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Department of Materials Science & Engineering
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Date and Place of Birth: July 22, 1958, Mexico

Education:

- 1981-85 Ph.D. in Physics, Cambridge University, Cambridge, England. Thesis title: "Dynamics of Separation Processes in Polymers". Advisor: S. F. Edwards
- 1977-81 B. A. in Physics, Universidad Nacional Autonoma de Mexico (UNAM), Mexico City, Mexico. Thesis title: "Phase Transitions in Two-Dimensional Systems". Advisor: A. J. Mondragon

Awards and Significant Honors/Services:

- 2009-12 Board of Physics and Astronomy, National Research Council, the National Academy of Sciences
- 2008-10 Vice-Chair, Solid State Science Committee, National Research Council, the National Academy of Sciences
- 2008-09 Chair, NSF-MRSEC Directors Executive Committee
- 2008 Dow Distinguished Lecturer (Graduate Students Diversity of Science), University of California Santa Barbara
- 2007 Engineering and Applied Sciences Cozzarelli Prize, Proceeding of the National Academy of Sciences
- 2007-09 Research at the Intersection of Physical and Life Sciences Committee, National Research Council, National Academy of Sciences
- 2007-09 Chair, Division of Materials Research Advisory Committee, National Sciences Foundation
- 2005-08 Solid State Science Committee, National Research Council, the National Academy of Sciences
- 2005-09 Mathematical and Physical Sciences Directorate Advisory Committee, National Science Foundation
- 2005-06 North American Lectures in Chemical Engineering and Materials Science, Mexico
- 2005 Baetjer Lectures, Princeton University
- 2003 Visiting Professor, Service de Physique Theorique, Commissariat a l'Energie Atomique, CE-Saclay, France
- 2001 Fellow of the American Physical Society
- 1995-97 Scientific Member, Commissariat a l'Energie Atomique, CE-Saclay, France
- 1993 Visiting Scientist, Service de Chimie Moleculaire, Commissariat a l'Energie Atomique, CE-Saclay, France
- 1990-95 Presidential Young Investigator Award, National Science Foundation
- 1990-92 Alfred P. Sloan Fellowship
- 1989-94 David and Lucile Packard Fellowship in Science and Engineering
- 1988-93 FIRST Award, National Institutes of Health
- 1981-84 UNAM scholarship from the Direccion General de Asuntos del Personal Academico, Mexico, held at Cambridge University, England
- 1982-84 Overseas Research Scholarship award (ORS-award) England, Cambridge University, England
- 1981-82 Graduate Studies Fellowship, Trinity College, Cambridge University, England (declined)
- 1979-81 Conacyt-UNAM scholarship, Mexico, held at Universidad Nacional Autonoma de Mexico, Mexico

Professional Experience:

- 2009-Present **Lawyer Taylor Professor**- Department of Materials Science & Engineering, Department of Chemistry, and Department of Chemical & Biological Engineering, Northwestern University, Evanston, IL 60208
- 2006-Present **Director**- Materials Research Center, Northwestern University, Evanston IL, 60208
- 1998-09 **Professor**- Department of Materials Science & Engineering, Department of Chemistry, and Department of Chemical & Biological Engineering, Northwestern University, Evanston, IL 60208
- 1995-97 **Senior Staff Scientist (Engineer C3)**- Commissariat a l'Energie Atomique, CE-Saclay, France.
- 1991-98 **Associate Professor**- Department of Materials Science & Engineering and Department of Chemical Engineering, Northwestern University, Evanston, IL 60208
- 1986-91 **Assistant Professor**- Department of Materials Science and Engineering, Northwestern University, Evanston, IL 60208
- 1985-86 **Guest Scientist, Polymers Division**- National Institute of Standards and Technology (formerly NBS), Gaithersburg, MD. **Post-doctoral Research Associate**- Polymer Science and Engineering Department, University of Massachusetts, Amherst, MA (Advisor: I. C. Sanchez)

DEGREES AWARDED

- Anne M. Mayes, “**A Study of Transition to Periodic Structures in Block Copolymer Melts**,” Ph.D., February 1991. (Currently: Professor, Dept. Materials Science, M.I.T., MA.)
- Dilib Gersappe, “**Statistics and Dynamics of Polymers in Topologically Restricted Environments**,” Ph.D., April 1992. (Currently: Associate Professor, Dept. Materials Science, SUNY at Stony Brook, NY.)
- Edward O. Shaffer “**The Dynamics of Gel Electrophoresis**,” M.S. June 1988. (Currently at Dow Chemical, Midland MI.)
- Cheng-heng Kao, “**Micelle Formation in Copolymer-Homopolymer Blends**,” M.S. June 1990. (Currently: Professor, Dept. of Chemical Engineering, National Central Taiwan University.)
- Alice S. Mendelsohn, “**Investigation of Correlations in Polymer Melts, Blends, and Semi-dilute Solutions by Fluorescence Nonradiative Energy Transfer Techniques**,” Ph.D., July 1994. Co-Advised with J. M. Torkelson (Currently at Robins, Kaplan, Miller & Ciresi L.L.P., Minneapolis).
- Avi Nesarikar, “**Thermodynamics and Kinetics of Liquid-liquid Phase Separation in Random Copolymers**,” Ph.D., (Chemical Eng.) September 1994. Co-Advised with B. Crist. (Currently: Mobil E&P Technical Center, Dallas TX.)
- Brian W. Swift, “**Statistics and Dynamics of Random Copolymers in Solutions by Monte Carlo Simulation**,” Ph.D. December 1995. (Currently: Developer, Matlock Capital, Chicago IL.)
- Ching-I Huang, “**Studies of Phase Separation Dynamics and Interfaces in Ternary Systems**,” Ph.D. June 1996. (Currently: Associate Professor, National Taiwan University of Science and Technology, Taiwan.)
- Khaled Mahdi, “**Phase Diagrams of Polyelectrolyte Solutions**,” Ph. D. December 2000. (Currently: Assistant Professor, Kuwait University.)
- Kurt A. Smith, “**Dynamics of Drops and Fluid Interfaces-A Level set Study**,” Ph.D. February 2003. Co-Advised with J. M. Ottino (Currently: Application Scientist, Cugli, Inc., San Francisco, CA)
- Hao Cheng “**Polyelectrolyte Adsorption and Self-Assembly on Charged Surfaces**” Ph.D. December 2005 (currently: Postdoctoral Research Associate, MIT; Bob Langer).
- Michelle D. Lefebvre “**Effects of Sequence Distribution and Specific Interactions on the Ordering and Interfacial Behavior of Copolymers**” Ph. D. June 2006 Co-Advised with K. R. Shull (Teacher).
- Sharon M. Loverde “**Theory and Simulation of Polymer and Polyelectrolyte Self-Assembly**,” Ph. D. June 2007 (currently: NIH Postdoctoral Fellow, University of Pennsylvania. Advisors: Michael Klein and Dennis Discher).
- Megan Greenfield “**Modulating the forces between self-assembling molecules to control the shape of vesicles and the mechanics and alignment of nanofiber networks**” Ph. D. June 2009. Co-advised with S. I. Stupp (January 2010, McKenzie Consulting).
- Kevin Kohlstedt “**The Formation of Chiral Nanopatterns on Low-Dimensional Ionic Assemblies Via**

Electrostatic Interactions” Ph. D. June 2009 (August 2009, Postdoctoral Research Associate, University of Michigan. Advisor: Sharon Glotzer).

CURRENT GRADUATE STUDENTS

Prateek Kumar Jha PhD, expected 2012	“Ionic Gels”
Doris M. Grillo PhD, expected 2012	“Protein Adsorption Studies” (co-supervised with I. Szleifer)
Matthew Demers PhD, expected 2012	“Membranes” (co-supervised with G. Vernizzi)
Mark Anderson PhD, expected 2013	“Charged Networks” (co-supervised with M. Ratner)

POST-DOCTORAL RESEARCH ASSOCIATES FELLOWS

Dr. Janette Jones November 16, 1990-December 15, 1991 (Currently Manager, Unilever, UK)	Weak Crystallization
Prof. Kevin Bassler December 15, 1990-August 31, 1992 (Currently Professor, Physics Department, University of Houston)	Copolymers
Prof. P. Gonzalez-Mozuelos September 1, 1992-November 1994 (Currently Professor, Physics Department, CINVESTAV, Mexico)	Polyelectrolytes
Prof. Francisco Solis October 1996-August 2000 (Currently Assistant Professor, State University of Arizona West)	Colloids and Polymer Mixtures
Prof. Katsuyo Thorton December 1997-March 1998 (Currently Associate Professor, Materials Science Department, University of Michigan)	Phase Separation in Multicomponent Fluids
Dr. Alexander Ermoshkin November 2001-December 2003 (Currently at Liquidia Technologies)	Charged Gels
Dr. Min Sum Yeom August 2001-July 2003 (Currently at National Center for Supercomputers, Korea)	Simulations of Complex Macromolecules
Dr. Alexander Kudlay October 2002-April 2005 (Currently Research Associate, Chemistry Department, Maryland University)	Gelation of Charged Systems
Dr. Yuri Velichko October 2003-July 2007 (Currently Senior Research Associate, Chemistry Department, Northwestern University)	Peptide Amphiphiles
Prof. Hongxia Guo March 2004-December 2005 (Professor, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China)	Micelles and Interfaces
Prof. Graziano Vernizzi Sept. 2005- October 2008 (Currently Research Assist. Professor, Mats. Sci. and Eng. Department, Northwestern University)	Cationic-Anionic Vesicles and RNA Folding
Dr. William Kung Sept 2006-May 2009 (Currently, Mats. Research Center, Northwestern University)	Ionic Liquid Interfaces
Dr. Dongsheng Zhang April 2007-December 2009	Simulations of Charged Networks
Dr. Rastko Sknepnek June 2009-Jul 2011	Functionalized Nanoparticles and Membranes
Dr. Guillermo Ivan Guerrero November 2009-November 2011	Molecular Electrolytes
Dr. Johannes Willem Zwanikken August 2009-August 2011	Charged Macro-ions at Liquid Interfaces
Dr. Sumanth Swaminthan	Non-Equilibrium Self-Assembly (co-advised, Bartosz Grzybowski)

October 2009-10
 Dr. Gabriel Longo
 November 2009-2010

Self-regulated ionic gels (co-advised, Igal Szleifer)

