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Department of Materials Science & Engineering
Department of Chemical & Biological Engineering
Department of Chemistry
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Education:

- 1981-85 Ph.D. in **Physics** at the Theory of Condensed Matter Group, Cavendish Laboratory, 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

Appointments:

- 2015-Present **Director**- Center for Computation and Theory of Soft Materials, Northwestern University, Evanston IL, 60208
- 2015-2018 **Co-Director** - Northwestern University/Art Institute of Chicago Center for Scientific Studies in the Arts (NU-ACCESS)
- 2014-Present **Co-Director (2014-17)- Deputy Director (2017-19)** Center for Bio-Inspired Energy Science, Northwestern University, Evanston, IL, 60208
- 2009-Present **Lawyer Taylor Professor** of Materials Science & Engineering, Professor of Chemistry, Professor of Chemical and Biological Engineering, and of Physics and Astronomy, Northwestern University, Evanston, IL 60208
- 2006-13 **Director**- Materials Research Center, Northwestern University, Evanston IL, 60208
- 1998-09 **Professor**- Department of Materials Science & Engineering, Northwestern University, Evanston, IL 60208
- 1995-97 **Senior Staff Scientist (Engineer C3)** – Service de Chimie Moleculaire, Commissariat a l’Energie Atomique, Centre de’Etude, Saclay, 91191 Gif-Sur-Yvette, France
- 1991-98 **Associate Professor**- Department of Materials Science & Engineering and Department of Chemical and Biological 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)

Awards and Significant Honors:

- 2017 Polymer Physics Prize, American Physical Society
- 2016 Miller Institute Visiting Professor, University of California, Berkeley
- 2012 Member, National Academy of Sciences
- 2010 Special Civil Merit Award, State of Guerrero, Mexico
- 2010 Fellow, American Academy of Arts and Sciences
- 2010-15 National Security Science and Engineering Faculty Fellowship
- 2007 Engineering and Applied Sciences Cozzarelli Prize, Proceeding of the National Academy of Sciences
- 2003 Visiting Professor, Service de Physique Theorique, Commissariat a l’Energie Atomique, CE-Saclay, France
- 2001 Fellow, American Physical Society

1993 Visiting Scientist, Service de Chimie Moleculaire, Commissariat a l'Energie Atomique
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

Selected Significant Services and Extracurricular Educational Activities:

2019-2025 Gordon Research Conferences Board of Trustees

2020-2026 International Scientific Committee, Ecole Supérieure de Physique et Chimie Industrielle de la
ville de Paris (ESPCI Paris)

2017-2018 Commemorating the 40th Anniversary of Basic Energy Sciences, Department of Energy,
Subcommittee of the Basic Energy Sciences Advisory Committee (BESAC)

2017-2020 CIC biomaGUNE Scientific Advisory Board, San Sebastian, Spain

2016 Committee on Vision of the Future of Center-Based, Multidisciplinary Engineering Research,
The National Academies of Sciences, Engineering & Medicine

2015-2020 International Scientific Advisory Board, Max Planck Institute for Polymer Physics, Mainz,
Germany

2015 ARO Workshop on Potential Future Directions, NC, Sept 24-25

2015 ARO Biennial Review of Life Sciences, May 6-8

2015-**Senior Editor**, ACS Journal of Central Science

2014- National Science Foundation (NSF) Advisory Committee for International Science and
Engineering

2013-21 Basic Energy Sciences Advisory Committee (BESAC), Department of Energy (DOE)

2013- Advisory Committee, Center for Scientific Studies in the Arts (NU-ACCESS), Northwestern

2013 **Co-Chair**, NSF Workshop on Opportunities in Theoretical and Computational Polymeric
Materials and Soft Matter, Santa Barbara, CA, October 20-22

2013 Co-Organizer, Evolution of Colloidal Matter, New York City, NY, June 27-29 2013-14

2013 Committee on Key Challenge Areas for Convergence and Health, National Research Council

2012 Committee on Societal Benefits from Condensed Matter and Materials Research, National
Research Council (NRC), National Academy of Sciences (NAS)

