

Mitchell Anthamatten: Curriculum Vitae
University of Rochester, Department of Chemical Engineering, Rochester, NY 14627
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(i) Professional Preparation

- (9/01 – 12/02) Lawrence-Livermore National Laboratory
Postdoctoral Fellowship – Chemistry & Materials Science
- (08/96 – 09/01) Massachusetts Institute of Technology
Ph.D. Chemical Engineering
Thesis: *Order in Liquid Crystalline Diblock Copolymers*
Minor: Applied Mathematics
- (08/96 – 05/98) Massachusetts Institute of Technology
M.S. Chemical Engineering Practice
- (08/92 – 05/96) University of Missouri—Columbia
B.S. Chemical Engineering, *magna cum laude*
Minor: German

(ii) Appointments

- (2004 – present) University of Rochester, Dept. of Chemical Engineering
Assistant Professor, Scientist
- (12/02 – 12/03) Lawrence-Livermore National Lab
Staff Scientist

(iii) Fellowships, Honors, and Awards

3M Non-tenured faculty Award, 2007
Recipient of NIF Program Award, 2003
Recipient of Amoco Poster Award, 2000
Bright Flight Scholarship, 1992-1996
Curator's Scholarship & Award, 1992-1996

(iv) Societies & Professional Organizations

American Physics Society
American Chemical Society
American Institute of Chemical Engineers
Materials Research Society

(v) Teaching Portfolio

- Spring '04-'08 Instructor, ChE 413 (213): Engineering of Soft Matter (UofR)
Developed a graduate-level class that covers non-covalent interactions and reviews contemporary literature of selected research topics related to soft, organic materials.
- Spring '04-'08 Instructor, ChE 150: Green Engineering (UofR)
Contributed a unit "Environmental Economics" for an introductory, freshmen-level class that is co-taught by five instructors.
- Fall '04-'08 Instructor, ChE 244: Heat and Mass Transfer (UofR)
This is a fundamental undergraduate class that applies mathematical concepts to solving heat and mass transfer problems.

(vi) Synergistic Activities

Broader service to scientific & engineering community: NSF Review Panels (2); Session Chair at annual APS meetings; Organizer of AIChE Topical "Polymer for Energy Applications" 2007, Reviewer for numerous journals, including *Macromolecules*, *Langmuir*, *J. Am. Chem. Soc.*, *Adv. Mater.*, etc.

Annual Judge of Siemens Competition in Math, Science, & Technology (2006-2008)

Served as board member of Harrison Howe Award Committee (2006-2008)

Development of special topics graduate-level class "Engineering of Soft Matter" (2005-2008)

(vi) Collaborators

- (a) Collaborators and Co-Editors
William K. Nonidez, University of Alabama—Birmingham
- (b) Graduate and Postdoctoral Advisors
Paula T. Hammond, Massachusetts Institute of Technology
Robert C. Cook, Lawrence-Livermore National Laboratory
- (c) Thesis Advisor and Postgraduate-Scholar Sponsor.
Michelle Wrue, Univ. of Rochester (5th year graduate student)
Xichong Chen, Univ. of Rochester (5th year graduate student)
Lijun Zao, Univ. of Rochester (4rd year graduate student)
Jaihui Li, Univ. of Rochester (2nd year graduate student)
Supacharee Roddacha, Univ. of Rochester (2nd year graduate student)
Total number of graduate students advised: 5

Publications, Lectures, and Presentations

- A) Publications
- B) Patents
- C) Books
- D) Dissertations
- E) Invited Conference Presentations
- F) Departmental Colloquia / Seminar
- G) Contributed Lectures
- H) Contributed Posters
- I) Media Listings
- J) Other Publications and Public Appearances

A) Publications

All publications listed below were peer-reviewed. The majority were submitted as contributed works to journals spanning the fields of chemistry, physics, and engineering. A few of those listed are contributions to books or encyclopedia volumes. An asterisk signifies invited works.

– University of Rochester–

- 29. Atom Transfer Radical Polymerization of End-Functionalized Hydrogen Bonding Polymers and Resulting Polymer Miscibility.
submitted, Macromolecules, 2009
Michelle H. Wrue, Mitchell Anthamatten
- 28. Thermally Activated Diffusion in Reversibly Associating Polymers
Jiahui Li, Kelly D. Sullivan, Edward B. Brown, Mitchell Anthamatten
submitted, Soft Matter 2009
- 27. Solvent-Assisted Dewetting during Chemical Vapor Deposition
Xichong Chen, Mitchell Anthamatten
in press, Langmuir 2009
- 26.* Vapor Deposition Polymerization
Mitchell Anthamatten, K. K. S. Lau
in press, Encyclopedia of Chemical Processing 2009
- 25.* Morphology of Vapor Deposited Polyimides Containing Copper Phthalocyanine
Z. I. Green, X. Chen, A. Papastrat, L. Zou, M. Anthamatten
Chemical Vapor Deposition 2009, 15, 106-111
- 24. Morphology, Hydration, and Proton Transport in Novel Sulfonated Polyimide-Silica Nanocomposites
Lijun Zou, Supacharee Roddecha, Mitchell Anthamatten
Polymer 2009, 50, 3136-3144.