LIST OF PUBLICATIONS

1. De-Wei Yin, M. Olvera de la Cruz and Juan J. de Pablo “**Swelling and Collapse of Polyelectrolyte Gels in Equilibrium in Monovalent and Divalent Electrolyte Reservoirs**” *J. Chem Phys.* (in press, 2009).
2. K.L. Kohlstedt, G.Vernizzi and M. Olvera de la Cruz “**Electrostatics and Optimal Arrangement of Ionic Triangular Lattices Confined to Cylindrical Fibers**” *Phys. Rev. E* (in press, 2009).
3. W. Kung, P. Gonzalez-Mozuelos, and M. Olvera de la Cruz, “**Nanoparticles in Aqueous Media: Crystallization and Solvation Charge Asymmetry**” *Soft Matter* DOI:10.1039/B908331F (2009).
4. Megan A. Greenfield, Jessica R. Hoffman, Monica Olvera de la Cruz and Samuel I. Stupp “**Tunable Mechanics of Peptide Nanofiber Gels**” *Langmuir* DOI: 10.1021/la9030969 (2009).
5. M. A. Greenfield, L. C. Palmer, G. Vernizzi, M. Olvera de la Cruz, and S. I. Stupp “**Buckled Membranes in Mixed-Valence Ionic Amphiphile Vesicles**” *J. Am. Chem. Soc.*, *131*, 12030–12031 (2009).
6. P. K. Jha, F. J. Solis, J. J. de Pablo and M. Olvera de la Cruz “**Nonlinear effects in the Nanophase Segregation of Polyelectrolyte gels**” *Macromolecules*, *42*, 6284–6289 (2009).
7. K.L. Kohlstedt, G.Vernizzi and M. Olvera de la Cruz “**Surface Patterning of Low-Dimensional Systems: the Chirality of Charged Fibres**” *J. Phys.: Condens. Matter* *21*, 424114 (2009).
8. P. Gonzalez-Mozuleos and M. Olvera de la Cruz “**Asymmetric Charge Renormalization for Nanoparticles in Aqueous Media**” *Phys. Rev. E* *79*, 031901 (2009).
9. G. Vernizzi, K.L. Kohlstedt, and M. Olvera de la Cruz “**On the Electrostatic Origin of Chiral Patterns on Nanofibers**” *Soft Matter* *5*, 736-739 (2009).
10. W. Kung, F. J. Solis and M. Olvera de la Cruz “**Thermodynamics of Ternary Electrolytes: Enhanced Adsorption of Macroions as Minority Component at Liquid Interfaces**” *J. Chem. Phys.* *130*, 044502 (2009).
11. M. Olvera de la Cruz, A. V. Ermoshkin, M. A. Carignano, I. Szleifer “**Analytical Theory and Monte Carlo Simulations of Gel formation of Charged Chains**” *Soft Matter* *5*, 629-636 (2009).
12. D. Zhang and M. Olvera de la Cruz “**Nano-Patterns in Tethered Membranes of Weakly Charged Chains with Hydrophobic Backbones**” *Macromolecules*, *41*, 6612-6614 (2008).
13. P. Gonzalez-Mozuleos and M. Olvera de la Cruz “**Solvent and Nonlinear effects on the Charge Renormalization of Nanoparticles within a Molecular Electrolyte Model**” *Physica A*, *387*, 5362-5370 (2008).
14. M. Olvera de la Cruz “**Electrostatic Control of Self-Organization: the Role of Charge Gradients in Heterogeneous Media**” *Soft Matter*, *4*, 1735-1739 (2008).
15. M. M. D. R. Lim, Y. S. Velichko, M. Olvera de la Cruz and G. Vernizzi “**Low-Radii Transitions in Co-assembled Cationic-Anionic Cylindrical Aggregates**” *J. Phys. Chem. B* *112* 5423 – 5427 (2008).
16. Y. S. Velichko, F.J. Solis and M. Olvera de la Cruz “**Ion Condensation Structure on Patterned Surfaces**” *J. Chem. Phys.* *128*, 144706 (2008).
17. Y. S. Velichko, S. I. Stupp, and M. Olvera de la Cruz “**Molecular Simulation Study of Peptide Amphiphiles Self-Assembly**” *J. Phys. Chem. B*, *112* (8), 2326 -2334 (2008).
18. W. Kung and M. Olvera de la Cruz “**Mediation of Long-range Attraction Selectively between Negatively-Charged Colloids on Surfaces by Solvation**” *J. Chem. Phys.* *127*, 244907 (2007).
19. G. Vernizzi and M. Olvera de la Cruz “**Faceting Ionic Shells into Icosahedra via Electrostatics**” *Proc. Natl. Acad. Sci. USA*, *104* (47) 18382-86 (2007).
20. S. M. Loverde and M. Olvera de la Cruz “**Asymmetric Charge Patterning on Surfaces and Interfaces: Formation of Hexagonal Domains**” *J. Chem. Phys.* *127* (1), 164707 (2007).
21. I. Erukhimovich and M. Olvera de la Cruz, “**Phase Equilibria and Charge Fractionation in Polyelectrolyte Solutions**” *Journal of Polymer Science B: Polymer Physics* *45*, 3003-09 (2007).
22. K.L. Kohlstedt, F. Solis, G. Vernizzi, and M. Olvera de la Cruz “**Spontaneous Chirality via Long-Range Electrostatic Forces**” *Phys. Rev Lett.* *99*, 030602 (2007).

23. S. M. Loverde, F. J. Solis and M. Olvera de la Cruz “**Charged Particles on Surfaces: Coexistence of Dilute Phases and Periodic Structures at Interfaces**” *Phys. Rev. Lett.* 98, 237802 (2007).
24. M. D. Lefebvre, H. Guo, M. Olvera de la Cruz and K. R. Shull “**An Interfacial Curvature Map for Homopolymer Interfaces in the Presence of Diblock Copolymers**” *Macromolecules* 40, 4721-4723 (2007).
25. L. Palmer, Y. S. Velichko, M. Olvera de la Cruz and S.I Stupp, “**Supramolecular Self-Assembly Codes for Functional Structures**”, *Phil. Trans. Royal Society A* 365, 1413-1625 (2007).
26. A. Kudlay, J. M. Gibbs, G. C. Schatz, S. T. Nguyen and M. Olvera de la Cruz “**Sharp Melting of Polymer-DNA Hybrids: An Associative Phase Separation Approach**” *Journal of Physical Chemistry B* 111, 1610-1619 (2007).
27. Y. S. Velichko and M. Olvera de la Cruz “**Electrostatic attraction between cationic-anionic assemblies with surface compositional heterogeneities**” *J. Chem. Phys.* 124, 214705-11 (2006).
28. S. M. Loverde, Y. S. Velichko and M. Olvera de la Cruz “**Competing interactions in two dimensional Coulomb systems: Surface charge heterogeneities in co-assembled cationic-anionic incompatible mixtures**” *J. Chem. Phys.* 124, 144702 (2006).
29. H. Cheng and M. Olvera de la Cruz “**Hydrophobic-Charged Block Copolymer Micelles Induced by Oppositely Charged Surfaces: Salt and pH Dependence**” *Macromolecules* 39, 1961-1970 (2006).
30. H. Cheng, K. Zhang, J. A. Libera, M. Olvera de la Cruz and M. J. Bedzyk “**Polynucleotide Adsorption to Negatively Charged Surfaces in Divalent Salt Solutions**” *Biophysical Journal* 90, 1164-1174 (2006).
31. P. Gonzalez-Mozuelos and M. Olvera de la Cruz “**Correlations in Dilute Solutions of Charged Linear Chains**” O. Rosas-Ortiz, M. Carbajal and O. Miranda (Eds.), *Cinvestav Advanced Summer School in Physics-Frontiers in Contemporary Physics*, AIP Conference Proceedings 809, 205-220, Melville, NY, 2006.
32. J. A. Libera, H. Cheng, M. Olvera de la Cruz and M. J. Bedzyk “**Direct Observation of Cations and Polynucleotides Explains Polyion Adsorption to Like-Charged Surfaces**” *J. Phys. Chem. B* 109, 23001-23007 (2005).
33. H. Guo and M. Olvera de la Cruz “**A Computer Simulation Study of the Segregation of Amphiphiles in Binary Immiscible Matrices: Short asymmetric copolymers in short homopolymers**” *J. Chem. Phys.* 123, 174903-10 (2005).
34. Y. S. Velichko and M. Olvera de la Cruz “**Pattern Formation on the Surface of Cationic-Anionic Cylindrical Aggregates**” *Phys. Rev. E.* 72, 041920 (2005).
35. S. M. Loverde, A. V. Ermoshkin and M. Olvera de la Cruz, “**Thermodynamics of Reversibly Associating Ideal Chains,**” *Journal of Polymer Science B: Polymer Physics* 43, 796-804 (2005)
36. P. Gonzalez-Mozuelos, M. S. Yeom, and M. Olvera de la Cruz, “**Molecular Structure Effects on the Screening Lengths of Multivalent Electrolytes,**” *European Physics Journal E* 16 (2), 167-178 (2005).
37. F. J. Solis, S. I. Stupp and M. Olvera de la Cruz, “**Charge Induced Pattern Formation on Surfaces: Segregation in Cylindrical Micelles of Cationic-Anionic Peptide-Amphiphiles,**” *J. Chem. Phys.* 122 (5), 054905 (2005).
38. K. A. Smith, J. M. Ottino, and M. Olvera de la Cruz, “**Encapsulated Drop Breakup in Shear Flow,**” *Phys. Rev. Lett.* 93, 204501 (2004).
39. A. Kudlay, A. V. Ermoshkin, and M. Olvera de la Cruz, “**Complexation of Oppositely Charged polyelectrolytes: Effect of Ion Pair Formation**” *Macromolecules* 37, 9231-9241 (2004).
40. A. Kudlay, A. V. Ermoshkin, and M. Olvera de la Cruz, “**Phase Diagram of Charged Dumbbells: a Random Phase Approximation Approach,**” *Phys Rev E* 70, 021504 (2004).
41. A. V. Ermoshkin, A. Kudlay, and M. Olvera de la Cruz, “**Thermoreversible Crosslinking of Polyelectrolytes Chains,**” *J. Chem. Phys.* 120, 11930-11940 (2004).
42. K. A. Smith, J. M. Ottino, and M. Olvera de la Cruz, “**Dynamics of a Drop at a Fluid Interface under Shear,**” *Phys. Rev. E* 69 (4), 046302 (2004).
43. H. Cheng and M. Olvera de la Cruz, “**Rod-like Polyelectrolyte Adsorption onto Charged Surfaces in Monovalent and Divalent salt Solutions,**” *J. Polymer Science B: Polymer Physics* 42 (19), 3642-3653 (2004).
44. M. D. Lefebvre, M. Olvera de la Cruz, and K. R. Shull, “**Phase Segregation in Gradient Copolymer Melts,**” *Macromolecules* 37, 1118-1123 (2004).
45. A. Kudlay and M. Olvera de la Cruz, “**Precipitation of Oppositely Charged Polyelectrolytes in Salt Solutions,**” *J. Chem. Phys.* 120, 404-412 (2004).
46. A. V. Ermoshkin and M. Olvera de la Cruz, “**Gelation in Strongly Charged Polyelectrolytes,**” *Journal of Polymer Science B: Polymer Physics* 42, 733-921 (2004).