2012-13 Science and Technology for Defense Warning, NRC, NAS

2009 Launched NSF funded Univ. Texas San Antonio PREM in association with NU-MRSEC

2009-15 Board of Physics and Astronomy, NRC, NAS

2010-12 **Chair**, Condensed Matter and Materials Research Committee, NRC, NAS

2009-10 **Vice-Chair**, Condensed Matter and Materials Research Committee, NRC, NAS

2008-09 **Vice-Chair**, Solid State Science Committee, NRC, NAS

2008-09 **Chair**, NSF-MRSEC Directors Executive Committee

2007-09 Research at the Intersection of Physical and Life Sciences, Committee on Frontiers of Science
at the Interface of Physical and Life Sciences, NRC, NAS

2007-09 **Chair**, NSF Division of Materials Research Advisory Committee

2007-08 NSF Advisory Panel on Light Source Facilities

2006-08 **Leadership Council**, NSF National Center for Learning and Teaching in Nano-Science and
Engineering (NCLT)

2005-08 Solid State Science Committee, NRC, NAS

2005-09 NSF Mathematical and Physical Sciences Directorate Advisory Committee

2004 NSF Role of Theory in Biological Physics and Materials (co-organizer; plenary speaker)

1999-06 **Director**- Summer Research Experience for Undergraduates (REU) and Minority Research
Initiative (MRI), Northwestern University (30 to 40 students per year recruited and tutored)

1997-04 **Director & Co-Founder** - Integrated Graduate Program to Prepare Educators of Materials Technologists, Northwestern University (created the degree)

Editorial Boards: *J. of Polymer Science B: Polymer Physics, J. of Chemical Theory and Computation*

Recent Selected Named and Plenary Lectures:

2020 Introductory Keynote Presentation, Systems Chemistry Gordon Conference, MA.
2020 Keynote Presentation, "Theory and Principles of Self-Assembly" session, Foundations of Nanoscience 2020, UT
2019 AIChE Thermodynamics and Transport Properties Keynote Address, FL
2019 Keynote Presentation, Molecular Foundry User Meeting, CA
2019 Keynote Talk-Nanoday 2019, National Nanotechnology Research Center, Bilkent University UNAM, Ankara, Turkey
2019 Distinguished Lecture, Polymer Science and Engineering Department, University of Massachusetts Amherst, MA
2019 Keynote Presentation, 29th Annual Midwest Thermodynamics and Statistical Mechanics (MTSM) conference, University of Illinois at Urbana-Champaign, IL
2018 BOSE-125 Distinguished Lecture, S. N. Bose National Center for Basic Sciences, Kolkata, India
2018 PAM Lecture: Controlling Nanoparticle Assembly, Akron University, OH
2017 Larson Lectures in Chemistry, University of St. Thomas, St Paul, MN,
2015 McGavock Lecturer, Department of Chemistry, Trinity University
2015 ISTEc Distinguished Lecturer, Colorado State University
2013 Derieux Lecture, Department of Physics, North Carolina State University
2013 NSF Distinguished Lecturer, Mathematical Physical Sciences Directorate
2013 Plenary Lecture- The 13th International conference on Properties and Phase Equilibria for Product and Process Design (PPEPPD), Iguaza Falls, Argentina.
2012 Procter and Gamble Lecture Series, University of California, Los Angeles
2012 Plenary Lecture- XXI International Materials Research Congress (IMRC), Cancun, Mexico
2011 Plenary Lecture- First Workshop on Advances in Colloidal Materials, Granada, Spain
2011 Fay Ajzenberg-Selove Colloquium, Physics Department, University of Wisconsin, Madison
2010 Plenary Lecture- 2nd International Soft Matter Conference (ISMC 2010), Granada, Spain
2010 Plenary Lecture- Society of Industrial and Applied Mathematics (SIAM) meeting on Mathematical Aspects of Materials Science, Philadelphia, PA
2008 Dow Distinguished Lecturer, University of California Santa Barbara
2005 North American Lectures in Chemical Engineering and Materials Science, Mexico
2005 Baetjer Lectures, Princeton University

Publications (Web of Science under "delacruz MO" from 1986-96 and "de la Cruz MO" from 1997-Pre):

