Michael Rubinstein

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Education

November 22, 1983	Ph.D. in Physics, Harvard University Research advisor: Prof. David R. Nelson
June 1980	M.A., Harvard University
June 1979	B.S. in Physics, California Institute of Technology Graduated with honors (GPA 4.0)

Professional Experience

1995 – Present	University of North Carolina, Chapel Hill, NC; John P. Barker Distinguished Professor (2006 – present), J. Ross MacDonald Distinguished Term Professor (2003-2006), Professor (1999-2003), Associate Professor (1995-1999)
2012 – Present	Chair of the Editorial Board of "Soft Matter", a Publication of Royal Society of Chemistry
2001 – 2004	Associate Editor of *Macromolecules*, a Publication of the American Chemical Society
2001 – 2013	Consultant, Cabot Corp., Billerica, MA
2008 – 2014	Consultant, Kimberly-Clark Corporation, Neenah, WI
20013 – Present	Consultant, Halliburton Energy Services, Inc., Houston TX
1999 – 2001	Consultant, tesa tape, inc., Charlotte, NC
Spring 1998	Visiting Professor, College de France, Paris, France
1995 – 2001	Consultant, Eastman Kodak Company, Rochester, NY
1995	Consultant, Eisai Inc., Research Triangle Park, NC
Spring – Summer 1994	Juliot Curie Professor, Groupe de Physico-Chimie Theorique, ESPCI, Paris, France
1987 – 1995	Adjunct Professor, Department of Physics and Astronomy, University of Rochester, Rochester, NY
1985 – 1995	Research Scientist, Research Laboratories, Eastman Kodak Company, Rochester, NY
1983 – 1985	Postdoctoral Fellow, AT&T Bell Laboratories, Murray Hill, NJ
Summer 1982	Research Assistant, IBM Watson Center, Yorktown Heights, NY

Honors and Awards

2012	The Michelin Materials Science Chair at ESPCI ParisTech
2010	American Physical Society Polymer Prize
2008	Chair, Polymer Physics Division of the American Physical Society
2004	Co-chair, Gordon Research Conference on Macromolecular, Colloidal and Polyelectrolyte Solutions, Ventura, CA
2001	Fellow of the American Physical Society
1998	College de France, Paris, France: *Visiting Professor - Invited Course of Lectures*
1994	Ecole Superieure de Physique et de Chimie Industrielles, Paris, France: *Awarded Joliot Curie Visiting Professor Position*
1987	Eastman Kodak Company, C.E.K. Mees Award: *In Recognition of Excellence in Scientific Research and Reporting*
1979	California Institute of Technology, elected to the *Tau Beta Pi, National Engineering Honor Society*
1978	California Institute of Technology, Carnation Prize: *Merit award for most academically talented students*

National Service

October 2013 Co-organizer of NSF-funded workshop on "Future Directions in Theory and Simulations of Polymeric and Soft Materials", Santa Barbara, CA

American Chemical Society

Associate Editorship, *Macromolecules* (2001 – 2004)

American Physical Society

Polymer Physics Prize Committee (2010-2011)

Past Chair of the Polymer Physics Division (2009-2010)

Program Committee of the Polymer Physics Division (2008-2010)

Vice-Chair of the Polymer Physics Division (2007-2008)

Chair, Polymer Physics Prize Committee (2008-2009)

Polymer Physics Fellowship Committee (2002-2003, 2005-2006)

Polymer Physics Education Committee (1998 – 1999)

Organized a Symposium "*Simple Views on Polymer Physics"* honoring P.G. de Gennes at the 2008 March Meeting

Organized a Symposium on *Charged Polymers* at the 1996 March Meeting

Society of Rheology

Journal of Rheology Editorial Board (2012 – Present)

Bingham Award Committee (1998 – 2002); (2008 – 2011)

Organized a Symposium on *Molecular Theories in Polymer Dynamics* at the 69rd Annual Meeting of the Society (October 1997)

Organized a Symposium on *Molecular Models of Polymer Liquids* at the 63rd Annual Meeting of the Society (October 1991)

Kavli Institute of Theoretical Physics

Organized program on "Biological Frontiers of Polymer and Soft Matter Physics" (2011)

Organized conference on "Soft Matter Physics Approaches to Biology" (2011)

Corporate Advisory Board Membership

Scientific Advisory Board of Cabot Corporation

National Science Foundation Review Panel

Materials Research Science and Engineering Centers (2006, 2008)

NSF MRSEC site visits (2006, 2012)

National Institutes of Health

Proposal review panel

National Research Council

Research Associateship Panel

Gordon Research Conference

Co-chair of the Conference on *Macromolecular, Colloidal and Polyelectrolyte Solutions* (2004)
Vice-chair of the Conference on *Macromolecular, Colloidal & Polyelectrolyte Solutions* (2002)

International Service

Chair of Editorial Board of "Soft Matter" 2013-2017

International Advisory Board**,** Marie Curie Network SUPOLEN 2013-2017

International Advisory Board**,** International Soft Matter Conference 2013

International Advisory Board, Journal of Polymer Science Part B: Polymer Physics

Co-organizer of the NATO Advanced Study Institute on *Theoretical Challenges in the Dynamics of Complex Fluids,* Cambridge, England (1996).

Outside Teaching Activity

2015 Summer	taught at course on polyelectrolytes at FORTH, Heraklion, Greece
2015 Summer	taught at SUPOLEN summer school, Capri, Italy
2015 Summer	taught at Enrico Fermi International School of Physics, Varena, Italy
2014 Summer	taught at IRTG 1524 and ΔMRSEC summer school, Beverly, MA
2012 Summer	organized and taught a 4-week course on "Polymers in Soft & Biological Matter" at Boulder Summer School, Boulder, CO
2011 Summer	"Polymer Dynamics" at Dynacop summer school, Capri, Italy
2010 Fall	Workshop on "Active Materials" at the National Institute for Theoretical Physics, Wallenberg Center, Stellenbosch, South Africa
2009 Summer	Mini-course on "Polymer Dynamics" as part of the summer program on "Soft

	Solids and Complex Fluids", Amherst, MA
2008 Summer	Mini-course on "Polymer Dynamics" as part of the summer program on Dynamics of Soft Materials, DynaSoft08 Summer School, Cargese, France
2002 Summer	Mini-course on "Polymer Physics" as part of the summer program on *Physics of Soft Condensed Matter* at the Boulder School for Condensed Matter and Materials Physics; Boulder, CO
2002 Spring	"Rheology of Polymeric Liquids," ChE/Materials 238A-B, Chemical Engineering Department, University of California, Santa Barbara
1998 Spring	"Tube Model 30 Years Later" a four-lecture course at College de France, Paris

US Patent 20,140,360,877: Devices with Fluidic Nanochannel, Associated Methods, Fabrication and Analysis Systems John Michael Ramsey, Laurent Menard, Jinsheng Zhou, Michael Rubinstein, Sergey Panyukov, December 11, 2014.

Books Published

2003 "Polymer Physics" Coauthored with Ralph Colby, Oxford University Press, Oxford, UK.

Journal Publications

[Currently over 15,250 citations by other scientists; h-factor: 63]

1. "Solvent-Free, Supersoft and Superelastic Bottlebrush Melts and Networks" by William F. M. Daniel, Joanna Burdynska, Mohammad Vatankhah-Varnoosfaderani Krzysztof Matyjaszewski, Jarosław Paturej, Michael Rubinstein, Andrey V. Dobrynin and Sergei S. Sheiko, Nature Materials **15**, 183-190, (2016). DOI: 10.1038/NMAT4508

2. "Self-Similar Conformations and Dynamics in Entangled Melts and Solutions of Nonconcatenated Ring Polymers" by Ting Ge, Sergey V. Panyukov, and Michael Rubinstein, Macromolecules **49**, 708-722 (2016), DOI: 10.1021/acs.macromol.5b02319.

3. "Universal behavior of hydrogels confined to narrow capillaries" by Yang Li, Ozan S. Sarıyer, Arun Ramachandran, Sergey Panyukov, Michael Rubinstein & Eugenia Kumacheva, Scientific Reports 5, 17017 (2015). DOI: 10.1038/srep17017

4. "Soft Poly(dimethylsiloxane) Elastomers from Architecture-Driven Entanglement Free Design" by Li-Heng Cai, Thomas E. Kodger, Rodrigo E. Guerra, Adrian F. Pegoraro, Michael Rubinstein, and David A. Weitz, Advanced Materials **27**, 5132–5140, 2015 DOI: 10.1002/adma.201502771.