47. A. V. Ermoshkin and M. Olvera de la Cruz, “**A Modified Random Phase Approximation of Polyelectrolyte Solutions,**” *Macromolecules* 36, 7824-7832 (2003).
48. M. S. Yeom, A. V. Ermoshkin, and M. Olvera de la Cruz, “**Structure and Thermodynamics of Associating Rods Solutions,**” *European Physics Journal E* 12, 565-572 (2003).
49. H. Cheng and M. Olvera de la Cruz, “**Adsorption of Rod-Like Polyelectrolytes onto Weakly Charged Surfaces,**” *J. Chem Phys.* 119, 12635-12644 (2003).
50. A. V. Ermoshkin and M. Olvera de la Cruz, “**Polyelectrolytes in the Presence of Multivalent Ions: Gelation versus Segregation,**” *Phys. Rev. Lett.* 90 (12), 125504 (2003).
51. M. Sayar, M. Olvera de la Cruz, and S. I. Stupp, “**Polar Order in Nanostructured Polar Materials,**” *Europhysics Letters* 61, 334 -340 (2003).
52. P. Gonzalez-Mozuelos and M. Olvera de la Cruz, “**Association in Electrolyte Solution: Rigid Rod Polyelectrolytes in Multivalent Salts,**” *J. Chem. Phys.* 118 (10), 4684-4691 (2003).
53. C. Huang and M. Olvera de la Cruz, “**Polyelectrolytes in Multivalent Salt Solutions: Monomolecular versus Multimolecular Aggregation,**” *Macromolecules* 35, 976-986 (2002)
54. F. J. Solis and M. Olvera de la Cruz, “**Flexible Linear Polyelectrolytes in Multivalent Salt Solutions: Solubility Conditions,**” *European Physics J. E* 4 (2) 143-152 (2001).
55. F. J. Solis and M. Olvera de la Cruz, “**Flexible Polymers Also Counterattract,**” *Physics Today* 54: (1) 71-72 (2001).
56. K. Mahdi and M. Olvera de la Cruz, “**Phase Diagrams of Salt-Free Polyelectrolyte Semi-Dilute Solutions,**” *Macromolecules* 33, 7649 (2000).
57. M. Sayar, F. J. Solis, M. Olvera de la Cruz, and S. I. Stupp, “**Competing Interactions among Supramolecular Structures on Surfaces,**” *Macromolecules* 33, 7226 (2000).
58. F. J. Solis, M. Olvera de la Cruz, and K. A. Smith, “**Hydrodynamic Coarsening of Binary Fluids Mixtures- Reply,**” *Phys. Rev. Lett.* 85, 4408 (2000).
59. F. J. Solis and M. Olvera de la Cruz, “**Flexible Polyelectrolytes in Dense Multivalent Salt Solutions: Solubility Conditions,**” *European Physics J. Direct E* 1 1 (2000).
60. F. J. Solis and M. Olvera de la Cruz, “**Hydrodynamic Coarsening of Binary Fluids Mixtures,**” *Phys. Rev. Lett.* 84, 3350 (2000).
61. F. J. Solis and M. Olvera de la Cruz, “**Collapse of Flexible Polyelectrolytes in Multivalent Salt Solutions,**” *J. Chem. Phys.* 112, 2030 (2000).
62. K. A. Smith, F. J. Solis, L. Tao, K. Thornton, and M. Olvera de la Cruz, “**Domain Growth in Ternary Fluids: A level Set Approach,**” *Phys. Rev. Lett.* 84, 91 (2000).
63. C. Huang, P. W. Voorhees, and M. Olvera de la Cruz, “**Interfacial Adsorption in Ternary Alloys,**” *Acta Mater.* 47, 4449 (1999).
64. F. J. Solis and M. Olvera de la Cruz, “**Attractive Interactions between Rod-like Polyelectrolytes: Polarization, Crystallization, and Packing,**” *Phys. Rev. E* 60, 4496 (1999).
65. F. J. Solis, M. Olvera de la Cruz, “**Surface -Induced Layer Formation in Polyelectrolytes,**” *J. Chem Phys,* 110, 11518 (1999).
66. F. J. Solis and M. Olvera de la Cruz, “**A Variational Approach to Necklaces Formation in Polyelectrolytes,**” *Macromolecules* 31, 5502 (1998).
67. E. Raspaud, M. Olvera de la Cruz, J.L. Sikorav, and F. Livolant, “**Precipitation of DNA by polyamines: Polyelectrolyte Behavior,**” *Biophysical Journal* 74, 381 (1998).
68. C. Huang, M. Olvera de la Cruz, M. Delsanti, and P. Guenoun, “**Charged Micelles in Salt-free Dilute Solutions,**” *Macromolecules* 30, 8019 (1997).
69. C. Huang and M. Olvera de la Cruz, “**Analytic Interface Profile Approximation for ternary Polymer Blends,**” *Macromolecules* 29, 6068 (1996).
70. C. Huang and M. Olvera de la Cruz, “**Adsorption of a Minority Component in Polymer Blend Interfaces,**” *Phys. Rev. E* 53, 812 (1996).
71. C. Huang and M. Olvera de la Cruz, “**Scaling of Interfacial Properties in Ternary Polymer Blends,**” *Europhysics Lett.* 34, 171 (1996).
72. B. W. Swift and M. Olvera de la Cruz, “**Random Copolymers in Concentrated Solutions,**” *Europhysics Lett.* 35, 487 (1996).
73. M. Olvera de la Cruz, L. Belloni, J. P. Dalbiez, M. Delsanti, M. Drifford, and O. Spalla, “**Precipitation in Highly Charged Polyelectrolyte Aqueous Solutions in Multivalent Salts,**” *J. Chem. Phys.* 103, 5781 (1995).

74. C. Huang, M. Olvera de la Cruz and B. W. Swift “**Phase Separation of Ternary Mixtures: Symmetric Polymer Blends,**” *Macromolecules* 28, 7996 (1995).
75. P. Gonzalez-Mozuelos and M. Olvera de la Cruz, “**Ion Condensation in Salt-Free Polyelectrolyte Dilute Solutions,**” *J. Chem. Phys.* 103, 3145 (1995).
76. J. L. Jones and M. Olvera de la Cruz, “**Transitions to Periodic Structures: Higher Harmonic Corrections with Concentration Fluctuations,**” *J. Chem. Phys.* 100, pp. 5272 (1994).
77. L. Belloni, M. Olvera de la Cruz, J. P. Dalbiez, M. Delsanti, M. Drifford, and O. Spalla, “**Polyelectrolyte Solutions + Multivalent Salts = Phase Separation,**” *Il Nuovo Cimento*, 16, 727 (1994).
78. C. Huang and M. Olvera de la Cruz, “**The Early Stages of the Phase Separation Dynamics in Polydisperse Polymer Blends,**” *Macromolecules* 27, 4231 (1994).
79. D. Gersappe and M. Olvera de la Cruz, “**A Monte Carlo Study of Ring Macromolecules in Disordered Systems,**” *J. Molecular Simulations*, 13, 267 (1994).
80. B. W. Swift and M. Olvera de la Cruz, “**Study of Random Copolymers in Dilute Solution,**” *J. Chem. Phys.* 100, pp. 7744 (1994).
81. P. Gonzalez-Mozuelos and M. Olvera de la Cruz, “**Random Phase Approximation for Complex Charged Systems. Applications to Copolyelectrolytes (Polyampholytes),**” *J. Chem. Phys.* 100, 507 (1994).
82. A. S. Mendelsohn, J. M. Torkelson, and M. Olvera de la Cruz, “**Florescence Nonradiative Energy Transfer in Bulk Polymer and Miscible and Phase Separated Polymer Blends,**” *J. of Polym. Sci. Polym. Phys.* 32, 2667 (1994).
83. A. S. Mendelsohn, M. Olvera de la Cruz, and J. M. Torkelson, “**Correlations in Polymer Melts and Solutions as Investigated by Fluorescence Nonradiative Energy Transfer: A Novel Comparison of Theory to Experiment by Fluorescence Intensity Decay Measurements,**” *Macromolecules* 26, pp. 6789 (1993).
84. K. E. Bassler and M. Olvera de la Cruz, “**Monte Carlo Study of Diblock Copolymers in Dilute Solution,**” *J. de Physique I France* 3, pp. 2387 (1993).
85. A. M. Mayes, M. Olvera de la Cruz, and W.E. McMullen, “**Asymptotic Properties of Higher-Order RPA Vertex Functions for Block Copolymer Melts,**” *Macromolecules* 26, pp. 4050 (1993).
86. A. Nesarikar, M. Olvera de la Cruz and B. Crist, “**Phase Transitions in Random Copolymers,**” *J. Chem. Phys.* 98, pp. 7385 (1993).
87. D. Gersappe and M. Olvera de la Cruz, “**Ring Macromolecules in Topologically Restricted Environments,**” *Phys. Rev. Lett.* 70, pp. 461 (1993).
88. M. Olvera de la Cruz, “**Nearly Continuous Transitions to Periodic Structures in Block Copolymer Melts,**” *Revista Mexicana de Fisica* 38, pp. 205 (1992).
89. M. Olvera de la Cruz, A. M. Mayes and B. W. Swift, “**Transition to Lamellar-Catenoid Structure in Block Copolymer Melts,**” *Macromolecules* 25, pp. 944 (1992).
90. A. M. Mayes and M. Olvera de la Cruz, “**Concentration Fluctuation Effects on Disorder-Order-Transitions in Block Copolymer Melts,**” *J. Chem. Phys.* 95, pp. 4670 (1991).
91. A. M. Mayes and M. Olvera de la Cruz, “**Equilibrium Domain Spacing in Weakly Segregated Block Copolymer Melts,**” *Macromolecules* 24, pp. 3975 (1991).
92. M. Olvera de la Cruz, “**Transitions to Periodic Structures in Block Copolymer Melts,**” *Phys. Rev. Lett.* 67, pp. 85 (1991).
93. D. Gersappe, J. M. Deutsch and M. Olvera de la Cruz, “**Density Fluctuations of Self-avoiding Walks in Random-Systems,**” *Phys Rev. Lett.* 66, pp. 731 (1991).
94. Cheng-Heng. R. Kao, and M. Olvera de la Cruz, “**Model for Micelle Formation in Copolymer-Homopolymer Blends,**” *J. Chem. Phys.* 93, pp. 8284 (1990).
95. M. Olvera de la Cruz, D. Gersappe, and E. O. Shaffer, “**Dynamics of DNA during Pulsed Field Gel Electrophoresis,**” *Phys. Rev. Lett.* 64, pp. 2324 (1990).
96. A. M. Mayes and M. Olvera de la Cruz, “**Microphase Separation in Multiblock Copolymer Melts,**” *J. Chem. Phys.* 91, pp. 7228 (1989).
97. M. Olvera de la Cruz, “**Theory of Microphase Separation in Block Copolymer Solutions,**” *J. Chem. Phys.* 90, pp. 1995 (1989).
98. M. Mayes and M. Olvera de la Cruz, “**Strain Effects in the Thermal Stability of Rod Eutectis,**” *Act. Met.*, 37, pp. 615 (1989).

99. E. O. Shaffer and M. Olvera de la Cruz, “**Dynamics of Gel Electrophoresis**,” *Macromolecules* 22, pp. 1351 (1989).
100. M. Olvera de la Cruz, S. F. Edwards, and I. C. Sanchez, “**Concentration Fluctuations in Polymer Blends Thermodynamics**,” *J. Chem. Phys.* 89, pp. 1704 (1988).
101. M. Mayes and M. Olvera de la Cruz, “**Cylindrical versus Spherical Micelle Formation in Block Copolymer/Homopolymer Blends**,” *Macromolecules* 21, pp. 2543 (1988).
102. M. Olvera de la Cruz and I. C. Sanchez, “**Microphase Separation in Block Copolymer/Homopolymer Blends**,” *Macromolecules*, 20, pp. 440 (1987).
103. S. F. Edwards and M. Olvera de la Cruz, “**Quantum Field Theory Methods in Polymer Blends**,” in *Quantum Field Theory and Quantum Statistics*; Eds. I. A. Batalin, C. J. Isham and G. A. Vikovisky; Taylor and Francis, vol.1 page 371 (1987).
104. M. Olvera de la Cruz and I. C. Sanchez, “**Theory of Microphase Separation in Graft and Star Copolymers**,” *Macromolecules*, 19, pp. 2501 (1986).
105. M. Olvera de la Cruz, D. M. Deutsch, and S. F. Edwards, “**Electrophoresis in Strong Fields**,” *Phys. Rev. A*, 33, pp. 2047 (1986).