23. Development Of A Safety Device For Preventing Clothing Iron Contact Burns
Ryan Beers, Mitchell Anthamatten, Dixie Reid, S. A. Kahn, Christopher W. Lentz,
Journal of Burn Care and Research, December **2008**
 22. Vapor Deposition Polymerization of Poly(Methyl Methacrylate) in an Axisymmetric Vacuum Reactor
Xichong Chen, Mitchell Anthamatten
Polymer, **2008**, 49, 1823-1830.
 21. Phase Behavior Predictions for Polymer Blends Containing Reversibly Associating End-Groups
Mitchell Anthamatten
Journal of Polymer Science: Part B: Polymer Physics, **2007**, 45, 3285-3299.
 20. Shape Memory Effects in Polymer Networks Containing Reversibly Associating Side-Groups
Jiahui Li, James A. Viveros, Michelle H. Wrue, Mitchell Anthamatten
Advanced Materials, **2007**, 19, 2851-2855.
 19. Synthesis and Characterization of Polyimide-Polysiloxane Segmented Copolymers for Fuel Cell Applications
Lijun Zou, Mitchell Anthamatten
Journal of Polymer Science: Part A: Polymer Chemistry, **2007**, 45, 3747-3758.
 18. Vapor Deposition of Polybenzoxazole Precursors
Xichong Chen, Mitchell Anthamatten, David Harding
Macromolecules, **2006**, 39, 7561-7565.
- Lawrence Livermore National Lab –
17. “Preparation of Polyimide Ablator Coatings Meeting the NIF Specifications”
Stephan Letts, Evelyn Fearon, Mitchell Anthamatten, Steven Buckley, Charlotte King, and Robert Cook
Fusion Technology, **2006**, 49, 714-720.
 16. An Investigation of Solid-State Amidization and Imidization Reactions in Vapor-Deposited Poly(amic acid)
Mitchell Anthamatten, Stephan A. Letts, Katherine Day, Robert C. Cook, Anthony P. Gies, Tracy P. Hamilton, William H. Nonidez
Journal of Polymer Physics: Part A: Polymer Chemistry, **2004**, 42, 5999-6010.
 15. Deformation Behavior of Ion-irradiated Polyimide
S. O. Kucheyev, Tom E. Felter, Mitchell Anthamatten, Bradby, J. E.
Applied Physics Letters, **2004**, 85, 733-735.
 14. A Matrix Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry Study of Imidization of Vapor Deposited ODA-PMDA Poly(amic acid)
Anthony P. Gies, William K. Nonidez, Mitchell Anthamatten, Robert C. Cook
Macromolecules, **2004**, 37, 5923-5929.

13. Controlling Surface Roughness in Poly(amic acid) Films by Solvent Vapor Exposure
Mitchell Anthamatten, Stephan A. Letts, Robert C. Cook
Langmuir, **2004**, *20*, 6288-6296.
12. IR Absorptive Properties of Plastic Mandrels Used in ICF Capsules
Robert Cook, Mitchell Anthamatten, Steve Letts, Abbas Nikroo, Don Czechowicz
Fusion Science & Technology, **2004**, *45*, 148-156.
11. Progress Toward Meeting NIF Specifications for Vapor-Deposited Polyimide Ablator Coatings
Stephan A. Letts, Mitchell Anthamatten, Steven R. Buckley, Evelyn Fearon, April E. H. Nissen, Robert C. Cook.
Fusion Science & Technology, **2004**, *45*, 180-186.
10. Characterization of an Insoluble Polyimide Oligomer by Matrix Assisted Laser Desorption Ionization Time-of-flight Mass Spectrometry
Anthony P. Gies, William K. Nonidez, Mitchell Anthamatten, Robert C. Cook, Jimmy W. Mays
J. of Mass Spectroscopy, Rapid Communications, **2002**, *16*, 1903-1910.

– Massachusetts Institute of Technology –

9. Direct Observation of a Smectic Bilayer Microstructure in Side-Chain Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Jung-Sheng Wu, and Paula T. Hammond
Macromolecules, **2001**, *34*, 8574-8579
8. A Free Energy Model of Side Chain Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, and Paula T. Hammond
Journal of Polymer Science B: Polymer Physics, **2001**, *39*, 2671-2691
- 7.* Order-Disorder and Order-Order Transitions in Smectic C* Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten and Paula T. Hammond
Order in Anisotropic Materials, ACS Books, Glaser, R. Ed.; **2000**, *32*, 8066-8076
6. A SAXS Study of Microstructure Ordering Transitions in Liquid Crystalline Side-Chain Diblock Copolymers
Mitchell Anthamatten and Paula T. Hammond
Macromolecules, **1999**, *32*, 8066-8076
5. A Morphological Study of Well-Defined Smectic Side-Chain LC Block Copolymers
Mitchell Anthamatten, Wen Yue Zheng, and Paula T. Hammond
Macromolecules, **1999**, *32*, 4838-4848

– University of Missouri - Columbia –

4. A Hexanuclear Copper Arylselenolate: Synthesis, Structure and Proposal for its Rearrangement.
Dietmar Ohlmann, Hans Pritzkow, Hansjoerg Gruetzmacher, Mitchell Anthamatten and

Rainer Glaser
J. Chem. Soc., Chem. Commun., **1995**, 1101.

3. Comparative Analysis of Crystal Structures of (E,E)-Configured Para-Substituted Acetophenone Azines with Halogen, Oxygen, Nitrogen, and Carbon Functional Groups
Rainer Glaser, Grace Shiahuy Chen, Mitchell Anthamatten, Charles L. Barnes
J. Chem. Soc., Chem. Commun., **1995**, 1449-1458.
2. Stereochemistry and Stereoelectronics of Azines. A Solid State Study of Para-Substituted (H, F, Cl, Br, CN) Acetophenone Azines
Grace Shiahuy Chen, Mitchell Anthamatten, Charles L. Barnes, Rainer Glaser
J. Org. Chem., **1994**, 59, 4336.
1. Polymorphism and C=N-N=C Conformational Isomers of Azines: X-ray Crystal and Ab Initio Structures of Two Rotational Isomers of Methyl (para-Tolyl) Ketone Azine
Grace Shiahuy Chen, Mitchell Anthamatten, Charles L. Barnes, Rainer Glaser*
Angew. Chem., Int. Ed. Engl., **1994**, 33, 1081.