5. "Nanocapillarity-mediated magnetic assembly of nanoparticles into ultraflexible filaments and reconfigurable networks" by Bhuvnesh Bharti, Anne-Laure Fameau, Michael Rubinstein and Orlin D. Velev, Nature Materials (2015) doi:10.1038/nmat4364.

6. "Elastin-like Polypeptide Diblock Copolymers Self-Assemble into Weak Micelles" by W. Hassouneh, EB Zhulina, A. Chilkoti, M Rubinstein, Macromolecules 48, 4183–4195 (2015).

7. "The Relationship of Mucus Concentration (hydration) to Mucus Osmotic Pressure and Transport in Cronic Bronchitus" by Wayne H. Anderson, Raymond D. Coakley, Brian Button, Ashley G. Henderson, Kirby L. Zeman, Neil E. Alexis, David B. Peden, Eduardo R. Lazarowski, C. William Davis, Summer Bailey, Fred Fuller, Martha Almond, Bahjat Qaqish, Elena Bordonali, Michael

Rubinstein, William D. Bennett, Mehmet Kesimer, and Richard C. Boucher, American Journal of Respiratory and Critical Care Medicine 192(2),182-190 (2015).

8. "Rouse Mode Analysis of Chain Relaxation in Polymer Nanocomposites" by Jagannathan T. Kalathi, Sanat K. Kumar, Michael Rubinstein, Gary S. Grest, Soft Matter 11, 4123-4132 (2015).

9. "Strong Selective Adsorption of Polymers" Ting Ge and Michael Rubinstein, Macromolecules 48, 3788–3801 (2015).

10. "The Role of Crystallinity in SWCNT–Polyetherimide Nanocomposites" by Maruti Hegde, Edward T. Samulski, Michael Rubinstein, and Theo J. Dingemans, Composites Science and Technology 110, 176-187 (2015).

11. "Influence of the Solvent Quality on Ring Polymer Dimensions" by Sebastian Gooßen, Ana R. Bras, Wim Pyckhout-Hintzen, Andreas Wischnewski, Dieter Richter, Michael Rubinstein, Jacques Roovers, Pierre J. Lutz, Youncheol Jeong, Taihyun Chang, and Dimitris Vlassopoulos, Macromolecules, 48, 1598−1605 (2015).

12. "Hopping Diffusion of Nanoparticles in Polymer Matrices" by Li-Heng Cai, Sergey Panyukov, Michael Rubinstein, Macromolecules, 48, 847−862 (2015).

13. "Conformations of a Long Polymer in a Melt of Shorter Chains" by Michael Lang, Michael Rubinstein, Jens-Uwe Sommer, ACS Macro Letters, 4, 177−181 (2015).

14. "Opportunities in Theoretical and Computational Polymeric Materials and Soft Matter" by Andrea J. Liu, Gary S. Grest, M. Cristina Marchetti, Gregory M. Grason, Mark O. Robbins, Glenn H. Fredrickson, Michael Rubinstein* and Monica Olvera de la Cruz, Soft Matter, 11, 2326-2332, (2015).

15. "Rouse Mode Analysis of Chain Relaxation in Homopolymer Melts" by J. T. Kalathi, S. K. Kumar, M. Rubinstein, G. S. Grest, Macromolecules 47, 6925-6931 (2014).

16. "Lubrication by Polyelectrolyte Brushes", by Ekaterina B. Zhulina, and Michael Rubinstein, Macromolecules, **47**, 5825−5838 (2014).

17. "RAFT polymerization of temperature- and salt-responsive block copolymers as reversible hydrogels" by Sean T. Hemp, Adam E. Smith, W. Clayton Bunyard, Michael Rubinstein, & Timothy E. Long, Polymer **55**, 2325-2331 (2014).

18. "SWCNT induced crystallization in amorphous and semi-crystalline poly(etherimide)s: Morphology and thermo-mechanical properties" Maruti Hegde, Ugo Lafont, Ben Norder, Edward T. Samulski, Michael Rubinstein, and Theo J. Dingemans, Polymer **55**, 3746-3757, (2014).

19. "Copolymerization of Metal Nanoparticles: A Route to Colloidal Plasmonic Copolymers" by Kun Liu, Ariella Lukach, Kouta Sugikawa, Siyon Chung, Jemma Vickery, Heloise Therien-Aubin, Bai Yang, Michael Rubinstein, and Eugenia Kumacheva, Angew. Chem. Int. Ed. **53**, 2648 –2653, (2014).

20. "Colloidal analogs of molecular chain stoppers" by Anna Klinkova, Héloïse Thérien-Aubin, Rachelle M. Choueiri, Michael Rubinstein, and Eugenia Kumacheva, PNAS **110**, 18775-18779 (2013).

21. "Viscosity of ring polymer melts" by Rossana Pasquino, Thodoris C. Vasilakopoulos, Youn C. Jeong, Hyojoon Lee, Simon Rogers, George Sakellariou, Jürgen Allgaier, Atsushi Takano, Ana R. Brás, Taihyun Chang, Sebastian Gooßen, Wim Pyckhout-Hintzen, Andreas Wischnewski, Nikos Hadjichristidis, Dieter Richter, Michael Rubinstein, and Dimitris Vlassopoulos, ACS Macro Lett. **2**,

874−878, (2013).

22. “Self-healing of unentangled polymer networks with reversible bonds” by Evgeny B. Stukalin, Li-Heng Cai, N. Arun Kumar, Ludwik Leibler, and Michael Rubinstein, Macromolecules, **46**, 7525–7541 (2013).

23. “Structural transition in nanoparticle assemblies governed by competing nanoscale forces” by Rachelle M. Choueiri, Anna Klinkova, Héloïse Thérien-Aubin, Michael Rubinstein, and Eugenia Kumacheva, J. Am. Chem. Soc. **135**, 10262–10265 (2013).

24. “Perfect mixing of immiscible macromolecules at fluid interfaces” by Sergei S. Sheiko, Jing Zhou, Jamie Arnold, Dorota Neugebauer, Krzysztof Matyjaszewski, Constantinos Tsitsilianis, Vladimir V. Tsukruk, Jan-Michael Y. Carrillo, Andrey V. Dobrynin, and Michael Rubinstein, Nature Materials **12**, 735–740 (2013). Highlighted in “Macromolecular mixing: Entropic templating” by Igal Szleifer, Nature Materials **12**, 693–694 (2013).

25. “Microfluidic fabrication of stable gas-filled microcapsules for acoustic contrast enhancement” by Alireza Abbaspourrad, Wynter J. Duncanson, Natalia Lebedeva, Shin-Hyun Kim, Alexandr Ahushma, Sujit S. Datta, Sergei S. Sheiko, Michael Rubinstein, and David A. Weitz, Langmuir, **29**, 12352-12357 (2013) (2013)

26. “A system for acoustical and optical analysis of encapsulated microbubbles at ultrahigh hydrostatic pressures” by Aleksandr Zhushma, Natalia Lebedeva, Pabitra Sen, Michael Rubinstein, Sergei S. Sheiko, and Paul A. Dayton, Review of Scientific Instruments **84**, 055105 (2013).

27. “SWCNT Induced Crystallization in an Amorphous All-Aromatic Poly(ether imide)” by Maruti Hegde, Ugo Lafont, Ben Norder, Stephen J. Picken, Edward T. Samulski, Michael Rubinstein, and Theo Dingemans, Macromolecules **46**, 1492-1503 (2013).

28. “A Periciliary Brush Promotes the Lung Health by Separating the Mucus Layer from Airway Epithelia” by B. Button, L. Cai, C. Ehre, M. Kesimer, D. B. Hill, J. K. Scheehan, R. C. Boucher, and M. Rubinstein, Science 337, 937-941 (2012). Highlighted in “Walking on Solid Ground” by B. F. Dickey Science **337**, 924 (2012).

29. “Ionic strength dependence of polyelectrolyte brush thickness” by E. B. Zhulina and M. Rubinstein, Soft Matter **8**, 9376-9383 (2012).

30. “Polyelectrolytes in biology and soft matter” by M. Rubinstein and G. A. Papoian, Soft Matter **8**, 9265-9267 (2012).

31. “Mobility of Nonsticky Nanoparticles in Polymer Liquids”, by Li-Heng Cai, Sergey Panyukov, and Michael Rubinstein, Macromolecules **44**, 7853-7863 (2011).

32. “Bond Tension in Tethered Macromolecules” by S. S. Sheiko, S. Panyukov, and M. Rubinstein, Macromolecules **44**, 4520-4529 (2011).