Book Chapters and Selected Publications in Conference Proceedings

106. M. Olvera de la Cruz, “**Transitions to Periodic Structures in Block Copolymer Melts: Do the Chains Stretch or Contract?**” in “Lectures on Thermodynamics and Statistical Mechanics,” Eds. M. Lopez de Haro and C. Varea World Scientific Press (1991).
107. D. Gersappe and M. Olvera de la Cruz, “**Dynamics of Gel Electrophoresis**,” in “Computer Simulation of Polymers,” Ed. R. J. Roe, Prentice Hall, (1991).
108. M. Olvera de la Cruz, “**Aggregation in Block Copolymer Solutions**,” Proceedings of the Materials Research Society Symposium, Vol. 177, “Macromolecular Liquids,” Eds. C. R. Safinya, S. Safran, and P. A. Pincus (1990).
109. A. M. Mayes and M. Olvera de la Cruz, “**Microphase Separation in Triblock Copolymer Melts**,” Proceedings of the Materials Research Society Symposium, Vol. 175, “Multi-Functional Materials,” Eds. A. Buckley, G. Gallagher-Daggitt, F. E. Karasz, and D. R. Ulrich (1990).
110. M. Olvera de la Cruz, “**Phase Segregation in Copolymer and Homopolymer Multi-Component Mixtures**,” in “Structure and Properties of Multi-Phase Polymeric Materials,” Eds. T. Araki, Q. Tran-Cong and M. Shibayama, Marcel Dekker, Inc., (1998).
111. M. D. Lefebvre, H. Guo, K. R. Shull, H. Guo and M. Olvera de la Cruz “**Formation of Swollen Micelles and Inverse Swollen Micelles Using a Block Copolymer with Favorable Interactions**” Abstracts of Papers, 2006 Fall ACS National Meeting, San Francisco, CA, Sept. 10-14, 2006, Vol. 95, PMSE.

Preprints Available and/or Submitted

112. F. J. Solis and M. Olvera de la Cruz, “**Attractions between Charged Colloidal Spheres Mediated by Correlated Distributions of Absorbed Mobile Ions**,” (<http://arxiv.org/abs/cond-mat/0010065>).
113. Y. S. Velichko, F.J. Solis, S. M. Loverde and M. Olvera de la Cruz “**Ion Condensation Structure on Patterned Surfaces**” (<http://arxiv.org/abs/0704.3717>).
114. M. Olvera de la Cruz, K. Zhang, H. Cheng, J. A. Libera and M. J. Bedzyk “**Direct X-Ray Observation of Polynucleotide Adsorption and Desorption to Charged Surfaces**” (preprint).
115. W. Kung, M. Olvera de la Cruz and F. J. Solis “**Thermodynamics of Ion Solvation and Differential Absorption at Liquid-Liquid Interfaces and Membranes**” (<http://arxiv.org/abs/0710.0369>).
116. M. Olvera de la Cruz “**Patterns in Polyelectrolyte Gels linked by Oppositely Charged Multivalent Molecules**” (preprint, July 2008).
117. H. Guo and M. Olvera de la Cruz “**Emulsifying Polymersome Vesicles from Monolayers at liquid Interfaces**” (preprint, March 2009).
118. M. Olvera de la Cruz and J. J. de Pablo “**Nano-patterns in gels of charged chains with self-attracting interactions**” (preprint, Nov. 6, 2007).

119. H. Guo and M. Olvera de la Cruz "**Molecular Dynamics Simulation Study of Monolayers of Asymmetric Copolymers at immiscible Molecular Liquid Interfaces Coexisting with Swollen or Inverse Swollen Micelles**" (*preprint*, January 2009).
120. W. Kung, P. Gonzalez-Mozuelos, and M. Olvera de la Cruz, "**A Minimal Model of Charged Nanoparticle Crystallization**" (*preprint*, November 2009)
121. Guillermo Ivan Guerrero-Garcia, Enrique Gonzalez-Tovar, and Monica Olvera de la Cruz Effects of the Ionic-size "**Asymmetry around a Charged Colloid: Unequal Charge Neutralization and Electrostatic Screening**" (*preprint*, November 2009).

Selected Synergetic Activities and Teaching Schools

- 1997-04** **Director**- Integrated Graduate Program to Prepare Educators of Materials Technologists. (NSF-MRC).
- 1998** *Electrostatic Effects in Complex Fluids & Biophysics, Workshop, Institute of Theoretical Physics, Santa Barbara, CA, 8/98-12/98.
*Computational Tools for Multiphase/Multicomponent Polymer Materials (**lecturer**), Workshop, NIST, May 20-21.
*Graduate Research Fellowship Program, Minority Graduate Session, National Science Foundation, Washington D.C., February 17-19.
- 1999** *NSF Committee of Visitors for the Division of Materials Research, Feb 24-26.
*NSF Research Experiences for Undergraduates panel, Nov 1-2.
- 1999-06** **Director** of the Research Experience for Undergraduate/Minority Research Initiative (REU/MRI). NSF/MRC, Northwestern University.
- 2000-06** Member of the Editorial Board of the *Journal of Polymer Science B: Polymer Physics*.
- 2000** *Nomination Committee of the Division of High Polymer Physics, APS.
*NSF Nanoscale Modeling and Simulation panel, June 1-2.
*NSF workshop on opportunities in materials theory (**lecturer**), Oct. 4-6.
*Materials Research Science and Engineering Center at University of Minnesota, NSF Site visit, Oct. 17-18.
- 2001** Pre-proposals Panel for the FY02 Materials Research Science and Engineering Centers (MRSEC) National Science Foundation, Nov. 14-15, 2001.
- 2001-04** Fellowship Committee, Polymer Physics Division, American Physical Society.
- 2002** *Information Technology Research (ITR) Large Proposals panel, NSF, January 23.
*Proposal reviewer for the 2002 MRSEC competition of the NSF Materials Research Science and Engineering Centers, March.
*Coulomb Effects in Soft Condensed Matter and Biomolecular Science workshop (**lecturer**), Aspen Center for Physics (Aspen, CO), May 23-June 21.
- 2004** *Biophysics Workshop (**lecturer**), Theoretical Physics Institute, University of Minnesota, 04/30-05/2.
NSF workshop "Role of Theory in Biological Physics and Materials" (co-organizer, plenary talk**), May 17-18, 2004, Tempe, Arizona.
*Focus Sessions: "Charge Effects on Biomolecules" (**organizer**), "Charged Biomolecules in Complexes and on Surfaces" (**organizer**) and "Polyelectrolytes and Other Charged Systems" (**organizer**), March Meeting of the American Physical Society, March 22-26, 2004, Montreal, Quebec, Canada, co-sponsored by the Polymer Physics Division, the Biological Physics Division and the Statistical Mechanics and Non-Linear Physics Division.
Biophysics Workshop (**lecturer**), Theoretical Physics Institute, University of Minnesota, 04/30-05/2.
*US-South America Workshop (**lecturer**) "Mechanics and Advanced Materials: Research and Education", Rio de Janeiro, Brazil, August 2-6.
*NSF workshop "Theoretical Science in the Mathematical and Physical Sciences Directorate." Oct 28-29.
- 2005** *Polymer Physics Lectures (**lecturer**), Advanced Summer School 2005, Physics Department, Centro de Investigaciones y Estudios Avanzados (Cinvestav), Mexico D. F. Mexico 07/18-07/22.

- *NSF site visit UPR-Humacao University, Humacao, Oct 18-19.
- 2005-09** Advisory Committee, NSF Mathematical and Physical Sciences Directorate.
- 2005-Pre.** External Advisory Board, Nanoscale Science and Engineering Center (NSEC) Materials on Templated Synthesis and Assembly at the Nanoscale, University of Wisconsin-Madison
- 2006** *Pan-American Advanced Studies Institute Program (PASI) on Nano and Biotechnology (**lecturer**) Bariloche, Argentina, Nov. 13-22.
- *Schools in Physics and Mathematics (**lecturer**), The International Center for Theoretical Physics, ICTP, Trieste, and Brazilian National Research Council, CNPq, Sao Pablo, Brazil, Feb 20-24.
- *Micro and Nano Devices with Applications to Biology and Nanoelectronics (lecturer), Aug. 7-11.
- * **Chair**, Internal Review of Dept. of Surgery, Northwestern University.
- 2006-09** Solid State Science Committee, National Research Council, National Research Council, the National Academy of Sciences.
- 2006-08** **Leadership Council**, National Center for Learning and Teaching in Nano Science and Engineering (NCLT), National Science Foundation.
- 2006-07** Program Review Council, Northwestern University.
- 2007** *Anne M. Mayes Carl S. Marvel Creative Polymer Chemistry Award Symposium” (**organizer**) American Chemical Society March Meeting, Chicago, March 25.
- *Interdisciplinary, Globally Leading Polymer Science and Engineering NSF Workshop, Aug 15-16.
- 2007-08** NSF Advisory Panel on Light Source Facilities.
- 2007-09** Executive NSF-MRSEC Directors Committee.
- 2007-09** Research at the Interface of Physical and Life Sciences Committee, National Research Council, the National Academy of Sciences.
- 2007- Pre** **Editorial Board**, Macromolecules.
- 2008-09** **Chair**, Executive NSF-MRSEC Directors Committee.
- 2008** **Panelist**, Productive Affinities: Successful Collaborations between Museums and Academia Symposium, Art Institute of Chicago, Chicago, Il., Oct. 29-31.
- Panelist Coordinator**, play Copenhagen by Michael Frayn, "Engineering Transdisciplinary Outreach Project in the Arts", Northwestern University, Evanston Il, Sep. 27.
- 2008-10** **Vice-Chair**, Solid State Science Committee, National Research Council, National Research Council, the National Academy of Sciences.
- 2008-11** **Advisory Board**, NSF University New Mexico / Harvard Partnership for Research and Education in Materials (PI: Gabriel P. Lopez).
- 2009-Pre** **External Advisory Board** (EAB) , NSF Wisconsin - Puerto Rico Partnership for Research and Education in Materials” (PI: Carlos Rinaldi).
- 2008-11** **Advisory Board**, NSF University PENN-University of Puerto Rico Partnership for Research and Education in Materials (PI: Idalia Ramos).
- 2009- Pre** Northwestern University Shared Facilities Advisory Board.
- 2009** **External Review**, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Ill, March 29-31.
- 2009-Pre** **Advisory Board**, Center for Interdisciplinary Exploration and Research in Astrophysics CIERA, Northwestern University (Directors Vicky Kalogera, Fred Rasio and Dave Meyer).

INVITED TALKS, SHORT COURSES AND PAPERS IN INTERNATIONAL CONFERENCES

* M. Olvera de la Cruz, “Ionic Membranes and Gels” Plenary Lecture, 2nd International Soft Matter Conference (ISMC 2010), Granada Spain July 5-8, 2010.

* M. Olvera de la Cruz, Self-assembly in Biology and Materials Science, International Workshop on Current Problems in Complex Fluids, Huatulco, Mexico, June 2010.

* M. Olvera de la Cruz, “Symmetries Broken by Electrostatics in Nanoscale Ionic Assemblies”, Plenary Speaker, Society of Industrial and Applied Mathematics (SIAM) meeting on Mathematical Aspects of Materials Science, Philadelphia, PA, May 23-26, 2010.