B) Patents

1. Shape Memory Polymers Containing Side-Groups Bearing Multiple Hydrogen-Bonding Sites (SN 11/820,693)
Mitchell Anthamatten, Jiahui Li, Inventors.
Patent filed June 20, 2007, with the U.S. Patent and Trademark Office.

C) Dissertations

i) Supervised

2. Experimental and Theoretical Study of Dinitrogen Chemistry.
Zachary I. Green, M.S. Dissertation, University of Rochester, 2008

ii) Written

1. Order in Side-Chain Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Ph.D. Dissertation, Massachusetts Institute of Technology
Advisor: Professor Paula T. Hammond
Thesis Committee: Profs. Daniel Blankschtein, Gregory C. Rutledge, Edwin L. Thomas

D) Invited Conference Lectures and Workshop Presentations

7. Network Polymers Bearing Reversibly Associating Side-Groups
Mitchell Anthamatten
Northeast ACS Regional Meeting; Burlington VT; July 2, **2008**
6. Unique Properties of Reversibly Associating Polymer Networks
Mitchell Anthamatten
APS March Meeting; New Orleans, LA; March 10th, **2008**

5. Dynamic Polymer Networks Containing Reversibly Associating Side-Groups
Mitchell Anthamatten
1st Annual Science & Engineering Faculty Day; St. Paul, MN; June 20, **2007**.
4. Macromolecular Self-Organization in the Melt State
Mitchell Anthamatten
Symposium of Materials Research; Rochester, NY; April 8, **2006**
3. Solid-State Reaction Kinetics in Vapor Deposited Polyimide Films
Mitchell Anthamatten, Anthony P. Gies, William K. Nonidez, Robert C. Cook, and Stephan A. Letts
ACS Northeast Regional Meeting; Rochester, NY; November 1, **2004**.
2. Polyimide Block Copolymers for Fuel Cell Applications
Mitchell Anthamatten
Materials Issues for Fuel Cells Workshop, Alfred University, Alfred NY; October 14, **2004**
1. Self-Assembly and Mesophase Behavior of Asymmetric Block Copolymers
Mitchell Anthamatten and Paula T. Hammond
7th Pacific Polymer Conference, Oaxaca, Mexico; December 6th, **2001**.

F) Departmental Colloquia, Seminar, and Guest Lectures

Titles of lectures are given followed by the name of the host, the hosting institution, and the date of the presentation. All lectures were regularly scheduled and publically announced colloquia. Lectures presented during my faculty search, in 2003, are denoted by asterisks.

15. Physical Properties of Network Polymers Bearing Reversibly Associating Groups
Prof. Krystyn Van Vliet, Massachusetts Institute of Technology, Prog. of Poly. Sci. and Tech., March 11, **2009**
14. A Transformer Elastomer: More Than Meets the Eye
Prof. Michael Lewis, Saint Louis University; April 1, **2008**
13. A Transformer Elastomer: More Than Meets the Eye
Prof. Thomas M. Mitzel, Trinity College; September 28th, **2008**
12. Physical Properties of Network Polymers Bearing Reversibly Associating Side-Groups
Prof. Rainer Glaser, University of Missouri- Columbia; March 31, **2008**
11. A Retrospective Rubber: More than Meets the Eye
Prof. Patrick Mather, Syracuse University; February 8, **2008**
10. A Shape Memory Effect Derived from Reversible Hydrogen Bonding
Prof. Anthony Chianese, Colgate University; January 22, **2008**
9. Dynamic Polymer Networks Containing Reversibly Associating Side-Groups
Department of Chemical Engineering, Rose-Hulman Inst. of Tech; October 27, **2007**

8. Vapor Deposition and Smoothing of Polyimides: an Elegant Approach to Surface Modification; [Prof. David Foster](#), [Kodak](#), Corporate Research Colloquium, April 14, **2005**
7. Solvent Vapor Smoothing - A New Approach to Surface Modification
[Prof. Stephan Jacobs](#), [University of Rochester](#), LLE Science & Technology Seminar
February 18th, **2005**
- 6.* Morphology and Mesophase in Side-Group Liquid Crystalline Block Copolymers
[Prof. William K. Nonidez](#), [University of Alabama- Birmingham](#), Chemistry, Sept. 30, **2004**.
- 5.* Order in Liquid Crystalline Block Copolymers
[Prof. Satish J. Parulekar](#), [Illinois Inst. of Technology](#), Dept. Chem. Eng., Feb 28th, **2003**.
- 4.* Order in Liquid Crystalline Block Copolymers
[Prof. Balaji Narasimhan](#), [Iowa State University](#), Dept. Chem. Eng., Feb 7th, **2003**.
- 3.* Order in Liquid Crystalline Block Copolymers
[Prof. Shaw Chen](#); [University of Rochester](#), Dept. Chem. Eng., Jan 28th **2003**.
2. Experiments Aimed at Understanding Solvent-Vapor Smoothing of Polyimide NIF Targets
Dr. Thomas Felter; [Materials Science & Technology Division](#), [LLNL](#), July 18th, **2003**.
1. Order in Liquid Crystalline Block Copolymers
[Prof. Micheal Rubner](#), [MIT](#); Polymer Program of Science and Technology,
September 27th, **2000**.

G) Contributed Lectures

Contributed lectures include papers presented at national and regional scientific meetings and symposia. The majority were presented technical society meetings including the American Physical Society (APS), the American Institute of Chemical Engineering (AIChE), and the American Chemical Society. Presentations are listed in reverse chronological order, separated according to affiliation, and the presenting author is underlined.

