) 07/2013 – present
Marilyn and Howard L. Anseth Outstanding Undergraduate Research Award
2014-2015 Outstanding Undergraduate Research Award – Gold Recipient
AHA Summer Undergraduate Research Fellow

Aakriti Jain (University of California, Berkeley) 01/2011 – 05/2011

High School Students Mentored

Laura Fleming (Boulder, CO) 06/2014 – 08/2014

Graduate Student Instructor 08/2008 – 12/2008
Thermodynamics, ChE 141, University of California, Berkeley
Instructor: Professor Roya Maboudian

SERVICE AND PROFESSIONAL ASSOCIATIONS

Peer Reviewer for *Biomacromolecules, Acta Biomaterialia, Macromolecules, ACS Macro Letters*
Member, American Physical Society, American Chemical Society, Society for Biomaterials, American Institute of Chemical Engineers

SCIENTIFIC OUTREACH

11/2013 – 05/2014	AP Chemistry tutor, Skyline High School, Longmont, CO
01/2013 & 04/2012	Introduction to Polymers for 8th grade, Castro Valley Middle School Organized and taught polymers lesson (with Lauren Baiocchi, teacher)
2009 – 2012	Community in the Classroom volunteer Science demonstrations for 2nd graders at schools in East Bay Area, CA
2009 & 2008	Introduction to Polymers at Rio Mesa High School in Oxnard, CA Designed & led 2 day course
2006 – 2007	Women in Engineering Program Peer Assistance Leader
2005 – 2006	Community Affairs Director, Society of Women Engineers, UT-Austin Organized one day workshop to introduce high school women (over 100 students) to engineering disciplines