- * M. Olvera de la Cruz "Ionic Driven Self-Assembly", Physics Department Colloquium, University of Texas, San Antonio, March 5, 2010.
- * M. Olvera de la Cruz "Asymmetric Interactions and Assembly of Positive and Negative Charged Nanoparticles in Water" 2010 Colloidal, Macromolecular & Polyelectrolyte Solutions Gordon Research Conference, Ventura, CA, February 21-26, 2010.
- * M. Olvera de la Cruz "Ionic Driven Self-Assembly", Physics Department Colloquium, Boston University, January 26, 2010.
- * M. Olvera de la Cruz, 4th Africa Materials Research Society (Africa MRS Meeting), Abuja, Nigeria, 14th to 18th of December, 2009.
- * M. Olvera de la Cruz "Ionic Membranes and Gels" Materials Science Division, Argonne, November 20, 2009.
- * M. Olvera de la Cruz "Spontaneous Buckling of Ionic Membranes", Physics Department Colloquium, Brandeis University, November 17, 2009.
- * M. Olvera de la Cruz "Spontaneous Buckling of Ionic Membranes", Polymer Science, University of Akron, Akron, OH, October 8, 2009.
- * M. Olvera de la Cruz "Current Status of Materials Research", Kyoto Institute of Technology, Kyoto, Japan, September 28, 2009.
- * M. Olvera de la Cruz "Ionic self-Assemblies" Kyoto Institute of Technology, Kyoto, Japan, September 28, 2009.
- * M. Olvera de la Cruz "Lectures on Critical Phenomena in Polymers" Lecture series at the Kyoto Institute of Technology, Kyoto, Japan, September 25, 2009.
- * M. Olvera de la Cruz "Functional Ionic Membranes" 6th International Discussion Meeting on Relaxations in Complex Systems, Rome, Italy Aug 30-Sept 6, 2009.
- * M. Olvera de la Cruz, Lecture Series on Molecular Electrolytes and Ionic Assemblies at the Nanoscale, "Meeting on the Science and Technology of Complex Fluids" San Luis Potosi, Mexico, August 17-21, 2009.
- * M. Olvera de la Cruz "Polyelectrolyte Gels: Solvation versus Segregation" Polymer Physics Workshop, Telluride Science Research Center, Telluride, CO, July 6-10, 2009.
- * M. Olvera de la Cruz "Self-Assembly via Electrostatics: Simple and Complex Shapes and Symmetries", Chemistry of Supramolecules and Assemblies, Gordon Research Conference, Waterville, Maine, June 28 to July 3, 2009.
- * M. Olvera de la Cruz "Buckled membranes and other surprises in the ionic driven self-organization of biomolecules", Molecular Biophysics, Northwestern University, April 15, 2009.
- * M. Olvera de la Cruz "Asymmetric Charge Renormalization and Interactions of Nanoparticles in Aqueous Media", American Chemical Society Meeting, Salt-Lake City, March 22-26, 2009.
- M. Olvera de la Cruz, Megan Greenfield, Liam Palmer, Graziano Vernizzi and Samuel Stupp "Buckled Membranes in Mixed-Valence Ionic Amphiphiles" American Chemical Society Meeting, Salt-Lake City, March 22-26, 2009.
- D. Zhang and M. Olvera de la Cruz "Nano-patterns in Tethered Membranes of Polyelectrolyte with Hydrophobic Backbones" American Chemical Society Meeting, Salt-Lake City, March 22-26, 2009.
- D. Zhang, P. Gonzalez-Mozuelos and M. Olvera de la Cruz "Crystallization of charged nano-particles in solution" American Chemical Society Meeting, Salt-Lake City, March 22-26, 2009.

- * Monica Olvera de la Cruz “Spontaneous Symmetry Breaking by Electrostatics in Helical Fibers and Buckled Membranes” Materials Science and Engineering Seminar Series, MIT, Cambridge, MA, February 6, 2009.
- * M. Olvera de la Cruz “Nano-patterns in Gels of Charged Chains” Kent State University, January 28, 2009.
- * M. Olvera de la Cruz “Self-Organization of Complex Molecular Electrolytes”, Macromolecular Materials Gordon Research Conference, Ventura, CA, January 11-15, 2009.
- * M. Olvera de la Cruz “Ionic Assemblies: Symmetries and Functions”, 10th Berkeley Mini Stat. Mech. Meeting, Berkeley University, CA, January 09-11, 2009.
- * G. Vernizzi and M. Olvera de la Cruz "Icosahedral Ionic Shells", Fall 2008 MRS Symposium, Boston, December 1-5, 2008.
- * M. Olvera de la Cruz “Nanostructures in Molecular Electrolytes” 2008 Dow Foundation Distinguished Lecturer at UCSB, Graduate Students Diversity of Science, Materials Department Colloquium, University of California Santa Barbara, October 3, 2008.
- * M. Olvera de la Cruz “Ionic Membranes and Gels” Institute of Materials Science Colloquium, University of Connecticut, September 19, 2008.
- * M. Olvera de la Cruz “Functionalities driven by Symmetries Broken in Assemblies with Charge Heterogeneities” 2008 American Conference in Theoretical Chemistry (ACTC 2008), Northwestern University, July 19-24, 2008.
- * M. Olvera de la Cruz, “Symmetries in Ionic Assemblies: Vesicles, Membranes and Gels” 2008 Polymer Physics, Gordon Research Conference, Salve Regina University Newport, RI, June 29 - July 4, 2008.
- * M. Olvera de la Cruz, Speaker, McCormick's MS Recognition and PhD Hooding Ceremony, Northwestern University, June 20, 2008.
- * M. Olvera de la Cruz “Patterns in Charged Gels: from Actuators to Chromosomes” 8th International Symposium of Polymer Physics, Xiamen, China, June 8-12, 2008 (Trip cancelled).
- * M. Olvera de la Cruz “Organic and Inorganic Nanoelectronic Materials” Plenary Lecture, International Conference on Molecular Electronic Devices, Korea, May 29-30, 2008.
- * M. Olvera de la Cruz “Novel Processing Methods for Nanostructured Materials and Supramolecular Structures”, Ajou University, Korea, May 28, 2008.
- * M. Olvera de la Cruz “Broken Symmetries in Ionic Nanopatterns: from Fibers to Gels” Department of Physics Colloquium, Northwestern University, April 25, 2008.
- * M. Olvera de la Cruz "Educational outreach activities at the Northwestern University Materials Research Science & Engineering Center" American Chemical Society March Meeting, New Orleans, LA, April 6-10, 2008.
- * M. Olvera de la Cruz “Microphase Segregation in Gels of Charged Chains with Hydrophobic Backbones" American Chemical Society Meeting, New Orleans, LA, April 6-10, 2008.
- * M. Olvera de la Cruz “The Mutual Benefit of International Research Interactions” American Physical Society March Meeting, New Orleans, LA, March 10-14, 2008,
- M. Olvera de la Cruz and J. J. de Pablo “Nano-patterns in gels of charged chains with self-attracting interactions” American Physical Society March Meeting, New Orleans, LA, March 10-14, 2008.

Megan Greenfield, Graziano Vernizzi, Liam Palmer, Samuel Stupp and Monica Olvera de la Cruz
"Self Assembly of Mixed-Valence Ionic Amphiphiles into Faceted Vesicles" American Physical Society March Meeting, New Orleans, LA, March 10-14, 2008.

William Kung and Monica Olvera de la Cruz "Mystery on Charge Asymmetry: Anionic Macroions in Periodic Lattices Held by Hydrated Cations and Not vice versa" American Physical Society March Meeting, New Orleans, LA, March 10-14, 2008.

* M. Olvera de la Cruz "Charged Molecule Co-Absorption at Liquid-Liquid Interfaces: Membrane Buckling and Nanopatterned Membranes" Physic Department Colloquium, University of Illinois, Chicago, March 5, 2008.

* M. Olvera de la Cruz "Ion Absorption at Liquid-Liquid Interfaces and Charged Patterned Membranes: Thermodynamics and Structure", Physics Department, Kyoto University, Kyoto, Japan, October 10, 2007

* M. Olvera de la Cruz "Charged Gels" Kyoto Institute of Technology, October 9, 2007.

* M. Olvera de la Cruz "Ionic Assemblies: Patterns and Symmetries", Department of Physics, Edinburgh University, September 24, 2007.

* M. Olvera de la Cruz "Structures and Symmetries in Self-Assembly" Polymer Physics Workshop, Telluride Science Research Center, Telluride, CO, August 06-10, 2007.

* M. Olvera de la Cruz "Symmetries in Ionic Assemblies" Colloquium, Service de Physique Théorique, CEA, Saclay, France, June 26, 2007.

* M. Olvera de la Cruz "Surface Assembly of Adsorbed Ionic Molecules", Department of Materials Science, ETH, Zurich, June 22, 2007.

* M. Olvera de la Cruz "Electrostatic Driven Self-Assembly" Department of Chemistry, Northwestern University, Evanston, IL, May 29, 2007.

* M. Olvera de la Cruz "Ionic Molecular Assemblies" Colloquium, Department of Physics, University of California Santa Cruz, May 17, 2007.

* G. Vernizzi and M. Olvera de la Cruz "Faceting of Ionic Shells into Icosahedra via Electrostatics" American Chemical Society, Chicago, IL, March 25-29, 2007.

K. Kohlstedt, G. Vernizzi F.J. Solis and M. Olvera de la Cruz, "The Breaking of Chiral Symmetry Using Long-Range Electrostatic Forces" American Chemical Society, Chicago Illinois, March 25, 2007.

* M. Olvera de la Cruz "Electrostatic Driven Self-Assembly" Department of Chemistry, Purdue University, March 21, 2007.

* M. Olvera de la Cruz "Theoretical and Numerical Modeling of Faceted Vesicles of Viral Size" American Physical Society, Denver, Colorado, March 5-9, 2007.

W. Kung, A.W.C. Lau and M. Olvera de la Cruz "Electrostatics of Planar Interfaces in Salt Solution" American Physical Society, Denver, Colorado, March 5-9, 2007.

K. L. Kohlstedt, F. J. Solis, G. Vernizzi and M. Olvera de la Cruz "The Breaking of Chiral Symmetry Using Long-Range Electrostatic Forces" American Physical Society, Denver, Colorado, March 5-9, 2007.

Y. Velichko, F. J. Solis, S. M. Loverde and M. Olvera de la Cruz "Ion Condensation near Patterned Surfaces" American Physical Society, Denver, Colorado, March 5-9, 2007.

M. Greenfield, Y. Velichko, S. I. Stupp and M. Olvera de la Cruz "Physical Properties of Anionic Peptide Amphiphile Fibers Grown in the Presence of Polyion Salt" American Physical Society, Denver, Colorado, March 5-9, 2007.

* M. Olvera de la Cruz "Theoretical and Numerical Modeling of Ionic Molecular Assemblies" ESPCI, Paris, February 19, 2007.

*M. Olvera de la Cruz, "Complexes of Oppositely Charged Molecules: Bulk and Surface Structures" Materials Research Society Meeting, Boston, November 27, 2006.

K. L. Kohlstedt, F. J. Solis, G. Vernizzi and M. Olvera de la Cruz "Charged Helical Patterns on the Surface Nanofibers and the Salt-induced Melting of the Nanopatterns", Materials Research Society Meeting, Boston, November 27, 2006.

M. J. Bedzyk, J. A. Libera, H. Cheng, K. Zhang, and M. Olvera de la Cruz, "X-Ray Standing Wave Observation of Cations and Polynucleotides Explains Polyion Adsorption to Like-Charged Surfaces", American Chemical Society Meeting, San Francisco. September 2006.

M. Lefebvre, H. Guo, K. Shull, and M. Olvera de la Cruz, "Formation of Swollen Micelles and Inverse Swollen Micelles Using a Block Copolymer with Favorable Interactions", American Chemical Society Meeting, San Francisco. September 2006.

G. Vernizzi, and M. Olvera de la Cruz, "Electrostatic Effects on the Shape of Charged Lipid Membranes", American Chemical Society Meeting, San Francisco. September 2006.

* M. Olvera de la Cruz "Mechanics of Biosystems" Pan-American Advanced Studies Institute Program (PASI) on Nano and Biotechnology – Barriloche, Argentina, Nov. 13-22, 2006

* M. Olvera de la Cruz "Modeling of Materials" workshop KISTI (Korea Institute of Science and Technology Information) Daejeon, Korea, July 6, 2006.

* M. Olvera de la Cruz "Complexes of Oppositely Charged Molecules: Bulk Structures and Surface Pattern Formation" Seoul University, Seoul, Korea, July 5, 2006.