– *University of Rochester* –

34. Phenomenology of Polymer Thin Film Dewetting during Vapor Deposition Polymerization
Mitchell Anthamatten, Xichong Chen; Pittsburg, PA, March 19, 2009.
33. Analysis of Diffusion through Dynamic Network Polymers using Multi-photon Fluorescence
Recovery after Photobleaching
Jiahui Li, Kelley Sullivan, Edward Brown, Mitchell Anthamatten
2007 APS Annual March Meeting; Pittsburg, PA, March 19, 2009.
32. Phase Behavior of Blends Containing End-Associating Polymers
Michelle Wrue, Mitchell Anthamatten
AIChE Annual Meeting; Philadelphia, PA; November 17, 2008.

31. A Study of Dewetting during Solvent-Assisted Vapor Deposition of Polymer Films
Xichong Chen, Mitchell Anthamatten
AIChE Annual Meeting; Philadelphia, PA; November 20, 2008.
30. Sulfonated Polyimide-Silica Proton Exchange Nanocomposites
Mitchell Anthamatten, Lijun Zou
AIChE Annual Meeting; Philadelphia, PA; November 20, 2008.
29. Vapor Deposition of Condensation Polymers for Organic Electronics
Zachary I. Green, Xichong Chen, Mitchell Anthamatten
AIChE Annual Meeting; Salt Lake City, UT; November 8, 2007.
28. Fuel Cell Performance of Nano-Structured Sulfonated Polyimides
Lijun Zou, Mitchell Anthamatten
AIChE Annual Meeting; Salt Lake City, UT; November 8, 2007.
27. Novel Dynamic Polymer Networks Containing Reversible Hydrogen Bonding Side-Groups
Jiahui Li, Andrew J. Hilmer, Helen H. Park, Mitchell Anthamatten
AIChE Annual Meeting; Salt Lake City, UT; November 6, 2007.
26. Initiated Chemical Vapor Deposition of Poly(methyl methacrylate)
Xichong Chen, Mitchell Anthamatten
2007 APS Annual March Meeting; Denver, CO, March 7, 2007.
25. Initiated Chemical Vapor Deposition of Poly(methyl methacrylate)
Xichong Chen, Mitchell Anthamatten
2007 APS Annual March Meeting; Denver, CO, March 7, 2007.
24. Miscibility Studies on Blends Containing Telechelic Supramolecular Polymers
Mitchell Anthamatten, Michelle Wrue
2007 APS Annual March Meeting; Denver, CO; March 6, 2007.
23. Shape-Memory Network Polymers Containining Reversible H-bonding Associating Groups
Jiahui Li, Mitchell Anthamatten
2007 APS Annual March Meeting; Denver, CO; March 6, 2007.
22. Morphology and Proton Transport in Polyimide-Polysiloxane Segmented Copolymers
Mitchell Anthamatten, Lijun Zou
2007 APS Annual March Meeting; Denver, CO; March 5, 2007.
21. Polybenzoxazole Films Fabricated Using Vapor Deposition Polymerization AIChE Annual Meeting
Xichong Chen, Mitchell Anthamatten
AIChE Annual Meeting; Cincinnati, OH; November 2, 2005.
20. Modeling of Phase Behavior of Polymer Blends Containing Linear Telechelic Supramolecular Polymers
Mitchell Anthamatten, Michelle Wrue
AIChE Annual Meeting; Cincinnati, OH; November 2, 2005.

19. Nanostructured Polyelectrolyte Membranes for Fuel Cells
Mitchell Anthamatten
Rochester Fuel Cell Forum; Rochester, NY; October 22, 2005.
 18. Vapor Deposition of High Performance Polymers
Mitchell Anthamatten, Xichong Chen, David Harding
16th Target Fabrication Specialists Meeting; Scottsdale, AZ; May 3, 2005.
 17. Chemical Vapor Deposition of Polybenzoxazole Precursor
Mitchell Anthamatten, Xichong Chen
APS Annual March Meeting; Los Angeles, CA; March 25, 2005
- Lawrence Livermore National Laboratory –
16. An Investigation of the Solid-State Condensation Polymerization Reactions in Vapor-Deposited Poly(amic acid)
Mitchell Anthamatten, Steve Letts, Katherine Day, Robert Cook, Anthony P. Gies, William K. Nonidez
APS Annual March Meeting, 2004; Montreal, Canada; March 23, 2004.
 15. Experiments Aimed at Understanding Solvent-Vapor Smoothing of Polymer Surfaces
Mitchell Anthamatten, Stephen Letts, Steven Buckley, April Nissen, Evelyn Fearon, Robert Cook
15th Target Fabrication Specialists Meeting; Gleneden Beach OR; June 1-5, 2003.
 14. Progress Toward Meeting NIF Specifications for Vapor Deposited Polyimide Ablator Coating
Stephen Letts, Mitchell Anthamatten, Steven Buckley, Evelyn Fearon, April Nissen, Robert Cook
15th Target Fabrication Specialists Meeting; Gleneden Beach OR; June 1-5, 2003.
 13. Smoothing Polymer Surfaces by Solvent-Vapor Exposure
Mitchell Anthamatten, Stephen Letts, Robert Cook
APS Annual March Meeting; Austin, TX; March 2-6, 2003.
 12. Controlling Surface Roughness in Polyimide NIF Targets by Solvent-Vapor Exposure
Mitchell Anthamatten, Steve Letts, Steve Buckley, April Nissen, Chris Chancellor, Evelyn Fearon, and Robert Cook
LLNL Postdoctoral Symposium, September 2002
 11. Control of Surface Roughness in Polymer Films by Solvent-Vapor Exposure
Mitchell Anthamatten, Steven Buckeley, Chris Chancellor, April Nissen, Evelyn Fearon, Steve Letts, Robert Cook
APS Annual March Meeting; Indianapolis, IN; March 20th, 2002
- Massachusetts Institute of Technology –
10. Modeling the Phase Behavior of Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Paula T. Hammond
APS Spring Meeting; Seattle, WA; March 14th, 2001.