33. “The Use of Functionalized Nanoparticles as Non-Specific Compatibilizers for Polymer Blends” by W. Zhang, M. in, A. Winesett, O. Dhez, A. LD. Kilcoyne, H. Ade, M. Rubinstein, K. V. P. M. Shafi, A. Ulman, D. Gersappe, R. Tenne, M. Rafailovich, J. Sokolov, and H. L. Frisch, Polym. Adv. Technol. **22**, 65-71 (2011).

34. “Chains Are More Flexible Under Tension” by A. V. Dobrynin, J.-M. Y. Carrillo, and M. Rubinstein, Macromolecules, **43**, 9181–9190, (2010).

35. “Polymer Physics —The Ugly Duckling Story: Will Polymer Physics Ever Become a Part of ‘‘Proper’’ Physics?” by M. Rubinstein, Journal of Polymer Science: Part B: Polymer Physics, Vol. **48,** 2548–2551 (2010).

36. "Computing Free Energies of Protein Conformations from Explicit Solvent Simulations" by P. I. Zhuravlev, S. Wu, D. A. Potoyan, M. Rubinstein, G. A. Papoian, Methods, **52**, 115 (2010).

37. "Spontaneous and Specific Activation of Chemical Bonds in Macromolecular Fluids” by I. Park, D. Shirvanyants, A. Nese, K. Matyjaszewski, M. Rubinstein, and S. S. Sheiko, JACS, **132**, 12487 (2010).

38. “Step-Growth Polymerization of Inorganic Nanoparticles” by K. Liu, Z. Nie, N. Zhao, W. Li, M. Rubinstein, & E. Kumacheva, Science, **329**, 197 (2010). Featured in “Polymerization to Order” “Nature Materials”, **466**, 298 (2010) and “Nanostructures Form Like Polymers” C &E News (July 12, 2010, p. 31).

39. "Amplification of Tension in Branched Macromolecules" by S. Panyukov, S. S. Sheiko, and M. Rubinstein, Phys. Rev. Lett, **102**, 148301 (2009).

40. "Tension Amplification in Molecular Brushes in Solutions and on Surfaces" by S. Panyukov, E. B. Zhulina, S. S. Sheiko, G. C. Randall, J. Brock, and M. Rubinstein, J. Phys. Chem. B, **113**, 3750-3768 (2009).

41. "End-Monomer Dynamics in Semiflexible Polymers" by M. Hinczewski, X. Schlagberger, M. Rubinstein, O. Krichevsky, and R. R. Netz, Macromolecules **42**, 860-875 (2009).

42. "Unexpected power-law stress relaxation of entangled ring polymers" by M. Kapnistos, M. Lang, D. Vlassopoulos, W. Pyckhout-Hintzen, D. Richter, D. Cho, T. Chang, and M. Rubinstein, Nature Materials **7**, 997 - 1002 (2008).

43. “pH-Induced Release of Polyanions from Multilayer Films” by E. Kharlampieva, J. Ankner, M. Rubinstein, and S. Sukhishvili, Phys. Rev; Lett. **100**, 128303/1-128303/4 (2008).

44. “Effect of Soluble Block on Spherical Diblock Copolymer Micelles” by I. LaRue, M. Adam, E. Zhulina, M. Rubinstein, M. Pitsikalis, N. Hadjichristidis, D. A. Ivanov, R. I. Gearba, A. A. Anokhin, and S. S. Sheiko, Macromolecules **41**, 6555-6563 (2008).

45. “Supramolecular" Assembly of Gold Nanorods End-Terminated with Polymer "Pom-Poms": Effect of Pom-Pom Structure on the Association Modes” by Z. Nie, D. Fava, M. Rubinstein, and E. Kumacheva, Journal of the American Chemical Society **130**, 3683-3689 (2008).

46. “Long-Range Correlations in a Polymer Chain Due to Its Connectivity” by D. Shirvanyants, S. Panyukov, Q. Liao, and M. Rubinstein, Macromolecules, **41**, 1475-1485 (2008).

47. “Concentration Regimes in Solutions of Polyelectrolyte Stars” by N. Shusharina and M. Rubinstein, Macromolecules, **41**, 203-217 (2008).

48. “Flory Theorem for Structurally Asymmetric Mixtures” by F. C. Sun, A. V. Dobrynin, D. Shirvanyants, H.-B. Lee, K. Matyjaszewski, G. J. Rubinstein, M. Rubinstein, and S. Sheiko, Physical Review Letters, **99**, 13780 (2007).

49. “Rouse Dynamics of Polyelectrolyte Solutions: Molecular Dynamics Study” by Q. Liao, J.-M. Y. Carrillo, A. V. Dobrynin, and M. Rubinstein, Macromolecules, **40**, 7671-7679 (2007).

50. “Molecular Pressure Sensors” by H. Xu, F. C. Sun, D. G. Shirvanyants, K. L. Beers, K.

Matyjaszewski, M. Rubinstein, and S. Sheiko, Advanced Materials **19**, 2930-2934 (2007).

51. "Self-Assembly of Metal-Polymer Analogues of Amphiphilic Triblock Copolymers" by Z. Nie, D. Fava, E. Kumacheva, S. Zou, G. C. Walker and M. Rubinstein, Nature Materials, **6**, 609-614, (2007).
52. "A Physical Linkage between Cystic Fibrosis Airway Surface Dehydration and Pseudomonas Aeruginosa Biofilms" by I. Matsui, V. E. Wagner, D. B. Hill, U. E. Schwab, T. D. Rogers, B. Butto, R. M. Taylor, R. Superfine, M. Rubinstein, B. H. Iglewski, and R. C. Boucher, Proceedings of the National Academy of Sciences of the United States of America, **103**, 18131-18136, (2006).
53. "Regimes of Conformational Transitions of a Diblock Polyampholyte" by Z. Wang and M. Rubinstein, Macromolecules **39**, 5897-5912 (2006).
54. "Solution Properties of a Fluorinated Alkyl Methacrylate Polymer in Carbon Dioxide" by J. Guo, P. Andre, M. Adam, S. Panyukov, M. Rubinstein, and J. M. DeSimone, Macromolecules **39**, 3427-3434 (2006).
55. "Adsorption-Induced Scission of Carbon-Carbon Bonds" by S. S. Sheiko, F. C. Sun, A. Randall, D. Shirvanyants, M. Rubinstein, H. Lee, and K. Matyjaszewski, Nature **440**, 191-194 (2006). [featured in "Physical Chemistry: Stressed Molecules Break Down" by S. Granick and S. C. Bae, Nature, 440, 160-161 (2006)]
56. "Counterion-Correlation-Induced Attraction and Necklace Formation in Polyelectrolyte Solutions: Theory and Simulations", by Q. Liao, A. V. Dobrynin and M. Rubinstein, Macromolecules **39**, 1920-1938 (2006).
57. "Reversible Morphological Transitions of Polystyrene-b-Polyisoprene Micelles" by I. Larue, M. Adam, M. Pitsikalis, N. Hadjichristidis, M. Rubinstein, and S. S. Sheiko, Macromolecules **39**, 309-314 (2006).
58. "Flow-Enhanced Epitaxial Order of Brush-Like Macromolecules on Graphite" by H. Xu, S. S. Sheiko, D. Shirvanyants, M. Rubinstein, K. L. Beers, and K. Matyjasewski, Langmuir **22**, 1254-1259 (2006).
59. "Scaling Theory of Diblock Polyampholyte Solutions" by N. P. Shusharina, E. B. Zhulina, A.V. Dobrynin, and M. Rubinstein, Macromolecules **38**, 8870-8881 (2005).
60. "Theory of Polyelectrolytes in Solution and at Surfaces" by A. V. Dobrynin and M. Rubinstein, Prog. Polym. Sci. **30**, 1049-1118 (2005).
61. "Molecular Visualization of Conformation-Triggered Flow Instability" by H. Xu, D. Shirvanyants, K. Beers, K. Matyjaszewski, A. V. Dobrynin, M. Rubinstein, and S. S. Sheiko, Phys. Rev. Lett. **94**, 237801 (2005).
62. "Diblock Copolymer Micelles in a Dilute Solution" by E. B. Zhulina, M. Adam, I. LaRue, S. Sheiko, and M. Rubinstein, Macromolecules **38**, 5330-5351 (2005).
63. "Explanation of Anomalous Scaling of Swollen Entangled Chains" by S. P. Panyukov and M. Rubinstein, Macromolecules 38, 3511-3514 (2005).
64. "Molecular Motion in a Spreading Precursor Film" by H. Xu, D. Shirvanyants, K. Beers, K. Matyjaszewski, M. Rubinstein, and S. S. Sheiko, Phys. Rev. Lett. **93**, 206103 (2004).
65. "Light Scattering Study of Polydimethyl Siloxane in Liquid and Supercritical Carbon Dioxide" by P. Andre, S. L. Folk, M. Adam, M. Rubinstein, and J. M. DeSimone, J. Phys. Chem. **A 108**, 9901-9907 (2004).