* M. Olvera de la Cruz "Electrostatics in Biomaterials" Kyoto University, Kyoto, Japan, July 11, 2006

* M. Olvera de la Cruz "Statistical Mechanics Applied to Bio-systems", NSF Summer Institute: A Short Course on Micro and Nano Devices With Applications to Biology and Nanoelectronics, Northwestern University, Evanston, IL, August 7-11, 2006.

S. M. Loverde, F. J. Solis, M. Olvera de la Cruz "Phase Segregation and Patterning in Two Dimensional Systems: Competition between Van der Waals and Electrostatic interactions" American Physical Society, March Meeting, March 2006, Baltimore, MD.

Y. S. Velichko and M. Olvera de la Cruz, "Electrostatic Attraction Between Cationic-Anionic Assemblies with Surface Compositional Heterogeneities" American Physical Society, March Meeting, March 2006, Baltimore, MD.

K. L. Kohlstedt, F. J. Solis and M. Olvera de la Cruz "Surface Patterns on Co-Assembled Fibers from Charged, Amphiphilic Molecules" American Physical Society, March Meeting, March 2006, Baltimore, MD.

S. M. Loverde, Y. S. Velichko and M. Olvera de la Cruz "Competing Interactions in Two Dimensional Coulomb Systems: Surface Charge Heterogeneities in Co-Assembled Cationic-Anionic Incompatible Mixtures" American Physical Society, March Meeting, March 2006, Baltimore, MD.

M. Greenfield, M. Olvera de la Cruz and S. I. Stupp "Physical Properties of Anionic Peptide Amphiphile Fibers Grown in the Presence of Cationic Proteins" American Physical Society, March Meeting, March 2006, Baltimore, MD.

M. Lefebvre, M. Guvendiren, M. Olvera de la Cruz and K. Shull "Interfacial Segregation and Micellization of Hydrogen Bonding Copolymers" American Physical Society, March Meeting, March 2006, Baltimore, MD.

* M. Olvera de la Cruz "Physical Properties of Polyelectrolytes of Biological Interest", Schools in Physics and Mathematics, The International Center for Theoretical Physics, ICTP, at Trieste, and the Brazilian National Research Council, CNPq, Sao Pablo, Brazil, Feb 20-24, 2006.

* M. Olvera de la Cruz " Electrostatic Interactions in Mixtures of Cationic and Anionic Biomolecules: Bulk Structures and Induced Surface Pattern Formation " as part of the "North American Lectures in Chemical Engineering and Materials Science", NSF and Universidades de San Luis Potosi and Guanajuato, Mexico, 11/23/05 and 11/25/05

* M. Olvera de la Cruz "Cationic and Anionic Assemblies: Bulk Ionic Structures and Surface Pattern Formation in Mixtures of Oppositely Charged Amphiphiles", Colloquium, Department of Materials science and Engineering, University of Illinois, Urbana-Champaign, IL, 08/29/05

*M. Olvera de la Cruz "Charged Induced Pattern Formation on Surfaces of Assemblies of Cationic-Anionic Amphiphiles", "Correlations in Polymer melts, blends and solutions", "Heterogeneous Macromolecule" and "Polyelectrolyte Solutions", Advanced Summer School 2005, Physics Department, Centro de Investigaciones y Estudios Avanzados (Cinvestav), Mexico D. F. Mexico from 07/18 to 07/22, 2005.

* M. Olvera de la Cruz "Co-assembly of Cationic and Anionic Heterogeneous Macromolecules: Bulk and Surface Nano-Pattern Formation" European Polymer Congress, Moscow at Moscow State University, Moscow (declined) June 27-July 1, 2005.

*M. Olvera de la Cruz, "Charged Induced Pattern Formation on Surfaces of Assemblies of Cationic-Anionic Amphiphiles", Polymer Physics Workshop, Telluride Science Research Center, Telluride, CO, 07/27-29, 2005.

*M. Olvera de la Cruz, "Pattern Formation in Mixtures of Oppositely Charged Biomolecules" Seminar general de Service de Physique Theorique, CEA-Saclay, Farnce, 06/28/05.

*M. Olvera de la Cruz, "Pattern Formation in Self-Assembled Heterogeneous Molecules: Co-Assembled Cationic and Anionic Amphiphiles" Laboratoire de Physique des Solides, University de Paris-Sud, Orsay, 07/24/2005.

*M. Olvera de la Cruz, "Charged Induced Pattern Formation on Surfaces of Cationic and Anionic Peptide Amphiphiles", Gordon Research Conference, Ion-Containing Polymers, Il Ciocco, Italy, 04/02/05.

Y. Velichko and M. Olvera de la Cruz, "Charged Binary Fluid Confined to Cylindrical Monolayer: Pattern Formation", American Physical Society, March Meeting, March 2005, Los Angeles, CA.

J. A. Libera, K. Zhang, M. J. Bedzyk and M. Olvera de la Cruz "Polynucleotide Adsorption onto Negatively Charged Surfaces", American Physical Society, March Meeting, March 2005, Los Angeles, CA.

S. M. Loverde, Y. Velichko and M. Olvera de la Cruz "Charge Induced Pattern Formation on Surfaces", American Physical Society, March Meeting, March 2005, Los Angeles, CA.

M. Olvera de la Cruz and H. Cheng "Charged Surface Induced Diblock Copolymer Micellization", American Physical Society, March Meeting, March 2005, Los Angeles, CA.

H. Guo and M. Olvera de la Cruz "Structure and Dynamics of Microemulsions/Micelles in the Presence of a Monolayer Interface in the Ternary Amphiphilic Systems: A Computer Simulation Study" American Physical Society, March Meeting, March 2005, Los Angeles, CA.

- *M. Olvera de la Cruz, "Charge Induced Pattern Formation on Surfaces of Cylindrical Micelles of Cationic-Anionic Peptide-Amphiphiles", American Chemical Society Meeting, ACS Award In Polymer Chemistry, March 14, San Diego, CA.
- *M. Olvera de la Cruz, "Charged Macromolecules: Solutions, Aggregates and Gels" and "Surface Pattern Formation in Self-Assembled Heterogeneous Molecules: Co-Assembled Cationic and Anionic Peptide Amphiphiles", Baetjer Colloquium Series, Department of Mechanical and Aerospace engineering, Princeton University, Princeton, NJ, March 3-4, 2005.
- *M. Olvera de la Cruz, "Electrostatic Interactions in Mixtures of Cationic and Anionic Biomolecules: Bulk Structures and Surface Pattern Formation" Colloquium, Physics Department, University of Houston, TX, 02/15/05.
- *M. Olvera de la Cruz, "Electrostatic Interactions in Mixtures of Cationic and Anionic Biomolecules: Bulk Structures and Induced Surface Pattern Formation", Chemical Engineering Department, University of Columbia, New York, October 19, 2004.
- *M. Olvera de la Cruz, "Strongly Correlated Macro-Ionic Solutions: Charged Chains Complexes, Charged Telechelics and Charged Peptide-Amphiphiles Mixtures," XIII International Materials Research Congress, Cancun, Mexico. 22-26, August, 2004.
- *M. Olvera de la Cruz, "Electrostatic Interactions in Mixtures of Cationic and Anionic Biomolecules: Bulk Structures and Induced Surface Pattern Formation", US-South America Workshop "Mechanics and Advanced Materials: research and Education", Rio de Janeiro, Brazil, August 2-6, 2004.
- * M. Olvera de la Cruz, "Cell: Simple Structures," NSF Biophysics Workshop, Tempe, AZ, May 16-18, 2004.
- * M. Olvera de la Cruz, "Charged Macromolecules," IGERT, Northwestern University, March 3, 2004.
- * M. Olvera de la Cruz, "Self-Organization of Mixtures of Peptide-Amphiphiles of Opposite Charge," Biophysics Workshop, Theoretical Physics Institute, University of Minnesota, April 30-May 2, 2004.
- A. Ermoshkin, A. Kudlay, and M. Olvera de la Cruz, "Thermoreversible Crosslinking of Polyelectrolyte Chains," Annual American Physical Society March Meeting 2004, Montreal, Quebec, March 22, 2004.
- M. D. Lefebvre, M. Olvera de la Cruz, and K. R. Shull, "Homopolymer Volatilization in Diblock Copolymer Micelles," Annual American Physical Society March Meeting 2004, Montreal, Quebec, March 24, 2004.
- S. Levered, A. Ermoshkin, M. Olvera de la Cruz, "Computer Simulation of Associating Ideal Chains," Annual American Physical Society March Meeting 2004, Montreal, Quebec, Canada, March 24, 2004.
- A. Kudlay, A. Ermoshkin, M. Olvera de la Cruz, "Complication in Solutions of Oppositely Charged Polyelectrolytes," Annual American Physical Society March Meeting 2004, Montreal, Quebec, March 24, 2004.
- M. D. Lefebvre, M. Olvera de la Cruz, K. R. Shull, "Homopolymer Volatilization in Diblock Copolymer Micelles," Annual American Physical Society March Meeting 2004, Montreal, Quebec, March 24, 2004.
- F. J. Solis, M. Olvera de la Cruz, "Pattern Formation in Charged Micelles," Annual American Physical Society March Meeting 2004, Montreal, Quebec, March 25, 2004.
- H. Cheng and M. Olvera de la Cruz, "Rod-like Polyelectrolyte Adsorption Onto Charged Surfaces in Monovalent and Divalent Salt Solutions," (Poster) Gordon Research Conferences Colloidal, Macromolecular & Polyelectrolyte Solutions Ventura, CA, February 1-6, 2004
- A. Kudlay, A.V. Ermoshkin, and M. Olvera de la Cruz, "Phase Diagram of Charged Dumbbells," (Poster) Gordon Research Conferences, Colloidal, Macromolecular & Polyelectrolyte Solutions, Ventura CA, February 1-6, 2004.
- A. V. Ermoshkin and M. Olvera de la Cruz, "Association of Charged Telephonic Chains," (Poster) Gordon Research Conferences. Colloidal, Macromolecular & Polyelectrolyte Solutions Ventura CA, February 1-6, 2004.

M. Olvera de la Cruz, "Association of Charged Chains," Chemistry department, University of Oregon, Eugene, OR, Jan 26, 2004.

M. Olvera de la Cruz, "Solutions of Charged Polymers," "Second International Conference on Applied Statistical Physics: Molecular Engineering (ASTATPHYS-MEX-2003)", Puerto Vallarta, Mexico, August 24-29, 2003.

M. Olvera de la Cruz, "Polyelectrolytes: Gelation and Adsorption," 2003 Telluride Workshop on "Polymer Theory vs. Polymer Experiment, Colorado, July 2003.

M. Olvera de la Cruz, "Statistical Mechanics," Nano Training Bootcamp, ASME Nanotechnology Institute, Northwestern University, Evanston IL, July 8-11, 2003.

M. Olvera de la Cruz, "Polyelectrolyte Solutions in Multivalent Salts," The 43rd High Polymer Research Group Conference, 2003, Moretonhampstead, Devon, England, April 2003.

M. Olvera de la Cruz and A. Ermoshkin, "Polyelectrolyte Solutions: Gelation and Segregation," American Physical Society March Meeting, Austin TX, March 2003.

H. Cheng and M. Olvera de la Cruz, "Adsorption of Polyelectrolytes onto Like-Charged and Oppositely Charged Chains," American Physical Society Meeting, Austin TX, March 2003.

A. Kudlay and M. Olvera de la Cruz, "Phase Behavior of Solutions of Flexible Oppositely Charged Polyelectrolytes," American Physical Society Meeting, Austin TX, March 2003.

A. Ermoshkin and M. Olvera de la Cruz, "Modified Random Phase Approximation of Polyelectrolyte Solutions," American Physical Society Meeting, Austin TX, March 2003.