9. Conformational Asymmetry in LC Block Copolymers: Theory and Experiment
Mitchell Anthamatten, Paula T. Hammond
AIChE Annual Meeting; Los Angeles CA; November 14th, 2000.
8. Understanding Self-Assembly in Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Paula T. Hammond
New England Quarterly Conference on Complex Fluids; MIT, Cambridge, MA; September 24th, 2000
7. Order Transitions in Side-Chain Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten and Paula T. Hammond
APS Spring Meeting; Minneapolis, MN; March 20-24, 2000.
6. Microphase and Mesophase Ordering in Side-Chain Liquid Crystalline Diblock Copolymers
Paula T. Hammond and Mitchell Anthamatten
MRS Fall Meeting; Boston MA; November 29- December 3, 1999.
5. Morphology and Mesogen Orientation in Liquid Crystalline Side-Chain Diblock Copolymers
Mitchell Anthamatten and Paula T. Hammond
73rd ACS Colloid and Surface Science Symposium; Cambridge MA; June 13-16, 1999.
4. Morphology and Mesophase in Ferroelectric Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten and Paula T. Hammond
APS Centennial Meeting; Atlanta, GA; March 20-26, 1999.

– *University of Missouri- Columbia* –

3. *Ab Initio* Studies of Phenylacetic Acid Enolization and Effects of ortho-Diazonium Substitutions
Mitchell Anthamatten and Rainer Glaser
Fifth Annual Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics; Argonne National Laboratory; November 6, 1993.
2. Stereochemistry of Para-Substituted Acetophenone Azines in the Solid State, in Solution, and in the Gas Phase.
Mitchell Anthamatten, Grace Shiahuy Chen, and Rainer Glaser.
Regional American Chemical Society Meeting; Columbia, MO; November 10, 1993.
1. Stereochemical Analysis of Para-Substituted Acetophenone Azines in the Solid State, in Solution, and in the Gas Phase
Mitchell Anthamatten, Grace Shiahuy Chen, and Rainer Glaser
Fourth Annual Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics; Argonne National Laboratory; November 6, 1993.

H) Contributed Posters

The list below includes contributed research posters presented at national and regional scientific conferences, as well as on-campus venues. Posters are listed in reverse chronological order, separated according to affiliation, and the presenting author is underlined.

– University of Rochester –

33. Reactive Casting of Sulfonated Polyimides Proton Exchange Membranes
Lijun Zou, Mitchell Anthamatten
The University of Rochester Fuel Cell Symposium, December 8, 2008.
32. Synthesis & Characterization of Protogenic Liquid Crystals
Supacharee Roddecha, Mitchell Anthamatten
AIChE Annual Meeting; Philadelphia, PA; November 18, 2008.
31. Phase Behavior of PS/PB/Toluene UCST Blends Containing End-Associating Polymers
Michelle H. Wrue, Mitchell Anthamatten
2nd Annual Science & Engineering Faculty Day; St. Paul, MN; June 18, 2008.
30. Evidence of Phase Separation in Vapor Deposited Polyimide Films
Mitchell Anthamatten, Zachary A. Green, Xichong Chen
2nd Annual Science & Engineering Faculty Day; St. Paul, MN; June 18, 2008.
29. Mass Transport through Dynamic Polymer Networks Containing Reversibly Associating Side-Groups
Jiahui Li, Andrew Hilmer, Mitchell Anthamatten, Hung Chung, James McGrath
2008 APS March Meeting; New Orleans, LA; March 10, 2008.
29. Phase Behavior of Polymer Blends Containing End-Associating Polymers
Michelle Wrue, Mitchell Anthamatten
2008 APS March Meeting; New Orleans, LA; March 10, 2008.
28. Fabrication of Porous and Structured Polymers Using Vapor Deposition Techniques
Xichong Chen, Mitchell Anthamatten
1st Annual Science & Engineering Faculty Day; St. Paul, MN; June 20, 2007.
27. Development of a Constitutive Model for Shape-Memory Polymers Containing Reversible H-bonding Associating Groups
Jiahui Li, James Viveros, Mitchell Anthamatten
APS Annual March Meeting; Denver CO, March 7, 2007.
26. Sulfonated Polyimides for Fuel Cells
Lijun Zou, Mitchell Anthamatten
Alternative Energy Conference in Rochester; Rochester, NY; June 26, 2006.
25. Polyimide-Polysiloxane Segmented Copolymers for Fuel Cell Applications
Lijun Zou, Mitchell Anthamatten
AIChE Annual Meeting; Cincinnati, OH; November 2, 2005.
24. Interpenetrating Networks Containing a Supramolecular Polymer
Mitchell Anthamatten, Michelle H. Wrue, Anthony P. Gies, David M. Hercules
2005 Polymers (West) Gordon Research Conference; Ventura, CA; January 11, 2005.

23. Synthesis and Thermal Behavior of PEO-Based Supramolecular Polymers
Michelle H. Wrue, Mitchell Anthamatten
ACS Northeast Regional Meeting; Rochester, NY; November 2, 2004

22. A Vapor-Deposition Route to Polybenzoxazoles
Xichong Chen, Mitchell Anthamatten
ACS Northeast Regional Meeting; Rochester, NY; November 2, 2004

– Lawrence Livermore National Laboratory –

21. MALDI-TOF MS Characterization of Insoluble Polymers
Gies, A. P.; Nonidez, W. K.; Ellison, S. T.; Anthamatten, M.; Zou, L.; Hercules, D. M.
2005 Polymers (West) Gordon Research Conference; Ventura, CA; January 11, 2005.