66. "Polymers: A Multitude of Macromolecules" by S. Granick and M. Rubinstein, Nature Materials, **3**, 586-587 (2004).

67. "Polyampholytes" by A. V. Dobrynin, R. H. Colby, and M. Rubinstein, J. Pol. Sci.: Polym. Phys. **B42**, 3513-3538 (2004).

68. "Wormlike Micelles of Block Copolymers: Measuring the Linear Density by AFM and Light Scattering" by I. LaRue, M. Adam, M. da Silva, S. Sheiko and M. Rubinstein, Macromolecules **37**, 5002-5005, (2004).

69. "Effect of Short-Range Interactions on Polyelectrolyte Adsorption at Charged Surfaces" by A. V. Dobrynin and Michael Rubinstein, J. Phys. Chem. B, **107**, 8260-8269 (2003).

70. "Molecular Dynamics Simulations of Polyelectrolyte Solutions: Nonuniform Stretching of Chains and Scaling Behavior" by Q. Liao, A. V. Dobrynin, and Michael Rubinstein, Macromolecules, **36**, 3386-3398 (2003).

71. "Molecular Dynamics Simulations of Polyelectrolyte Solutions: Osmotic Coefficient and Counterion Condensation" by Q. Liao, A. V. Dobrynin, and Michael Rubinstein, Macromolecules, **36**, 3399-3410 (2003).

72. "Monte-Carlo Simulations of Homopolymer Chains. I Second Virial Coefficient" by I. M. Withers, A. V. Dobrynin, M. L. Berkowitz, and M. Rubinstein, J. Chem. Physics, **118**, 4721-4732 (2003).

73. "Polymeric Nanogels Produced via Inverse Microemulsion Polymerization as Potential Gene and Antisense Delivery Agents" by K. McAllister, P. Sazani, M. Adam, M.J. Cho, M. Rubinstein, R.J. Samulski, J.M. DeSimone, JACS, **124**, 15198-15207 (2002).

74. "Elasticity of Polymer Networks" by M. Rubinstein and S. Panyukov, Macromolecules, **35**, 6670-6686 (2002).

75. "Dynamics of Entangled Associating Polymers with Large Aggregates" by A. N. Semenov and M. Rubinstein, Macromolecules, **35**, 4821-4837 (2002).

76. "Adsorption of Hydrophobic Polyelectrolytes at Oppositely Charged Surfaces" by A. V. Dobrynin and M. Rubinstein, Macromolecules, **35**, 2754-2758 (2002).

77. "Adsorption of Polyelectrolytes at Oppositely Charged Surfaces" by A. V. Dobrynin, A. Deshkovski, and M. Rubinstein, Macromolecules, **34**, 3421-3436 (2001).

78. "Adsorption Isotherms of Polyampholytes at Charged Particles" by E. B. Zhulina, A. V. Dobrynin, and M. Rubinstein, J. Phys. Chem. B, **105**, 8917-8930 (2001).

79. "Counterion Phase Transition in Dilute Polyelectrolyte Solutions" by A. Deshkovski, S. Obukhov, and M. Rubinstein, Phys. Rev. Lett. **86**, 2341-2344 (2001).

80. "Adsorption of Polyampholytes on a Charged Spherical Particle" by E. Zhulina, A. V. Dobrynin, and M. Rubinstein, Eur. Phys. J. **E 5**, 41-49 (2001).

81. "Counterion Condensation and Phase Separation in Solutions of Hydrophobic Polyelectrolytes" by A. V. Dobrynin and M. Rubinstein, Macromolecules **34**, 1964-1972 (2001).

82. "Dynamics of Entangled Solutions of Associating Polymers" by M. Rubinstein and A. N. Semenov, Macromolecules **34**, 1058-1068 (2001).

83. "Structure of Adsorbed Polyampholyte Layers at Charged Objects" by A. V. Dobrynin, E. B. Zhulina, and M. Rubinstein, Macromolecules **34**, 627-639 (2001).

84. "Hydrophobically Modified Polyelectrolytes in Dilute Salt-Free Solutions" by A. V. Dobrynin and M. Rubinstein, Macromolecules **33**, 8097-8105 (2000).

85. "Adsorption of Polyelectrolytes at an Oppositely Charged Surface" by A. V. Dobrynin, A. Deshkovski and M. Rubinstein, Phys. Rev. Lett. **84**, 3101-3104 (2000).

86. "Unexpected Scenario of Glass Transition in Polymer Globules: An Exactly Enumerable Model" by R. Du, A. Yu. Grosberg, T. Tanaka and M. Rubinstein, Phys. Rev. Lett. **84**, 2417-2420 (2000).

87. "Long-Range Multichain Adsorption of Polyampholytes on a Charged Surface" by A. V. Dobrynin, S. P. Obukhov and M. Rubinstein, Macromolecules **32**, 5689-5700 (1999).

88. "Associations Leading to Formation of Reversible Networks and Gels" by M. Rubinstein and A. V. Dobrynin, Current Opinion in Colloid & Interface Science 4, 83-87 (1999).

89. "Hydrophobic Polyelectrolytes" by A. V. Dobrynin and M. Rubinstein, Macromolecules **32**, 915-922 (1999).

90. "Polyampholyte Solutions between Charged Surfaces: Debye-Huckel Theory" by A. V. Dobrynin, M. Rubinstein and J. F. Joanny, J. Chem. Phys. **109**, 9172-9176 (1998).

91. "Light-Scattering Study of Diblock Copolymers in Supercritical Carbon Dioxide: CO_2 Density-Induced Micellization Transition" by E. Buhler, A. Dobrynin, J.M. DeSimone and M. Rubinstein, Macromolecules **31**, 7347-7355 (1998).

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98. "Polyelectrolyte-Gelatin Complexation" by W. A. Bowman, M. Rubinstein and J. Tan, Macromolecules **30,** 3262-3270 (1997).

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102. "Topologically Induced Glass Transition in Freely Rotating Rods" by S. Obukhov, D. Kobzev, D. Perchak and M. Rubinstein, J. Phys. I (France) **7**, 563-568 (1997).

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104. "A Self-Consistent Mean Field Model of a Starburst Dendrimer: Dense Core vs. Dense Shell" by D. Boris and M. Rubinstein, Macromolecules **29**, 7251-7260 (1996).

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107. "Elastic Modulus and Equilibrium Swelling of Polyelectrolyte Gels" by M. Rubinstein, R. H. Colby, A. V. Dobrynin and J. F. Joanny, Macromolecules **29**, 398-406 (1996).

108. "Scaling Theory of Polyelectrolyte Solutions" by A. V. Dobrynin, R. H. Colby and M. Rubinstein, Macromolecules **28**, 1859-1871 (1995).

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110. "Reptation Dynamics of a Polymer Melt near an Attractive Solid Interface" by Zheng, B. B. Sauer, J. G. Van Alsten, S. A. Schwartz, M. H. Rafailovich, J. Sokolov and M. Rubinstein, Phys. Rev. Lett. **74**, 407 (1995).

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130. "Unique Behavior of Dendritic Macromolecules: Intrinsic Viscosity of Polyether Dendrimers" by T. H. Mourey, S. R. Turner, M. Rubinstein, J. M. J. Frechet, C. J. Hawker, and K. L. Wooley, Macromolecules **25**, 2401-2406 (1992).

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135. "Topological Glass Transition in Entangled Flux State" by S. P. Obukhov and M. Rubinstein, Phys. Rev. Lett. **65**, 1279-1282 (1990).

136. "Living Trees: Dynamics at a Reversible Classical Gel Point" by M. E. Cates, T. C. B. McLeish and M. Rubinstein, J. Phys. C. **2**, 749-754 (1990).

137. "Relaxation of Entangled Polymers at the Classical Gel Point" by M. Rubinstein, Zurek, T. C. B. McLeish and R. C. Ball, J. Phys. (France) **51**, 757-775 (1990).

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141. "Kinetic Renormalization Group Approach to Diffusion Limited Aggregation" by X. R. Wang, Y. Shapir and M. Rubinstein, Phys. Lett. A. **138**, 274-278 (1989).

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143. "Self-Consistent Theory of Polydisperse Entangled Polymers: Linear Viscoelasticity of Binary Blends" by M. Rubinstein and R. H. Colby, J. Chem. Phys. **89**, 5291-5306 (1988).