M. S. Yeom and M. Olvera de la Cruz, "Monte Carlo Simulations of Solutions of Rod-Like Charged Chains," American Physical Society Meeting, Austin TX, March 2003.

M. Lefebvre, K. Shull and M. Olvera de la Cruz, "Phase Segregation in Gradient Copolymer Melts," American Physical Society March meeting in Austin, TX, 2003.

S. Loverde, M. S. Yeom, A. Ermoshkin and M. Olvera de la Cruz, "Computer Simulations of Physically Associating Ideal Chains," American Physical Society meeting in Austin, TX, March 2003.

* M. Olvera de la Cruz, "Polyelectrolyte Solutions," Colloquium Chemical Engineering Department, University of Texas, Austin, TX, January 2003.

A. Ermoshkin and M. Olvera de la Cruz, "Polyelectrolytes in the Presence of Multivalent Ions: Gelation versus Segregation," Physics Gordon Conference (as a poster), Salve Regina University, Newport, RI, Aug 11-16, 2002.

* M. Olvera de la Cruz, "Polyelectrolyte Solutions in Multivalent Salts," American Chemical Society, 34th Central Regional Meeting, Ypsilanti, MI, June 27, 2002.

* M. Olvera de la Cruz "Polyelectrolytes in Multivalent Salts" Aspen Center for Physics, Aspen, CO, June 5, 2002.

A. Ermoshkin and M. Olvera de la Cruz, "Phase Behavior of Strongly Charged Polyelectrolytes in the Presence of Multivalent Ions," American Physical Society March Meeting, Indianapolis, IN, March 2002.

K. A. Smith, J. Ottino, and M. Olvera de la Cruz, "Breakup and Rupture of Encapsulated Droplets," American Physical Society March Meeting, Indianapolis, IN, March 2002.

M. Yeom, A. Ermoshkin, and M. Olvera de la Cruz, "Phase behavior of Rod-Like Biopolymers," American Physical Society March Meeting, Indianapolis, IN, March 2002.

K. A. Smith, J. Ottino, and M. Olvera de la Cruz, "Encapsulated Droplets in Shear Flow," with K. A. Smith, American Physical Society Fluid Dynamics Meeting, San Diego, CA, November 2001.

*M. Olvera de la Cruz, "Polyelectrolytes in Multivalent Salts," Colloquium Polymer Science and Engineering Department, University of Massachusetts, Amherst, MA, September 7, 2001.

*M. Olvera de la Cruz, F. J. Solis, and P. Gonzalez-Mozuelos, "Polyelectrolytes and Multivalent Salt Solutions," in Computer Modeling of Polymer, American Chemical Society Meeting, Chicago IL, August 26-30, 2001.

*M. Olvera de la Cruz, "Polyelectrolytes in Multivalent Salt Solutions," Gordon Research Conference on Condensed Matter Physics," Connecticut College, June 2001.

*F. J. Solis, M. Olvera de la Cruz, and P. Gonzalez-Mozuelos, "Competing Electrostatic Interactions in DNA Condensation," in "Electrostatic Interactions in Polymers, Colloids, and Biophysics," Theoretical Physics Institute, Minneapolis, MN, May 11-13, 2001.

M. Olvera de la Cruz, M. Sayar, F.J. Solis, and S. I Stupp, "Modeling Polar Self Assembly," American Physical Society March meeting, Seattle, WA, 2001.

F. J. Solis and M. Olvera de la Cruz, "Attractions Between Charged Colloidal Spheres Mediated by Correlated Distributions of Adsorbed Mobile Ions," American Physical Society March meeting, Seattle, WA, 2001.

*M. Olvera de la Cruz, "Self-Organized Complex Polymers: From Condensed Polyelectrolytes to Non-Centrosymmetric Supramolecular Films of Rod-Coil Polymers," NSF Workshop on Opportunities in Materials Theory, Arlington, VA, October 5, 2000.

*M. Olvera de la Cruz "An Ionic Glass Approach to Polyelectrolyte Solutions," Colloquium Chemical Engineering Department, Georgia Tech, Atlanta, GA, September 13, 2000.

*M. Olvera de la Cruz, "Polyelectrolytes in Salt Solutions," Air Force, Dayton, OH, June 12, 2000.

F. J. Solis and M. Olvera de la Cruz, "Collapse of Flexible Polyelectrolytes with Multivalent Salt," American Physical Society March meeting. MN, 2000.

M. Olvera de la Cruz, F.J. Solis, and K. A. Smith, "Domain Growth During Phase Separation in Binary and Ternary Fluids" Dillon Symposium, American Physical Society March meeting, MN, 2000.

*F. J. Solis and M. Olvera de la Cruz, "Strong Coupling Approach to Polyelectrolyte Theory," Gordon Research Conference on Colloidal, Macromolecular, and Polyelectrolyte, Ventura, CA, February 2000.

*M. Olvera de la Cruz, "Polyelectrolyte Solutions," 20-20 Vision of Polymer Science in the Next Two Decades Symposium, Akron, OH, May, 1999.

F. J. Solis and M. Olvera de la Cruz, "Attractions Between Rod-like Polyelectrolytes with Multivalent Counterions," APS Meeting, St. Louis, MO, March 1999.

M. Olvera de la Cruz and F. J. Solis, "Multilayer Polyelectrolyte Blend," Dillon Symposium, APS Meeting, St. Louis, MO, March 1999.

K. Mahdi and M. Olvera de la Cruz, "Phase Diagrams of Salt Free Polyelectrolyte Semi-Dilute Solutions," APS Meeting, St. Louis, MO, March 1999.

*M. Olvera de la Cruz and F. Solis, "Polyelectrolytes: Ion Condensation and Conformation," Polymer Winter Gordon Conference, Ventura, CA, January 1999.

*M. Olvera de la Cruz, P. Gonzalez-Mozuelos, L. Belloni, and F. Solis, "Ion Condensation in Dilute Polyelectrolyte Solutions," Electrostatics in Complex Systems Workshop, Institute of Theoretical Physics, Santa Barbara, CA, November, 1998.

*M. Olvera de la Cruz, C. Huang, F. Solis, and K. Thorton, "Phase Separation in Ternary Mixtures," University of Wisconsin-Madison, Chemistry Department, October 19, 1998.

*M. Olvera de la Cruz and F. J. Solis, "Multilayer Polyelectrolyte Blend," American Chemical Society Fall Meeting, Boston, MA, August, 1998.

- *M. Olvera de la Cruz, C. Huang, F. Solis, and K. Thorton, "Phase Separation in Ternary Polymer Blends," Computational Tools for Multiphase/Multicomponent Polymer Materials Workshop, NIST, Maryland, May, 20-21 1998.
- *M. Olvera de la Cruz, P. Gonzalez-Mozuelos, and F. Solis, "Polyelectrolyte Solutions," Statistical Mechanics Midwest Meeting, University of Notre Dame, May, 1998.
- K. Thorton, L. Tao, F. Solis, and M. Olvera de la Cruz, "Hydrodynamical Effects in Ternary Mixtures Decomposition," American Physical Society March Meeting, Los Angeles, CA, March 16-20, 1998.
- F. Solis and M. Olvera de la Cruz, "Necklace Formation Polyelectrolytes," American Physical Society March Meeting, Los Angeles, CA, March 16-20, 1998.
- E. Raspaud, M. Olvera de la Cruz, S.L. Sikorav, and F. Livolant, "Precipitation of DNA by Polyamines: Polyelectrolyte Behavior," American Physical Society March Meeting, Los Angeles, CA., March 16-20, 1998.
- M. Olvera de la Cruz, P. Gonzalez-Mozuelos, L. Bellon, and F. Solis, "Dilute Polyelectrolyte Aqueous Solution," American Physical Society March Meeting, Los Angeles, CA, March 16-20, 1998.
- *M. Olvera de la Cruz, C. Huang, F. Solis, and K. Thorton, "Phase Segregation in Multicomponent Polymer Blends," Department of Materials Science & Engineering, Northwestern University, January 13, 1998.
- *M. Olvera de la Cruz, "Polyelectrolyte Conformation in Dilute Solutions," "Journée des Systemes Complexes Charges," LLB, CE-Saclay, France, March, 1997.
- F. J. Solis and M. Olvera de la Cruz, "Concentrated Solutions of Star Diblock Copolymers and Colloids with Grafted Polymers," American Physical Society March Meeting, Kansas City, MO, March, 1997.
- * M. Olvera de la Cruz, "Phase Separation of Ternary Mixtures," SCM, CE-Saclay, France, December, 1996.
- * M. Olvera de la Cruz, "Charged Block Copolymer Micelles in Salt Free Solutions," Service de Chimie Moleculaire, CE-Saclay, France, May 23, 1996.
- * C. Huang and M. Olvera de la Cruz, "Interfacial Studies of Ternary Polymer Blends," The American Physical Society March Meeting, St. Louis, MO. March 1996. (The paper was selected to be presented at the Padden award symposium for graduate students; C. Huang won the Padden award with this paper).
- * M. Olvera de la Cruz, "Ion Condensation in Dilute Salt-Free Polyelectrolyte Solutions," Service de Chimie Moleculaire, CE-Saclay, France, Jan. 18, 1996.
- * M. Olvera de la Cruz, "Salt-free Polyelectrolyte Solutions," Laboratoire Leon Langevin, CE-Saclay, France, December 15, 1995.
- * M. Olvera de la Cruz, "Phase Separation of Ternary Mixtures," TMS Meeting, Cleveland, OH, October, 1995.
- B. W. Swift and M. Olvera de la Cruz, "Random Copolymer Chain Statistics and Dynamics in Semi-Dilute and Concentrated Solutions," The American Physical Society March Meeting, San Jose, CA, March, 1995.
- M. Olvera de la Cruz and P. Gonzales-Mozuelos, "Ion Condensation in Dilute Salt-free Polyelectrolyte Solutions," The American Physical Society March Meeting, San Jose, CA, March 1995.
- * M. Olvera de la Cruz, "Polyelectrolytes," 1994 David & Lucile Packard Fellows Meeting, Monterey Bay, CA, September, 1994.
- A. S. Mendelsohn, M. Olvera de la Cruz, and J.M. Torkelson, "Investigation of Correlations and Phase Separation in Polymer Blends by Fluorescence Nonradiative Energy Transfer," The American Physical Society March Meeting, Pittsburgh, PA, March, 1994.
- L. Belloni, J. P. Dalbiez, M. Delsanti, M. Drifford, M. Olvera de la Cruz, and O. Spalla, "Thermodynamics of Highly Charged Polyelectrolytes," The American Physical Society March Meeting, Pittsburgh, PA, March, 1994.

A. Nesarikar, B. Crist, and M. Olvera de la Cruz, "Coarsening Kinetics of Model Copolymer Blends," The American Physical Society March Meeting, Pittsburgh, PA, March, 1994.

* M. Olvera de la Cruz, "Thermodynamics of Polyelectrolytes in Multi-Valent Salts," University of Texas A&M, Department of Chemistry Coll., TX, March 31, 1994.

M. Olvera de la Cruz, "Can RPA describe Microphase Separation Transitions in Block Copolymers?" The American Physical Society March Meeting, Pittsburgh, PA, March, 1994.

* M. Olvera de la Cruz, "Polyelectrolytes: Correlations and Conformations," First USA-Mexico Bilateral Symposium on the Physics of Complex Fluids, San Louis Potosi, Mexico, July, 1993.

* M. Olvera de la Cruz, "Aggregation in Copolymer Systems," Akron Polymer Lecture Group, University of Akron, OH, April 12, 1993.

* M. Olvera de la Cruz "Aggregation in Copolymer Systems," Research Center, The Glidden Company, Strongsville, OH, April 12, 1993.