1. A. Shakya, M. Girard, J. King, John, M. Olvera de la Cruz "**Role of Chain Flexibility in Asymmetric Polyelectrolyte Complexation in Salt Solutions**" *Macromolecules* 53, 4, 1258-1269 (2020). DOI: 10.1021/acs.macromol.9b02355
2. G. Vernizzi, T. D. Nguyen, H. Orland, M. Olvera de la Cruz "**Multicanonical Monte Carlo Ensemble Growth Algorithm**" *Phys. Rev E* 101, 021301(R) (2020); DOI: 10.1103/PhysRevE.101.021301
3. T. Jiang, A. Hall, M. Eres, Z. Hemmatian, B. Qiao, Y. Zhou, Z. Ruan, A.D. Couse, W.T. Heller, H. Huang, M. Olvera de la Cruz, M. Rolandi and T. Xu, "**Single Chain Heteropolymers Transport Proton Selectively and Rapidly**" *Nature* 577, 216-220 (2020); DOI: 10.1038/s41586-019-1881-0.
4. Y. Lin, M. Olvera de la Cruz "**Sublattice Melting in Binary Superionic Colloidal Crystals**" *Phys. Rev E*. (in press).
5. H. Sai, A. Erbas, A. Dannenhoffer, D. X. Huang, A. Weingarten, E. Siismets, K. Jang, K. R. Qu, L. C. Palmer, M. Olvera de la Cruz, and S. I. Stupp "**Chromophore amphiphile-polyelectrolyte hybrid hydrogels for photocatalytic hydrogen production**" *J. of Materials Chemistry A* 8, 158-168 (2020); DOI: 10.1039/c9ta08974h.