144. "Discretized Model of Entangled-Polymer Dynamics" by M. Rubinstein, Phys. Rev. Lett. **59**, 1946-1949 (1987) [Reviewed by J. Meddox, "New Ways with Reptating Polymers", Nature **330**, 11 (1987)].

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146. "Dynamics of Ring Polymers in the Presence of Fixed Obstacles" by M. Rubinstein, Phys. Rev. Lett. **57**, 3023-3026 (1986).

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148. "One-Dimensional Random Ising Ferromagnets and Antiferromagnets" by M. Ya. Azbel and M. Rubinstein, Phys. Rev. B **28**, 3793-3798 (1983).

149. "Resistance and Phase Diagram of Quasiperiodic Systems" by M. Ya. Azbel and M. Rubinstein, Phys. Rev. B **27**, 6530-6533 (1983).

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151. "Phase Correlations in One-Dimensional Disordered Systems" by M. Ya. Azbel and M. Rubinstein, Phys. Rev. Lett. **51**, 836-839 (1983).

152. "Dense Packed Arrays on Surfaces of Constant Negative Curvature" by M. Rubinstein and D. R. Nelson, Phys. Rev. B **28**, 6377-6386 (1983).

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154. "Order and Deterministic Chaos in Hard Disk Arrays" by M. Rubinstein and D. R. Nelson, Phys. Rev. B **26**, 6254-6275 (1982).

155. "Order in Two-Dimensional Binary Random Arrays" by D. R. Nelson, M. Rubinstein and F. Spaepen, Phil. Mag. A **46**, 105-126 (1982).

Reviews

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2. "Physical Chemistry of Polyelectrolytes. Surfactant Science Series. Volume 99." Edited by Tsetska Radeva (Bulgarian Academy of Sciences). Marcel Dekker, NY, Basel. (2001). J Am Chem Soc, **123**, p. 9928.

3. "Theoretical Challenges in Polymer Dynamics" by M. Rubinstein in *Theoretical Challenges in the Dynamics of Complex Fluids*, edited by T. McLeish, NATO ASI Series E: Applied Sciences - Vol. 339, p. 21-51 [Kluwer Academic Publishers, 1997].

Conference Proceedings

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2. "Determination of Mass per Unit Length of Cylindrical Polystyrene-b-Polyisoprene Micelles Using AFM and Light Scattering" by I. LaRue, M. Adam, S. Sheiko and M. Rubinstein, Polymeric Materials Science and Engineering, **88**, 236-237 (2003).
3. "Theoretical Challenges in Polymer Dynamics" by M. Rubinstein in *Theoretical Challenges in the Dynamics of Complex Fluids*, edited by T. McLeish, NATO ASI Series E: Applied Sciences - Vol. 339, p. 21-51 [Kluwer Academic Publishers, 1997].
4. "Polymer Dynamics at Attractive Interface" by X. Zheng, M. H. Rafailovich, J. Sokolov, B. B. Sauer, J. G. Van Alsten , S. A. Schwarz and M. Rubinstein, Polymer Preprints, 36, 156-157 (1995)
5. "Interface Reinforcement by Block Copolymers" by M. Rubinstein, L. Leibler and A. Ajdari, Polymer Preprints, **35**, 628-629 (1994).
6. "Dynamics of Block Copolymers" by M. Rubinstein and S. P. Obukhov, Polymer Preprints **34**, 680-681 (1993).
7. "Superelastic Networks" by S. P. Obukhov, M. Rubinstein and R. H. Colby, ACS Polymeric Materials Science and Engineering **68**, 234-235 (1993).
8. "Comments on Fluctuations of Crosslinks in Gels" by M. Rubinstein, A. Ajdari, J. Bastide, and L. Leibler, Makromoleculare Chemie, Macromolecular Symposia, **62** (Polym. Thermodyn. Radiat. Scattering) 61-73 (1992).
9. "Dynamics of Reversible Networks" by M. Rubinstein, L. Leibler and R. H. Colby, Polymer Preprints **32** (3), 443-444 (1991).
10. "Universality of the Irreversibility Line" by S. P. Obukhov and M. Rubinstein in *Physical Phenomena at High Magnetic Fields* p. 1-5 [Addison-Wesley Publishing Company, 1991].
11. "Dynamic Scaling for Polymer Gelation" by M. Rubinstein, R. H. Colby and J. R. Gillmor in *Space-Time Organization in Macromolecular Fluids*, edited by R. Tanaka, T. Ohta and M. Doi p. 66-74 [Springer-Verlag: Berlin (1989)].
12. "Repton Model of Entangled Polymers" by M. Rubinstein in *New Trends in Physics and Physical Chemistry of Polymers* edited by L. K. Lee p. 455-469 [Plenum: New York (1989)].
13. "Dynamic Scaling for Polymer Gelation" by M. Rubinstein, R. H. Colby and J. R. Gillmor, Polymer Preprints **30**, 81-82 (1989).
14. "Repton Model of Entangled Polymers" by M. Rubinstein, Polymer Preprints **29**, (1988).

Invited Lectures at Conferences

1. December 2015 Networks and Gels at Pacific Polymer Conference, Kauai, HI
2. October 2015 International Symposium on Multivalent Interactions in Polyelectrolytes: New Physics, Biology and Materials, Chicago, IL
3. August 2015 250 ACS National Meeting, Boston, MA
4. August 2015 Soft Condensed Matter Gordon Research Conference, New London, NH
5. July 2015 Ring Polymers: Advances & Perspectives, Hersonissos, Greece
6. June 2015 Structured Soft & Biological Matter Meeting, Durham, UK
7. May 2015 Claude Cohen Symposium, Cornell University, Ithaca, NY
8. March 2015 APS March Meeting, San Antonio, TX
9. November 2014 AICHE Annual Meeting, Atlanta, GA
10. November 2014 Polymer Networks and Gel Symposium, Tokyo, Japan
11. October 2014 Society of Rheology Meeting, Philadelphia, PA
12. October 2014 Virginia Soft Matter Workshop, Blacksburg, VA
13. September 2014 CINT User Meeting, Sandia & Los Alamos National Labs, Santa Fe, NM
14. August 2014 IRTG 1524 and ΔMRSEC summer school, Beverly, MA
15. June 2014 ACS Colloids & Surface Science Symposium, Philadelphia, PA
16. June 2014 8th International Symposium "Molecular Order and Mobility in Polymer Systems", St.-Petersburg, Russia
17. May 2014 Supolen Project Meeting, FORTH, Heraklion, Greece
18. May 2014 14th Dresden Polymer Discussion on "Understanding of Reinforcement in Polymer Networks and Melts", Meissen, Germany
19. May 2014 Scientific Challenges in Soft Matter for Neutron Scattering, Santa Barbara, CA
20. April 2014 MRS Spring Meeting, Symposium on Soft Nanomaterial, San Francisco, CA
21. March 2014 APS March Meeting, Denver, CO
22. January 2014 mini-symposium on Soft and Biological Matter at Weizmann Institute, Rehovot, Israel
23. January 2014 10th International Polyelectrolyte Symposium, Dead-Sea, Israel
24. December 2013 Symposium "Simulations and Theory Driven Design of Soft Materials" Materials Research Society Meeting in Boston, MA
25. November 2013 80th Annual Southeastern Section of the American Physical Society (SESAPS) Conference, Bowling Green Kentucky
26. September 2013 Third International Soft Matter Conference (ISMC2013) Rome, Italy
27. July 2013 ASME Applied Mechanics Summer Conferences, Brown University, Providence, RI
28. July 2013 7th International Discussion Meeting on Relaxations in Complex Systems,