A. S. Mendelsohn, M. Olvera de la Cruz, and J. M. Torkelson, "Investigation of Correlations in Polymer Blends and Semi-dilute Solution by Fluorescence Nonradiative Energy Transfer," The American Physical Society March Meeting, Seattle, WA, March 1993.

B. Swift and M. Olvera de la Cruz, "Monte Carlo Simulation of Single Chain Random Copolymers," The American Physical Society March Meeting, Seattle, WA, March, 1993.

* M. Olvera de la Cruz, "Aggregation in Block Copolymer Melts," Dept. of Materials Science and Engineering, Pennsylvania State University, PA, February 17, 1993.

* M. Olvera de la Cruz, "Transition to Periodic Structures in Block Copolymer Melts" Polymers West Gordon Conference, Los Angeles, CA. January 4-8, 1993.

A. S. Mendelsohn, M. Olvera de la Cruz, and J. M. Torkelson, "Correlations in Miscible Polymer Blends, Melts and Solutions: A Novel Comparison of Donor Fluorescence Intensity Decay Theory to Fluorescence Energy Transfer Experiments," MRS Fall Meeting 1992, Boston, MA, November 30 - December 4, 1992.

* M. Olvera de la Cruz, "Polymers in Random Media," 1992 David & Lucile Packard Fellows Meeting, Monterey Bay, CA, September 9-11, 1992.

* M. Olvera de la Cruz, "Polymers in Disordered Media," Physics Department, Universidad Nacional Autonoma de Mexico, Mexico City, June 17, 1992.

* M. Olvera de la Cruz, "Aggregation in Copolymer Systems," Physics Department, Universidad Nacional Autonoma de Mexico, Mexico City, June 12, 1992.

* M. Olvera de la Cruz "Transitions to Periodic Structures in Block Copolymers," University of Pittsburgh, PA, June 5, 1992.

* M. Olvera de la Cruz, "Weakly Segregated Diblock Copolymer Melts," the American Chemical Society Meeting, San Francisco, CA, April 1992.

D. Gersappe and M. Olvera de la Cruz, "Ring Polymers in Disordered Media," The American Physical Society March Meeting, Indianapolis, IN, March, 1992.

A. Mendelsohn, M. Olvera de la Cruz and J.M. Torkelson, "Correlations in Polymer Blends Studied by Fluorescence Techniques," The American Physical Society March Meeting, Indianapolis, IN, March, 1992.

K. E. Bassler and M. Olvera de la Cruz, "Simulations of Diblock Copolymer Solutions," The American Physical Society March Meeting, Indianapolis, IN, March, 1992.

- M. Olvera de la Cruz, A.M. Mayes, and B.W. Swift, "Transition to Lamellar-Catenoid Structure in Block Copolymer Melts," The American Physical Society March Meeting, Indianapolis, IN, March, 1992.
- A. Nesarikar, M. Olvera de la Cruz and B. Crist, "Phase Relations in Multicomponent Random Copolymer Mixtures," The American Physical Society March Meeting, Indianapolis, IN, March, 1992.
- M. Olvera de la Cruz, "Hexagonal Lattices in Nearly Continuous Transitions to Periodic Structures," The Materials Research Society Fall Meeting, Boston, MA, December, 1991.
- * M. Olvera de la Cruz, "Transitions to Periodic Structures in Block Copolymer Melts," 1991 David & Lucile Packard Fellows Meeting, Monterey Bay, CA, September 4, 1991.
- * M. Olvera de la Cruz, "Transitions to Periodic Structures in Block Copolymers," Seminar to honor Prof. Mondragon, Instituto de Fisica, Mexico, August 15-16, 1991.
- * M. Olvera de la Cruz, "Correlations and Phase Transitions in Polymers," IV Meeting on the Science & Technology of Colloids and Complex Fluids, San Luis Potosi, Mexico, July 16-20, 1991.
- * M. Olvera de la Cruz, "Transitions to Periodic Structures in Block Copolymers," University of Texas at Austin, TX, June 11, 1991.
- A. M. Mayes and M. Olvera de la Cruz, "Transitions to Periodic Structures in Block Copolymer Melts," The Materials Research Society Spring Meeting 1991, Anaheim, CA, April, 1991.
- M. Olvera de la Cruz and A.M. Mayes, "Transitions to Periodic Structures in Block Copolymer Melts," The American Physical Society March Meeting, Cincinnati, OH, March, 1991.
- * M. Olvera de la Cruz, "Dynamics of DNA during Pulsed-Field Gel Electrophoresis," International Meeting of the Electrophoresis Societies, Washington, D.C., March, 1991.
- * M. Olvera de la Cruz, "Gel Electrophoresis Dynamics," XX Winter Symposium in Statistical Physics, Mexico, January, 1991.
- *M. Olvera de la Cruz, "Effects of Concentration Fluctuations in Polymer Blends and Block Copolymer Melts," The American Institute of Chemical Engineers' Annual Meeting, Chicago, IL, November, 1990.
- *M. Olvera de la Cruz, "Aggregation in Block Copolymers," 1990 David & Lucile Packard Fellows Meeting, Monterey Bay, CA, September 6, 1990.
- *M. Olvera de la Cruz, "Aggregation in Block Copolymer Systems," Polymers Physics Gordon Conference (as a poster), Newport, RI, July, 1990.
- * M. Olvera de la Cruz, "Pulsed Field Gel Electrophoresis," The American Chemical Society, 22nd Central Regional Meeting, Midland, MI, June 6, 1990.
- * M. Olvera de la Cruz, "Aggregation in Block Copolymer Systems," DOW, Midland, MI, May 5, 1990.
- * M. Olvera de la Cruz, "Local Segregation in Block Copolymers," The American Chemical Society Meeting, Boston, MA, April, 1990.
- A. M. Mayes and M. Olvera de la Cruz, "Microphase Separation in Block Copolymer Systems," The American Physical Society Meeting 1990, Anaheim, CA, March, 1990.
- D. Gersappe, J.M. Deutsch and M. Olvera de la Cruz, "Density Fluctuations of Self Avoiding Walks in Random Systems," The American Physical Society March Meeting, 1990, Anaheim. CA, March, 1990.
- M. Olvera de la Cruz and D. Gersappe, "Dynamics of Pulsed Field Gel Electrophoresis," The American Physical Society March Meeting, Anaheim, CA, March, 1990.

M. Olvera de la Cruz, "Aggregation in Block Copolymer Solutions," The Materials Research Society Fall Meeting, Boston, MA, November, 1989.

A. M. Mayes and M. Olvera de la Cruz, "Microphase Separation in Multiblock Copolymer Melts," The Materials Research Society Fall Meeting, Boston, MA, November, 1989.

* M. Olvera de la Cruz "Aggregation in Block Copolymer Systems," The James Frank Institute, University of Chicago, Chicago, IL, October 2, 1989.

* M. Olvera de la Cruz and D. Gersappe, "Dynamics of Gel Electrophoresis," The American Chemical Society Meeting, Miami, FL, September, 1989.

* M. Olvera de la Cruz, "Weak Crystallization in Block Copolymer Systems," Department of Physics, University of California, Santa Cruz, CA, May 18, 1989.

* M. Olvera de la Cruz, "Disorder-Order Transitions in Block Copolymer Systems," Department of Physics, Northwestern University, Evanston, IL, April 6, 1989.

* M. Olvera de la Cruz, "Aggregation in Block Copolymer Systems," Department of Physics, Universidad Nacional Autonoma de Mexico, Mexico D. F., March 7, 1989.

D. Gersappe, M. Olvera de la Cruz, and J. M. Deutsch, "Chain Statistics in Random Frozen Impurities," The American Physical Society Meeting, St. Louis, MO, March, 1989.

* M. Olvera de la Cruz "Concentration Fluctuations in Polymer Blends," Polymers West Gordon Conference, Ventura, CA, January, 1989.

* M. Olvera de la Cruz, "Aggregation in Block Copolymer Systems," Allied Signal Inc., Morristown, NJ, November 18, 1988.

* M. Olvera de la Cruz, "Theory of Microphase Separation in Block Copolymer Solutions," Polymer Division, National Bureau of Standards, Gaithersburg, MD, August 18, 1988.

* M. Olvera de la Cruz and I. C. Sanchez, "Microphase Separation in Block Copolymers and Related Systems," The American Chemical Society Meeting, Dallas, TX, April 19-22, 1988.

E. O. Shaffer and M. Olvera de la Cruz, "Computer Simulation of Gel Electrophoresis," The American Physical Society Meeting, New Orleans, LA, March 21-25, 1988.

* M. Olvera de la Cruz, "Segregation in Block Copolymers/Homopolymer Blends," Department of Materials Science and Engineering, University of Illinois, Champaign Urbana, IL, October 1, 1987.

* M. Olvera de la Cruz, "Phase Separation in Polymer Blends," Department of Physics, University of Wisconsin, Madison, WI, September 14, 1987.

* M. Olvera de la Cruz, "Micelle Formation in Block Copolymer/Homopolymer Blends," Johnson Wax Company, Racine, Wisconsin, May 11, 1987.

* I. C. Sanchez and M. Olvera de la Cruz, "The Processing Window for Block, Graft and Star Copolymers," The Third Annual Meeting of the Polymer Processing Society, Stuttgart, West Germany, April 7-10, 1987.

A. M. Mayes and M. Olvera de la Cruz, "Micelle Formation in Diblock Copolymers-Homopolymers Blends," The American Physical Society Meeting, New York, NY, March 16-20, 1987.

* M. Olvera de la Cruz, "Polymer Diffusion in Topologically Restricted Environments," The James Frank Institute, University of Chicago, February 18, 1987.

* M. Olvera de la Cruz, "Polymer Diffusion in Topologically Restricted Environments," Department of Physics, University of California at Los Angeles (UCLA), March 13, 1986.

* M. Olvera de la Cruz, "Polymer Diffusion in Topologically Restricted Environments," Department of Physics, California State University, Los Angeles, CA. February 1986.

* M. Olvera de la Cruz, "Dynamics of a Polymer in an Electric Field," Department of Physics, State University of New York at Albany, February 21, 1986.

* M. Olvera de la Cruz and I. C. Sanchez, "Theory of Microphase Separation in Copolymer Stars," The Polymers Gordon Research Conference (as a poster), Santa Barbara, CA, January, 1986.

* M. Olvera de la Cruz, "Phase Separation in Block Copolymer Melts," Department of Chemical Engineering and Materials Science, University of Minnesota, November 26, 1985.

* M. Olvera de la Cruz, "Microphase Separation in Graft and Stars Block Copolymer Melts," Statistical Mechanics Meeting in the Washington D. C. area, National Bureau of Standards, March, 1985.

* M. Olvera de la Cruz, "Phase Separation in Polymer Blends," Polymer Division, National Bureau of Standards, January, 1985.

* M. Olvera de la Cruz, J. M. Deutsch, and S. F. Edwards, "Electrophoresis in Strong Fields," The Polymers Gordon Research Conference (as a poster), Santa Barbara, CA, January, 1985.

* M. Olvera de la Cruz, "Phase Separation in Polymer Blends," Department of Polymer Science and Engineering, University of Massachusetts, November, 1984.

* M. Olvera de la Cruz, "Equilibrium Properties of Polymer Blends," Department of Physics, Imperial College, London, U.K., March 1984.

* M. Olvera de la Cruz and S. F. Edwards, "Spinodal Decomposition in Protonated and Deuterated Polymer Mixtures," in "Recontre de Physique Statistique," Paris, France, February, 1984.

M. Olvera de la Cruz and S. F. Edwards, "Model of a Ground State of a Spin Glass," The "2nd Conference of the Condensed Matter Division of the European Physical Society," Manchester, U. K., March, 1982.

(* invited presentations)