20. Tailoring Properties of Polyimide by Ion Irradiation
T.E. Felter, M. Anthamatten, S. O. Kucheyev
MRS Fall Meeting, Symposium U; Boston, MA; December 1-5, 2003.

19. The Physics and Phenomenology of Solvent Vapor Smoothing
Mitchell Anthamatten, Steve A. Letts, Robert C. Cook
Directorate Review Committee; LLNL, Livermore, CA; November 13, 2003,

18. A Spectroscopic Study of Curing of Vapor Deposited Poly(amic Acid)
Mitchell Anthamatten, Katherine Day, Stephen Letts, Steven Buckley, April Nissen, Evelyn Fearon, Robert Cook
15th Target Fabrication Specialists Meeting; Gleneden Beach, OR; June 2, 2003.

17. Oxygen Uptake by Plasma Polymer Materials
Stephen Letts, Mitchell Anthamatten, Robert Cook, Abbass Nikroo, & Annette Greenwood
15th Target Fabrication Specialists Meeting; Gleneden Beach, OR; June 2, 2003.

16. IR Absorptive Properties of Plastic Materials Used in ICF Capsules
Robert Cook, Mitchell Anthamatten, Stephen Letts, Abbass Nikroo, & Don Czechowicz
15th Target Fabrication Specialists Meeting; Gleneden Beach, OR; June 3, 2003.

15. Details of the Coating Process and Materials Properties for Vapor Deposited Polyimide
Stephen Letts, Mitchell Anthamatten, Steven Buckley, Evelyn Fearon, April Nissen, & Robert Cook
15th Target Fabrication Specialists Meeting; Gleneden Beach, OR; June 3, 2003.

14. A Spectroscopic Investigation of Vapor-Deposited Polyimide
Katherin Day, M. Anthamatten, S. Buckley, A. Nissen, C. Chancellor, E. Fearon, S. Letts, B. Cook
Undergraduate Summer Research Poster Session; LLNL, Livermore, CA; August 8, 2002.

13. Solvent Vapor Smoothing of Poly(amic acid) Surfaces
Mitchell Anthamatten, Steve A. Letts, Robert C. Cook
Scientific Advisory Review Committee; LLNL, Livermore, CA; February 28, 2002.

– Massachusetts Institute of Technology –

12. Liquid Crystal / Liquid Crystalline Diblock Copolymer Binary Blends
Mitchell Anthamatten, Andres A. Tamez, and Paula T. Hammond
American Physical Society, Spring Meeting; Seattle WA; March 14, 2001.
 11. Ferroelectric Behavior of Liquid Crystalline Block Copolymers
Mitchell Anthamatten, Andres A. Tamez, and Paula T. Hammond
Gordon Research Conference on Polymer Physics; Connecticut College, New Haven, CT;
August 2, 2000.
 10. Order Transitions in Side-Chain Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Paula Hammond
Amoco Poster Session; MIT, Cambridge, MA; April 19, 2000.
** Received Poster Award! **
 9. Self-Assembly in Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Paula T. Hammond
M.I.T. Chemical Engineering Departmental Poster Session; Cambridge, MA; October 13,
1999.
 8. Polymeric Liquid Crystals Confined in Microphase Segregated Domains
Mitchell Anthamatten, Paula T. Hammond
Materials Day Poster Session; MIT Cambridge, MA; October 4, 1999
 7. Liquid Crystalline Induced Morphologies in Amorphous Side-Chain LC Block Copolymers
Mitchell Anthamatten, Paula T. Hammond
ACS New Orleans National Meeting; New Orleans, LA, August 22, 1999.
 6. Order-Disorder and Order-Order Transitions in Smectic C* Liquid Crystalline Diblock
Copolymers
Mitchell Anthamatten, Paula T. Hammond
ACS New Orleans National Meeting; New Orleans, LA; August 22, 1999.
 5. Overlap of Liquid Crystalline and Morphological Order in Diblock Copolymers
Mitchell Anthamatten, Wen-Yue Zheng, and Paula T. Hammond
M.I.T. Practice School Poster Session; Cambridge, MA; September 21, 1998.
 4. Order in Side-Chain Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Kevin Musselwhite, Paula T. Hammond
1st Annual PPST-Amoco Poster Competition; MIT, Cambridge, MA; November 5, 1997.
 3. Order in Liquid Crystalline Diblock Copolymers
Mitchell Anthamatten, Wen-Yue Zheng, Paula T. Hammond
M.I.T. Chemical Engineering Departmental Poster Session; Cambridge, MA; October 15,
1997.
- *University of Missouri- Columbia* –
2. The Stereochemistry of Para-Substituted Acetophenone Azines in Solid State, Solution,
and in the Gas Phase
Mitchell Anthamatten, Grace Shiahuy Chen, and Rainer Glaser
Organic Chemistry Regional Meeting; University of Missouri- Columbia; Spring, 1994.

1. Stereochemistry of Azines in the Solid State, in Solution, and in the Gas Phase
Mitchell Anthamatten, Grace Shiahuy Chen, and Rainer Glaser
Poster Session ChemCY; Iowa State University- Ames; October, 1993.

I) Media Listings

Communication activities have consisted of interviews leading to direct media appearances, for example, through press releases, radio shows, or television excerpts. These events have spawned secondary media appearances through online venues with global reach. Primary press releases involving an interview are listed below, indicated by asterisks. Secondary events are also included below; however, the listing of secondary events is not, and will never be, complete.