Barcelona, Spain

29. July 2013 GRC on Adhesion, Mount Holyoke College, South Hadley, MA
30. December 2012 DYNACOP meeting, Leeds, UK
31. December 2012 Lorentz Workshop "Genome mechanics at nuclear scale", Leiden, NL
32. August, 2012 Polymer Networks, Jackson Hole, WY
33. June 2012 IUPAC MACRO 2012, Blacksburg, VA
34. May 2012 KITP Workshop on Modeling Soft Matter, Santa Barbara, CA
35. May 2012 Triangle Workshop, NCSU, Raleigh, NC
36. February 2012 APS March meeting, Boston, MA
37. October 2011 Aquitaine Conferences on Polymers, Arcachon (France)
38. July 2011 Dynacop Conference, Capri, Italy
39. March 2011 American Chemical Society, Anaheim, CA
40. January 2011 Workshop "From Polymer Physics to Rubber Elasticity", Paris, France
41. November 2010 Workshop on Active Materials, Stellenbosch, South Africa
42. November 2010 Carolina Biophysical Symposium, Chapel Hill, NC
43. October 2010 Cystic Fibrosis Conference, Baltimore, MD
44. September 2010 European Colloidal and Interfacial Society, Prague, Chez Republic
45. August 2010 Networks Meeting, Goslar, Germany
46. July 2010 Second International Soft Matter Conference (ISMC 2010), Granada, Spain
47. May 2010 Solvation & Ionic Effects in Biomolecular Recognition, Tsakhkadzor, Armenia
48. March 2010 American Physical Society, Portland, OR
49. December 2009 41st New England Complex Fluids Meeting**,** Harvard University, Cambridge, MA
50. November 2009 *Mechanochemistry in Materials Science*, Materials Research Society Meeting, Boston, MA
51. October 2009 *Oriented Soft Materials*, Chapel Hill, NC
52. October 2009 *Multiple Length and Time Scales in Complex Fluids*, Santa Fe, NM
53. July 2009 First International Summer School on *Nanomaterials and Nanotechnologies in Living Systems*, Russia.
54. February 2009 *Cilia, Mucus and Muco-Ciliary Interaction*" Gordon Research Conference, Lucca, Italy
55. February 2009 de Gennes Discussion Conference, Chamonix, France
56. November 2008 Julich Soft Matter Days, Bonn, Germany
57. August 2008 International Congress of Rheology, Monterey, CA
58. June 2008 "Polymer Physics" Gordon Research Conference, Newport, RI
59. April 2008 235th National Meeting of the American Chemical Society, New Orleans, LA
60. March 2008 American Physical Society, New Orleans, LA

61. February 2008 Gordon Research Conference on *Macromolecular, Colloidal and Polyelectrolyte Solutions*, Ventura, CA, "Adsorption of Charged Polymers."

62. October 2007 21st Annual North American Cystic Fibrosis Conference, Anaheim, CA

63. September 2007 Complex Fluids Meeting, Strolls, CN

64. September 2007 "Polymer Network Structures", 11th Dresden Polymer Discussion, Dresden, Germany

65. July 2007 European Polymer Congress, Portoroz, Slovenia

66. June 2007 North America Cystic Fibrosis Foundation Williamsburg Conference, Williamsburg, VA

67. May 2007 "Physics Inspired by Biology", Minneapolis, MN

68. March 2007 233rd National ACS National Meeting, Chicago, IL

69. February 2007 "Cilia, Mucus and Muco-Ciliary Interaction", Gordon Research Conference, Ventura, NC

70. January 2007 "*Fundamental and Applied Macromolecular Science: Towards Next Generation Materials*", Strasbourg, France

71. January 2007 Statistical Physics Meeting, Paris, France

72. October 2006 "*Dynamics of Complex Fluids – 10 years on*", Isaac Newton Institute for Macromolecular Sciences, Cambridge, UK

73. September 2006 Sixth International Symposium on Polyelectrolytes, Dresden, Germany

74. July 2006 IUPAC World Polymer Congress, the 41st International Symposium on Macromolecules, Macro 2006, Rio de Janeiro, Brazil

75. June 2006 New Physical Approaches to Molecular and Cellular Machines, KITP, Santa Barbara, CA

76. March 2006 231st ACS National Meeting, Atlanta, GA, "Self-Association of Block Polyampholytes"

77. October 2005 19th Annual North American Cystic Fibrosis Conference, *New Prospective on Mucus and Airway Surfaces*, Baltimore, MD

78. October 2005 GelSympo 2005 Polymer Gels: Fundamentals and Bio-science, Sapporo, Japan

79. September 2005 NIH workshop on *Host Response to Persistent Bacterial Load in Cystic Fibrosis*, Rockville, MD

80. September 2005 Lorentz Center workshop on Screening, *Charge Inversion and Condensation of Macroions*, Leiden, Netherlands, "Condensation of Hydrophobic Polyelectrolytes".

81. April 2005 WE Heraeus Seminar on *Understanding the Self-Organization of Charged Polymers*, Pysikzentrum Bad Honnef, Germany, "Self-Associations of Block Polyampholytes"

82. March 2005 American Physical Society March Meeting, Los Angeles, CA, "Entanglements and Elasticity of Polymer Networks"

83. February 2005 Gordon Research Conference on *Cilia, Mucus & Mucociliary Interactions,* Buelton, CA, "Physico-Chemical Model of Airway Surface Liquid"

84. August 2004 Symposium on *Polyelectrolytes and Polyampholyts: From Theory to Applications*: at the ACS 228th National Meeting, Philadelphia, PA, "Theoretical Models of Polyelectrolytes and Polyampholytes"

85. July 2004 IUPAC World Polymer Congress MACRO 2004, Paris, France, "Regimes of Electrostatic Association"

86. June 2004 International workshop on *Physics and Biology: a Materials Approach,* Paris, France, "Virtual Lung"

87. June 2004 International Symposium on Polymer Physics, Dali, China, "Scaling Model of Charged Polymers"

88. May 2004 Workshop on *Electrostatic Interactions in Polymers, Colloids and Biophysics*, Minneapolis, MN, "Block Polyampholytes"

89. May 2004 ACS International Workshop on "Branched Polymers for Performance", Williamsburg, VA, "Spreading of Molecular Brushes"

90. November 2003 Third International Symposium on *Slow Dynamics in Complex Systems*, Sendai, Japan, "Gelling Transition of Hydrophobic Polyelectrolytes."

91. August 2003 39th IUPAC Congress, Ottawa, Canada, Symposium on *Surface Phenomena in Polymers*, "Adsorption of Charged Polymers at Charged Surfaces"

92. July 2003 Gordon Research Conference on *Ion Containing Polymers*, Mount Holyoke, MA, "Theory of Hydrophobic Polyelectrolytes"

93. March 2003 American Physical Society March Meeting, Austin, Texas, "Scaling Theories and Computer Simulations of Polyelectrolyte Solutions."

94. February 2003 CECAM Workshop on Polymer Dynamics, *Mesoscopic Modelling of Polymer Dynamics*, Lyon, France, "Dynamics of a Chain in an Array of Fixed Obstacles"

95. August 2002 Gordon Conference on *Science of Adhesion,* Tilton, NH. "Adsorption of Polyelectrolytes."

96. July 2002 *Physics of Soft Condensed Matter*. Taught a mini-course consisted of 6 lectures at the Boulder School for Condensed Matter Physics, Boulder, CO. "Introduction to Polymer Physics."

97. April 2002 *Dynamics of Complex and Macromolecular Fluids*, Institute for Theoretical Physics, Santa Barbara, CA: "Elasticity of Polymer Networks,"

98. February 2002 Gordon Research Conference on *Macromolecular, Colloidal and Polyelectrolyte Solutions*, Ventura, CA, "Adsorption of Charged Polymers."

99. June 2001 4th International Discussion Meeting on *Relaxations in Complex Systems*, Crete, Greece, "Gelling Transition of Hydrophobic Polyelectrolytes."

100. May 2001 "Electrostatic Interactions in Polymers, Colloids, and Biophysics," Conference at the Theoretical Physics Institute, University of Minnesota, Minneapolis, MN.

101. February 2001 Symposium on *Associating Polymers and Surfactant Systems*, The Society of Rheology 72nd annual meeting, Hilton Head Island, SC: "Dynamics of Associating

Polymers."

102. December 2000 *Self-Assembly in Water-Solvable Polymers* – Symposium at Pacifichem 2000, Honolulu, Hawaii, "Self-assembly of Hydrophobically Modified Polyelectrolytes."

103. November 2000 *Dynamics in Small Confining Systems* – Symposium at the Fall MRS Meeting, Boston, MA, "Glass Transition in Polymer Globules."

104. July 2000 *Polyelectrolytes 2000,* Les Diablerets, Switzerland, "Adsorption of Polyelectrolytes at Oppositely Charged Surfaces."

105. March 2000 Symposium on *Reversibly Associating Polymers: Applications to Synthetic & Biopolymers* at the APS March Meeting, Minneapolis, MN, "Dynamics of Entangled Solutions of Associating Polymers."

106. February 2000 Gordon Research Conference on *Macromolecular, Colloidal and Polyelectrolyte Solutions*, Ventura, CA, "Solutions of Hydrophobic Polyelectrolytes"

107. August 1999 *Roy W. Tess Award in Coatings* Symposium at the ACS National Meeting, New Orleans, LO "Hydrophobically Modified Polyelectrolytes."

108. August 1999 Symposium on *Polymeric Assembly and Association,* ACS National Meeting, New Orleans, LO "Solutions of Associated Polymers."