6. S. S. Park, Z. J. Urbach, C. A. Brisbois, K. A. Parker, B. E. Partridge, T. Oh, V. P. Dravid M. Olvera de la Cruz and C. A. Mirkin **"DNA- and Field-Mediated Assembly of Magnetic Nanoparticles into High-Aspect Ratio Crystals"** *Advanced Materials* 32, 1906626 (2020); DOI: 10.1002/adma.201906626.
7. B. Ma, T. D. Nguyen, and M. Olvera de la Cruz, **"Control of Ionic Mobility via Charge Size Asymmetry in Random Ionomers"** *NanoLetters* 20, 43-49 (2020); DOI: 10.1021/acs.nanolett.9b02743.
8. A. Dannenhoffer, H. Sai, D. Huang, B. Nagasing, B. Harutyunyan, D. J. Fairfield, T. Aytun, S. M. Chin, M. J. Bedzyk, M. Olvera de la Cruz and S. I. Stupp, **"Impact of charge switching stimuli on supramolecular perylene monoimide assemblies"** *Chem. Sci.* 10, 5779-5786 (2019); DOI: 10.1039/C8SC05595E.
9. K. Krishnamoorthy, S. Kewalramani, A. Ehlen, L. M. Moreau, C. A. Mirkin, M. Olvera de la Cruz and M. J. Bedzyk, **"Enzymatic Degradation of DNA Probed by In Situ X-ray Scattering"** *ACS Nano* 13, 10, 11382-11391 (2019).
10. C. Gao, S. Kewalramani, D. M. Valencia, H. Li, J. M. McCourt, M. Olvera de la Cruz, and M. J. Bedzyk **"Electrostatic shape control of a charged molecular membrane from ribbon to scroll"** *PNAS* 116 (44) 22030-22036 (2019) doi.org/10.1073/pnas.1913632116.
11. B. Qiao, F. Jiménez-Ángeles, T.D.Nguyen, and M. Olvera de la Cruz, **"Water follows polar and nonpolar protein surface domains"** *PNAS*, 116, 19274-19281 (2019); DOI: 10.1073/pnas.1910225116.
12. T.D.Nguyen, M. Olvera de la Cruz, **"Manipulation of confined polyelectrolyte conformations through dielectric mismatch"** *ACS Nano*, 138, 9298-9305 (2019); DOI: 10.1021/acsnano.9b03900.
13. H. Yuan and M. Olvera de la Cruz, **"Crystalline membrane morphology beyond polyhedra"** *Phys. Rev. E*, 100, 012610 (2019); DOI: 10.1103/PhysRevE.100.012610.
14. M. Girard, A. Ehlen, A. Shakya, T. Bereau, M. Olvera de la Cruz, **"Hoobas: A highly object-oriented builder for molecular dynamics"** *Computational Materials Science* 167, 25-33 (2019); 10.1016/j.commatsci.2019.05.003
15. M. Girard, S. Wang, J. S. Du, A. Das, Z. Huang, V. P. Dravid, B. Lee, C. A. Mirkin, and M. Olvera de la Cruz, **"Particle analogs of electrons in colloidal crystals"** *Science* 364, 1174-1178 (2019); DOI: 10.1126/science.aaw8237.
16. T.D.Nguyen, H. Li, D. Bagchi, F. J. Solis and M. Olvera de la Cruz, **"Incorporating surface polarization effects into large-scale coarse-grained Molecular Dynamics simulation"** *Computer Physics Communications* 241, 80-91 (2019); DOI: 10.1016/j.cpc.2019.03.006.
17. A. Dannenhoffer, H. Sai, D. Huang, B. Nagasing, B. Harutyunyan, D. J. Fairfield, T. Aytun, S. M. Chin, M. J. Bedzyk, M. Olvera de la Cruz and S. I. Stupp, **"Impact of charge switching stimuli on supramolecular perylene monoimide assemblies"** *Chem. Sci.* 10, 5779-5786 (2019); DOI: 10.1039/C8SC05595E
18. B. Qiao, Luis Lopez and M. Olvera de la Cruz, **"Mirror-Like Protein Dimers Stabilized by Local Heterogeneity at Protein Surfaces"** *J. Phys. Chem. B.* 123, 3907-3915 (2019); DOI: 10.1021/acs.jpcc.9b01394.
19. A. Erbas, M. Olvera de la Cruz and J. Marko **"Receptor-ligand rebinding kinetics in confinement"** *Biophysical Journal* 1609-1624 (2019); DOI: 10.1016/j.bpj.2019.02.033.
20. Y. Raj Dahal and M. Olvera de la Cruz, **"Crystallizing protein assemblies via free and grafted linkers"** *Soft Matter* (2019), *Soft Matter* 15, 4311 (2019); DOI: 10.1039/c9sm00693a.
21. F. Jimenez-Angeles, H.Kwon, K. Sadman, T. Wu, K. R. Shull, and M. Olvera de la Cruz, **"Self-assembly of Charge-Containing Copolymers at the liquid-liquid Interface"** *ACS Central Science* 5, 688-699 (2019); DOI: 10.1021/acscentsci.9b00084.
22. C. Austyn Brisbois, M. Tasinkevych, P. Vázquez-Montejo, and M. Olvera de la Cruz, **"Actuation of magnetoelastic membranes in precessing magnetic fields"** *PNAS* 116, 2500-2505 (2019); DOI: 10.1073/pnas.1816731116.
23. M. Miller, Y. Liang, H. Li, M. Chu, S. Yoo, W. Bu, M. Olvera de la Cruz, and P. Dutta, **"Electrostatic origin of element selectivity during rare earth adsorption"** *Physical Review Letters*, 122, 058001 (2019); DOI: 10.1103/PhysRevLett.122.058001.
24. H.Kwon, Boran Ma, and M. Olvera de la Cruz, **"Determining the Regimes of Dielectric Mismatch and Ionic Correlation Effects in Ionomer Blends"** *Macromolecules* 52, 535-546 (2019); DOI: 10.1021/acs.macromol.8b02376.
25. S. E. Seo, M. Girard, M. Olvera de la Cruz, and C. A. Mirkin, **"The Importance of Salt-Enhanced Electrostatic Repulsion in Colloidal Crystal Engineering with DNA"** *ACS Central Science* 5, 186-191 (2019); DOI: 10.1021/acscentsci.8b00826.