- 11.* Radio appearance on “*in vivo*”, a technical general interest show at M.I.T.’s WMBR 88.1 College Radio Station. Interview conducted by Anna Bershteyn
10. Rochester Review, March-April 2009. 12-13 “A Safer Way to Iron” by Kathleen McGarvey.
- 9.* Democrat & Chronicle, January 11, 2009. “Strong’s burn center works to increase safety around irons” by Chris Swingle.
- 8.* Interview and Press Release: “[Children's Burned Hands Inspire Design of Safety Device for Clothing Irons](#)”, December 12, 2008.
7. The [Journal of Young Investigators](#), v 19 (2), August 2008—Special Issue: Scientific Breakthroughs of 2007 “[A rubber with a memory and its power to change science](#)” by Jeffrey Kost. [pdf]
- 6.* Rubber & Plastic News, February 11, 2008. “[Shape memory rubber may create new avenues in market](#)” by Susan Zimmerman. [pdf]
5. Industrial Plastic News & Application: [Shape Memory Rubber](#) February 20, 2008. (Adapted from UR Communications Press Release)
4. Online News [Science Daily: ‘Retrospective Rubber’ Remembers Its Old Identities](#) December 16th, 2007. (Adapted from UR Communications Press Release)
- 3.* Interview and Press Release: “[‘Retrospective Rubber’ Remembers Its Old Identities](#)”. By Jonathan Sherwood, [University Communications](#), December 5, 2007. [pdf]
- 2.* News 10 (Rochester) “*Preventing Iron Burns*” (5:00 News) February 7, 2005; Rochester NY (Anthamatten Lab, Gavett 238).
- 1.* R-News (Cable) Health Bits: “*Household Safety*”. February 7, 2005; Rochester, NY (Anthamatten Lab, Gavett 238)

J) Other Publications and Public Appearances

2. Diffusion through Reversibly Associating Polymer Networks
Helen Park, Mitchell Anthamatten
Journal of Undergraduate Research – University of Rochester, **2007**, 6, 39-43
1. Debate: Delta Upsilon Spring Lecture Series 2004, “Economics vs. Environmentalism”,
Rush Rhees Library (Prof. Steven Landsburg for Economics, Anthamatten for
Environmentalism), Rochester NY, April 20, 2004.

Students and Collaborators

- A) Current Group
- B) Collaborators
- C) Former Students

A) Current Group Members

Ph.D. Graduate Students

Michelle H. Wrue, 5th year Ph.D. candidate in Materials Science
B.S. Chemistry (SUNY Brockport, 1997)
M.E. Mat. Sci. & Eng. (Virginia Tech., 2003)
Thesis topic: Phase Behavior of Associating Polymers

Jiahui Li, 4th year Ph.D. candidate in Chemical Engineering
B.S. Materials Science (Beijing University, 1999)
M.S. Materials Science (Dalian Univ. of Technology, 2002)
Thesis topic: Shape Memory Polymers

Supacharee Roddecha, 3th year Ph.D. candidate in Chemical Engineering
B.S. Materials Science (Mahidol University, 2004)
M.S. Materials Science (Mahidol Univ, 2006)
Thesis topic: Heterocycle-terminated Protogenic Liquid Crystals

Shuai Zhu, 1st year Ph.D. candidate in Materials Science
B.S. Materials Science and Engineering (Zhejiang University, 2008)
Thesis topic: TBD

Master's Graduate Students

Alexander Papastrat, M.S. candidate in Chemical Engineering
B.S. Chemical Engineering (University of Rochester, 2008)
Thesis topic: Vapor Deposition of Polyimides

Kavya Ramachandra, M.S. candidate in Chemical Engineering
B.S. Chemical Engineering (Visveswaraiah Tech. Univ., 2007)
Thesis topic: Deposition of Porous Polymers

Undergraduate Students

Guy Mongelli, B.S. candidate in Chemical Engineering
Research topic: Vapor Deposition of Polymers at Ambient Conditions

Chi (Suze) Ninh, B.S. candidate in Chemical Engineering
Research topic: Liquid Crystalline Shape Memory Polymers

B) Collaborators

Dr. Kenneth K. S. Lau, Assistant Professor, Chemical Engineering, Drexel
2008: Vapor Deposition Polymerization, 1 joint publication

Dr. Edward Brown, Assistant Professor, Biomedical Engineering, Univ. of Rochester
2009: Diffusion through Associating Polymers, 1 joint publication

C) Former Students

Ph.D. Graduate Students <none>

Lijun Zou, Ph.D. in Chemical Engineering (2009)
B.S. Materials Science (Fudan University, 1999)
M.S. Materials Science & Engineering (Case Western Reserve University, 2003)
Thesis topic: Nanostructured Polyimide Fuel Cell Membranes

Xichong Chen, Ph.D. in Materials Science (2009)
B.S. Materials Science (Fudan University, 1999)
M.S. Materials Science (Fudan University, 2002)
Thesis topic: Vapor Deposition of Polymers

Master's Graduate Students

Zachary Green, M.S. Chemical Engineering (2007)
B.S. Chemical Engineering (University of Rochester, 2006)
Thesis: Vapor Deposition Polymerization as a Route to Organic Electronic Devices

Undergraduate Students involved in Research

Andrew Hilmer
B.S. Chemical Engineering (University of Rochester, 2008)
Current Position: PhD Graduate Student, MIT

Helen Park
B.S. Chemical Engineering (University of Rochester, 2008)
Current Position: PhD Graduate Student, Harvard

Derek Smith
B.S. Chemical Engineering (University of Rochester, 2008)
Current Position: PhD Graduate Student, MIT

James Viveros
B.S. Chemical Engineering (University of Rochester, 2007)
Current Position: PhD Graduate Student, MIT