109. May 1999 Pressure Sensitive Tape Council TECH XXII, Washington DC, "Effect of Block Copolymers on Interface Reinforcement and Adhesion."

110. October 1998 ITP Conference on *Electrostatic Effects in Complex Fluids and Biophysics*, Santa Barbara, CA: "Adsorption of Polyampholytes."

111. May 1998 Gordon Research Conference on *Complex Fluids,* Tuscany, Italy: "Adsorption of Polyampholytes."

112. April 1998 International Conference on *Structured Polymer Systems: Self-Assemblies, Heteropolymers and Networks,* Bad Honnef, Germany: "Solutions of Associative Polymers."

113. October 1997 69th Annual Meeting of the Society of Rheology, Columbus, OH: "Elasticity of Polymer Networks."

114. October 1997 International Workshop *Understanding Polyelectrolytes*, Mainz, Germany "Dynamic Scaling of Semidilute Polyelectrolyte Solutions."

115. July 1997 Gordon Research Conference on *Organic Thin Films and Surfaces,* Newport, RI, "Adsorption of a Polyampholyte Chain on a Charged Surface."

116. July 1997 3rd International Discussion Meeting on *Relaxations in Complex Systems,* Vigo, Spain, "Relaxation of Associating Polymers."

117. June 1997 *Problems of Condensed Matter Theory,* Moscow Russia, "Cascade of Transitions of Polyelectrolytes in Poor Solvents."

118. May 1997 Workshop on *Polymers at Interfaces*, Garcia Center MRSEC, New York, NY, "Rubber Elasticity."

119. February 1997 Plenary Lecture at the 68-th Society of Rheology Meeting, Galveston, TX, "Dynamics of Charged Polymers."

120. January 1997 Symposium in the Honor of Jacques Bastide, ICS, Strasbourg, France, "Non-Affine Deformations in Entangled Networks."

121. June 1996 Workshop on *Topology and Geometry in Polymer Science,* IMA, Minneapolis, MN, "Non-Affine Deformations of Entangled Networks."

122. March 1996 NATO Advanced Study Institute *Theoretical Challenges in Complex Fluid Dynamics,* Cambridge, UK, three-lecture series on "Polymer Melt Dynamics."

123. March 1996 APS March Meeting, St. Louis, MO, "Solutions of Associative Polymers."

124. December 1995 International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, "Dynamics of Semidilute Polyelectrolyte Solutions."

125. December 1995 US/France Meeting on Polymers: *Ordering in Polymers,* Gainesville, Florida, "Elasticity and Order in Polymer Networks."

126. October 1995 Symposium on *Computer Modeling of Polymers,* at the Northeast Regional ACS Silver Anniversary Meeting, Rochester, NY, "Cascade of Transitions of Polyelectrolytes in Poor Solvent."

127. March 1995 Symposium on *Interfaces and Surfaces in the Rheology of Polymers: Polymer-Solid Interfacial Interaction and Slip,* ACS National Meeting, Anaheim, CA, "Polymer Dynamics at Attractive Interface."

128. January 1995 Polymers-West Gordon Research Conference, Ventura, CA, "Scaling Theory of Charged Polymers."

129. August 1994 Gordon Research Conference on *Science of Adhesion,* Tilton, NH, "Chain Pull Out and Polymer Adhesion."

130. June 1994 Workshop on *Collective Phenomena in Polymers,* London, ON, Canada, "Scaling Theory of Polyelectrolyte Solutions."

131. March 1994 Symposium on *Block Copolymer Dynamics,* ACS National Meeting, San Diego, CA, "Interface Reinforcement by Block Copolymers."

132. August 1993 Symposium on *Recent Advances on the Synthesis and Characterization of Block and Graft Copolymers,* ACS National Meeting, Chicago, IL, "Dynamics of Block Copolymers."

133. March 1993 Symposium on *Elastomers*, ACS National Meeting, Denver, CO, "Superelastic Networks."

134. December 1992 Society of Polymer Science of Japan 4th International Polymer Conference, Yokohama, Japan, "Dynamics of Block Copolymers."

135. May 1992 *Recent Developments in Ionomers*, Interdisciplinary Workshop, Pacific Grove, CA, "Dynamics of Reversible Networks."

136. January 1992 Polymers-West Gordon Research Conference, Ventura, CA, "Dynamics of Block Copolymers."

137. September 1991 *Polymer Modeling on High Performance Computers*, National Center for Supercomputing Applications, Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, IL, "Computer Simulations of Polymers."

138. August 1991 Joint ACS/APS Symposium on *Thermoreversible Gelation of Polymers*, New York ACS Meeting in Conjunction with the Fourth Chemical Congress of North America, "Dynamics of Reversible Networks."

139. August 1991 Workshop on "*Critical Phenomena and Related Problems in Polymer Physics*," Peterborough, Canada, "Sol-Gel Transition."

140. June 1991 International School-Seminar on *Modern Problems of Physical Chemistry of Macromolecules*, Puschino, USSR, "Dynamics of Block Copolymers."

141. March 1991 APS March Meeting, Cincinnati, OH, "Giant Fluctuations of Crosslink Positions in Gels."

142. December 1989 MRS Fall Meeting, Boston, MA, "Dynamics of Polymer Gelation."

143. April 1989 ACS Meeting, Dallas, TX, "Dynamic Scaling for Polymer Gelation."

144. January 1989 Polymers-West Gordon Research Conference, Ventura, CA, "Scaling Properties of Gel Forming Systems."

145. November 1988 11th Taniguchi Symposium on *Space-Time Organization of Macromolecules*, Hakone, Japan, "Dynamics of Entangled Polymers."

146. July 1988 Polymers Gordon Research Conference, New London, NH, "Discretized Version of the Reptation Model of Entangled Polymer Dynamics."

147. June 1988 International Symposium on *New Trends in Physics and Physical Chemistry of Polymers* honoring Professor P. G. de Gennes, Toronto, ON, "Repton Model of Entangled Polymers."

148. August 1987 Conference on *Polymer Melt Dynamics* at Michigan Molecular Institute, Midland, MI, "Dynamics of Entangled Polymers."

149. June 1987 Rochester Condensed Matter Symposium, Rochester, NY, "Dynamics of Entangled Polymers."

Invited Lectures at Universities and Research Laboratories

1. December 2015 Dow Lecture, Rice University, Houston, TX
2. October 2015 Department of Physics and Astronomy, Wayne State University
3. September 2015 Materials Science Department, University of Delaware
4. September 2015 Physics Department, Brandeis University
5. July 2015 FORTH, Heraklion, Greece
6. April 2015 Department of Materials Science and Engineering, Clemson University, Clemson, SC
7. April 2015 ExxonMobil Chemical, Baytown, TX
8. January 2015 Department of Physics, Duke University, Durham, NC
9. October 2014 Department of Chemical Engineering, Princeton University, Princeton, NJ
10. October 2014 Department of Physics, University of Vienna, Austria
11. September 2014 Department of Physics, University of Central Florida, Orlando, FL
12. April 2014 Department of Materials Science & Engineering, Pennsylvania State University, State College, PA
13. April 2014 MIT PPST Polymer Seminar, Cambridge, MA
14. March 2014 Department of Chemistry, UCLA, Westwood, CA
15. January 2014 Mini-Symposium on Soft and Biological Matter at Weizmann Institute, Rehovot, Israel
16. November 2013 North Carolina State University, Raleigh, NC
17. September 2013 University of South Florida, Tampa, FL
18. January 2013 ESPCI, Paris, France
19. January 2013 Michelin Research Center, Clermont-Ferrand, France
20. October 2012 Department of Chemical Engineering, Princeton University, Princeton, NJ
21. October 2012 Department of Chemistry and Department of Materials Science and Engineering, University of Pennsylvania, Philadelphia, PA
22. September 2012 Department of Mechanical Engineering and Materials Science, Duke University, Durham, NC
23. August 2012 Department of Chemistry, University of North Carolina at Chapel Hill, NC
24. April 2012 Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA
25. April 2012 College of Polymer Science and Engineering, University of Akron, Akron, OH
26. March 2012 Department of Physics, University of South Florida, Tampa, FL
27. April 2011 Dow Chemical Company, Midland, MI
28. April 2011 ACS Midland Section, Central Michigan University, MI

29.	March 2011	Department of Chemistry, University of Maryland, MD
30.	January 2011	Soft Matter and Chemistry Laboratory, ESPCI, Paris, France
31.	June 2010	Department of Chemistry, Virginia Tech, Blacksburg, VA
32.	November 2009	Department of Chemical and Biomolecular Engineering, John Hopkins University, Baltimore, MD
33.	June 2009	University of Massachusetts Medical School, Worcester, MA
34.	May 2009	Department of Chemistry, Virginia Institute of Technology, Blacksburg, VA
35.	April 2009	Department of Physics, New York University, New York, NY
36.	April 2009	Department of Physics, Georgia Institute of Technology, Atlanta, GA
37.	December 2008	Liquid Cristal Institute, Kent State University, Kent, OH
38.	October 2008	Department of Materials Science and Engineering, University of Pennsylvania, Philadelphia, PA
39.	April 2008	Department of Chemistry, Indiana University, Bloomington, IN
40.	April 2008	Department of Materials Sciences, Pennsylvania State University, State College, PA
41.	February 2008	Department of Physics, University of Florida, Gainesville, FL
42.	April 2007	Chemical Engineering Department, Caltech, Pasadena, CA
43.	April 2007	MIT PPST Polymer Seminar, Cambridge, MA
44.	March 2007	Cabot Corporation, Billerica, MA
45.	January 2007	Theory Group, ESPCI, Paris, France
46.	May 2006	Chemistry Department, University of California at Los Angeles, CA
47.	May 2006	Physics Department, University of California at Los Angeles, CA
48.	November 2005	Princeton University, Princeton, NJ
49.	November 2005	Georgia Institute of Technology, Atlanta, GA
50.	September 2005	Delft University of Technology, Delft, Netherlands
51.	July 2004	Complex Fluids Laboratory, CNRS/Rhodia, Cranbury, NJ
52.	June 2004	Institute of Chemistry, Chinese Academy of Sciences, Beijing, China
53.	May 2004	Chinese University of Hong Kong, Hong Kong, China
54.	May 2004	Research Laboratories, Cabot Corporation, Billerica, MA
55.	October 2003	Atlanta Area Chemical Physics Symposium, Emory University and Georgia Institute of Technology, Atlanta, Georgia
56.	September 2003	Department of Macromolecular Science and Engineering, Case Western Reserve University, Cleveland, OH
57.	May 2003	School of Chemical and Biomolecular Engineering, Cornell University, Ithaca, NY

58.	April 2003	Department of Materials Sciences and Engineering, MIT, Cambridge, MA
59.	April 3003	Department of Chemical Engineering, California Institute of Technology, Pasdena, CA
60.	March 2003	Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA
61.	September 2002	Chemistry Department, University of Texas, Austin, TX
62.	May 2002	Materials Department, University of California, Santa Barbara, CA
63.	October 2001	McGill Chemical Society, Montreal, PQ, Canada
64.	July 2001	Department of Materials Science, SUNY, Stony Brook, NY
65.	June 2001	Cabot Corporation, Billerica, MA
66.	November 2000	Department of Chemistry, Purdue University, Indianapolis, IN
67.	October 2000	Department of Chemistry, University of Wisconsin, Madison, WI
68.	October 2000	Department of Materials Science, Penn State University, University Park, PA
69.	July 2000	Beiersdorf AG, Hamburg, Germany
70.	June 2000	Max Planck Institute Polymerforsch, Mainz, Germany
71.	June 2000	Department of Physics, University of Freiburg, Germany
72.	February 2000	Closure Medical Corporation, Raleigh, NC.
73.	October 1999	Department of Chemical Engineering, Columbia University, New York, NY.
74.	March 1999	Department of Chemical Engineering, North Carolina State University, Raleigh, NC: "Electrostatic Interactions in Polymeric Systems."
75.	March 1999	Eastman Kodak Company, Rochester, NY "Long-range Polyampholyte Adsorption on a Charged Surface."
76.	March 1999	Department of Physics, University of Minnesota, Minneapolis, MN "Electrostatic Interactions in Polymeric Systems."
77.	February 1999	Polymer Science and Engineering Department, University of Massachusetts, Amherst, MA: "Long-range Polyampholyte Adsorption on a Charged Surface."
78.	October 1998	Department of Chemistry, Clemson University, Clemson, SC
79.	August 1998	Kodak Research Laboratories, Rochester, NY
80.	June 1998	Departement de Physique, Ecole Normale Superieure, Paris, France
81.	June 1998	Department of Physics, University of Ulm, Ulm, Germany
82.	June 1998	Institut Charles Sadron, Strasbourg, France
83.	May – June 1998	Four lectures at College de France, Paris, France
84.	May 1998	Institut Laue-Langevin, Grenoble, France
85.	May 1998	Departement de Physique, Ecole Normale Superieure, Paris, France
86.	April 1998	Department of Physics, University of Freiburg, Freiburg, Germany

87.	August 1997	Kodak Research Laboratories, Rochester, NY
88.	June 1997	Institute of Macromolecular Compounds, Academy of Sciences of Russia, St. Petersburg, Russia
89.	November 1995	Research Laboratories, Rahm and Haas, Spring House, PA
90.	September 1994	Department of Chemical Engineering, John Hopkins University, Baltimore, MD
91.	June 1994	College de France, Paris, France
92.	June 1994	Institut Charles Sadron, Strasbourg, France
93.	May 1994	Groupe de Physico-Chimie Theorique, ESPCI, Paris, France
94.	March 1994	Dow Lecture in Polymer Science at Department of Chemistry, University of Detroit Mercy, Detroit, MI
95.	February 1994	School of Natural Sciences, Institute for Advanced Study, Princeton, NJ
96.	October 1993	Department of Chemistry, University of North Carolina, Chapel Hill, NC.
97.	October 1993	Department of Chemical Engineering, North Carolina State University, Raleigh, NC.
98.	June 1993	Department of Physics, Moscow State University, Moscow, Russia
99.	March 1993	Department of Physics, University of Florida, Gainesville, FL
100.	December 1992	Department of Macromolecular Science, Osaka University, Osaka, Japan
101.	October 1992	Laboratoire Leon Brillouin, CEN Saclay, France
102.	October 1992	Groupe de Physico-Chimie Theorique, ESPCI, Paris, France
103.	June 1992	Department of Chemistry, McGill University, Montreal, Canada
104.	June 1991	Institute of Chemical Physics, USSR Academy of Sciences, Moscow, USSR
105.	June 1991	Department of Physics, Moscow State University, Moscow, USSR
106.	February 1991	Department of Chemistry, Cornell University, Ithaca, NY
107.	October 1990	Institut Charles Sadron, Strasbourg, France
108.	October 1990	Laboratoire Leon Brillouin, CEN Saclay, France
109.	September 1990	Groupe de Physico-Chimie Theorique, ESPCI, Paris, France
110.	May 1990	Department of Physics, University of Florida, Gainesville, FL
111.	April 1990	Polymer Education and Research Center, Georgia Institute of Technology, Atlanta, GA
112.	February 1989	Corporate Research Science Laboratory, Exxon Research and Engineering Company, Annandale, NJ
113.	November 1988	Department of Physics, Boston University, Boston, MA
114.	March 1988	Groupe de Physico-Chimie Macromoleculare, ESPCI, Paris, France
115.	March 1988	Physics Department, Technion, Haifa, Israel
116.	March 1988	Polymer Department, Weizmann Institute of Science, Rehovot, Israel

117. February 1988 Polymer Science and Engineering Department, University of Massachusetts, Amherst, MA
118. May 1987 Department of Physics, Clarkson University, Potsdam, NY
119. April 1987 Materials Research Laboratory, University of Illinois, Urbana, IL
120. March 1987 Chemical Engineering Department, Northwestern University, Evanston, IL
121. October 1986 Department of Physics, Harvard University, Cambridge, MA
122. January 1986 Department of Material Science and Engineering, Cornell University, Ithaca, NY
123. September 1985 Department of Physics and Astronomy, University of Rochester, Rochester, NY
124. March 1985 Research Laboratories, Eastman Kodak Company, Rochester, NY
125. March 1985 Naval Research Laboratories, Washington, DC
126. March 1985 Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA
127. February 1985 Department of Physics, Pennsylvania State University, University Park, PA
128. February 1985 Department of Physics, Carnegie-Mellon University, Pittsburgh, PA
129. January 1985 Schlumberger-Doll Laboratory, Ridgefield, CT
130. January 1985 Department of Physics, California Institute of Technology, Pasadena, CA
131. December 1984 National Bureau of Standards, Gaithersburg, MD
132. December 1984 Department of Physics, Columbia University, New York, NY
133. November 1984 GTE Laboratories, Waltham, MA
134. March 1983 AT&T Bell Laboratories, Murray Hill, NJ
135. February 1983 Department of Physics, University of Sherbrook, Sherbrook, Canada