Ben Lin
B.S. Chemical Engineering (University of Rochester, 2007)
Current Position: PhD Graduate Student, MIT

Kristen Leskow

B.S. Chemical Engineering (University of Rochester, 2006)

M.S. Chemical Engineering (University of Rochester, 2007)

Current Position: Analytical Chemist at PRMS

Service

- A) Reviews of Manuscripts, Proposals, and Educational Materials
- B) Consulting & Judging
- C) Conference Service
- D) University Service

A) Reviews of Manuscripts, Proposals, and Educational Materials

a) Journal Article Reviews (69 total)

1. *Langmuir*, since 2004, 3 reviews
2. *Analytical Chemistry*, since 2004, 1 review
3. *Fusion Technology*, since 2004, 6 reviews
4. *Industrial and Engineering Chemistry Research*, since 2005, 2 reviews
5. *Journal of Physics D: Applied Physics*, since 2005, 1 review
6. *Nanotechnology* (Inst. of Physics), since 2005, 8 reviews
7. *Macromolecules*, since 2005, 5 reviews
8. *Journal of Polym. Science: Part A: Polym. Chemistry*, since 2006, 6 reviews
9. *Macromolecular Rapid Communication*, since 2007, 3 reviews
10. *Journal of Polym. Science: Part B: Polymer Physics*, since 2007, 3 reviews
11. *ACS Nano*, since 2007, 1 review
12. *Polymer*, since 2007, 7 reviews
13. *Soft Matter*, since 2008, 11 reviews
14. *Biomolecules*, since 2008, 1 review
15. *Journal of Colloid and Interface Science*, since 2008, 2 reviews
16. *Journal of Applied Polymer Physics*, since 2008, 1 review
17. *Journal of Membrane Science*, since 2008, 2 reviews
18. *Journal of Materials Chemistry*, since 2009, 3 reviews
19. *Journal of Vacuum Science & Technology A*, since 2009, 1 review
20. *Advanced Functional Materials*, since 2009, 1 review

b) Proposal Reviews (35 total)

1. *National Science Foundation*, since 2006, 1 review
2. *American Chemical Society (PRF)*, since 2006, 2 reviews
3. *Department of Energy*, since 2006 2 reviews
4. *NSF-CTS Review Panel*
5. *NSF-CBET Review Panel* (G4) ^•D

c) Educational Materials (1 total)

1. Welty, Wicks, Wilson, Rorrer, *Fundamentals of Momentum, Heat, and Mass Transfer*, 5th ed. John Wiley & Sons, 2008 (reviewed two chapters)

B) Consulting, Event Judging, and other forms of Service

- 2006-pr Materials Science Judge for *Siemen's Competition in Math, Science, & Technology*. This involves an annual 5-day to Educational Testing Services in Princeton, NJ for reading activities.
- 2007-pr American Chemical Society, Regional Division, Harrison Howe Award Committee
- 2006-pr Chapter Advisor, *Tau Beta Pi*, Engineering Honor's Society; participated as reader in 4 initiation ceremonies (biannual events)
- 2004-2007 Rochester Scholars: 2004- 2 week course "Energy & the Environment"
2005-2007: 1 week course "Adventures in Polymer Science"

C) Conference Service

Organization of Symposia and Conferences

1. "Polymers for Energy Application" involving three technical sub-symposia held at the annual AIChE meeting in Salt Lake City, UT, November 5-9, 2007. Joe Elabd (Drexel) and Mitchell Anthamatten (Univ. Rochester), co-organizers.

Chairmanships at Symposia and Conferences

7. Chairman, session on "Nanoscale Structure in Polymers III", Annual Meeting, AIChE, Philadelphia, PA, November 16-21, 2008.
6. Chairman, session on "Physical Properties of Melt and Solutions", Annual APS March Meeting, New Orleans, LA, March 10-14, 2008.
5. Chairman, session on "Thermodynamics of Polymers", Annual Meeting, AIChE, Salt Lake City, UT, November 4-9, 2007.
4. Chariman, session on "Structure & Dynamics in Polymer Nanocomposites", Annual APS March Meeting, Denver, CO, March 5-9, 2007
3. Chairman, session on "Phase Behavior", Annual APS March Meeting, Montreal, Canada, March 3-7, 2004.
2. Chairman, session on "Block Copolymers", Annual APS March Meeting, Austin, TX, March 3-7, 2003.
1. Chairman, session on "Block Copolymers", Annual APS March Meeting 2002, Indianapolis, IN, March 18-22, 2002.

D) University Service

SEAS College / University service

- 2004-pr SEAS Interdepartmental Program Committee (~6 cases addressed)
- 2004-pr College fairs and recruiting events
- 2006-pr ChE Representative for Research Committee
- 2006 Energy Initiative Committee: culminated in Energy Research Institute proposal
- 2009-pr Served as departmental representative on the SEAS Curriculum Review Committee

Departmental

- 2007-pr Chemical Engineering Seminar Series Coordinator
- 2005-pr Lead redesign and management of ChE website (www.che.rochester.edu). Over 70 web-pages developed and maintained.
- 2008-pr Co-coordinated ABET preparation activities with Prof. Eldred Chimowitz.
- 2004-pr Participated in graduate student recruiting effort through presenting research seminars at local universities and colleges including SUNY Geneseo, Colgate College, Trinity College, and Rose-Hulman Institute of Technology.
- 2004-08 Served on several academic examination & thesis committees (within and outside of Chemical Engineering)
 - Master's thesis committee (4)
 - Master's (plan B) oral examinations (6)
 - PhD qualification examinations (11)
 - PhD proposals (14)
 - PhD defenses (11)
 - (Chair: 1)