26. C. R. Laramy, H. Lopez-Rios, M. N. O'Brien, M. Girard, R. J. Stawicki, B. Lee, M. Olvera de la Cruz, and C. A. Mirkin, "**Controlled Symmetry Breaking in Colloidal Crystal Engineering with DNA**" *ACS Nano* 13, 1412-1420 (2019); DOI: 10.1021/acsnano.8b07027.
27. H. Wu, H. Li, F. J. Solis, M. Olvera de la Cruz, and E. Luijten, "**Asymmetric electrolytes near structured dielectric interfaces**" *J. Chem. Phys.* 149, 164701 (2018); DOI: 10.1063/1.5047550.
28. S. E. Seo, M. Girard, M. Olvera de la Cruz and C. A. Mirkin, "**Non-equilibrium anisotropic colloidal single crystal growth with DNA**" *Nature Communications* 9, 4558 (2018).
29. P. Vázquez-Montejo and M. Olvera de la Cruz, "**Flexible paramagnetic membranes in fast precessing fields**" *Phys. Rev. E* 98, 032603 (2018); DOI: <https://doi.org/10.1103/PhysRevE.98.032603>.
30. C. Sun, M. Shen, A. D. Chavez, A. M. Evans, X. Liu, B. Harutyunyan, N. C. Flanders, M. C. Hersam, M. J. Bedzyk, M. Olvera de la Cruz, and W. R. Dichtel, "**High aspect ratio nanotubes assembled from macrocyclic iminium salts**" *PNAS* 115, 8883-8888 (2018); DOI: 10.1073/pnas.1809383115.
31. D. Prusty, V. Pryamitsyn, & M. Olvera de la Cruz, "**Thermodynamics of Associative Polymer Blends**" *Macromolecules* 51, 5918-5932 (2018); DOI: 10.1021/acs.macromol.8b00661.
32. T. J. Deming, H-A. Klok, S. P. Armes, M. L. Becker, J. A. Champion, E. Y.-X. Chen, S. C. Heilshorn, J. C. M. van Hest, D. J. Irvine, J. A. Johnson, L. L. Kiessling, H. D. Maynard, M. Olvera de la Cruz, M. O. Sullivan, M. V. Tirrell, K. S. Anseth, S. Lecommandoux, S. Percec, Z. Zhong, & A.-C. Albertsson, "**Polymers at the Interface with Biology**" *Biomacromolecules* 19, 3151-3162 (2018); DOI: 10.1021/acs.biomac.8b01029.
33. T. D. Nguyen, B. Qiao, & M. Olvera de la Cruz, "**Efficient encapsulation of proteins with random copolymers**" *PNAS* 115, 6578-6583 (2018); DOI: 10.1073/pnas.1806207115.
34. S.M. Chin, C.V. Synatschke, S. Liu, R.J. Nap, N.A. Sather, Q. Wang, Z. Álvarez, A.N. Edelbrock, T. Fyrner, L.C. Palmer, I. Szleifer, M. Olvera de la Cruz, S.I. Stupp. "**Covalent-supramolecular hybrid polymers as muscle-inspired anisotropic actuators.**" *Nature Communications* 9: 2395 (2018); DOI: 10.1038/s41467-018-04800-w.
35. A. Erbaş, M. Olvera de la Cruz, & J. F. Marko. "**Effects of electrostatic interactions on ligand dissociation kinetics.**" *Physical Review E* 97: 022405 (2018); DOI: <https://doi.org/10.1103/PhysRevE.97.022405>.
36. B. Panganiban, B. Qiao, T. Jiang, C. DelRe, M. M. Obadia, T. D. Nguyen, A. A. A. Smith, A. Hall, I. Sit, M. G. Crosby, P. B. Dennis, E. Drockenmuller, M. Olvera de la Cruz & T. Xu. "**Random Heteropolymers Preserve Protein Function in Foreign Environments.**" *Science* 359: 1239-1243 (2018); DOI: 10.1126/science.aao0335.
37. S. Sabrina, M. Tasinkevych, S. Ahmed, A.M. Brooks, M. Olvera de la Cruz, T.E. Mallouk, & K.J. M. Bishop. "**Shape-directed microspinnners powered by ultrasound.**" *Acs Nano* 12: 2939-2947 (2018); DOI: 10.1021/acsnano.8b00525 .
38. K. Krishnamoorthy, K. Hoffmann, S. Kewalramani, J.D. Brodin, L.M. Moreau, C.A. Mirkin, M. Olvera de la Cruz, & M.J. Bedzyk. "**Defining the structure of a protein-spherical nucleic acid conjugate and its counterionic cloud.**" *Acs Central Science* 4: 378-386 (2018); DOI: 10.1021/acscentsci.7b00577.
39. S. Liu & M. Olvera de la Cruz. "**Deformation of elastomeric pyramid pen arrays in cantilever-free scanning probe lithography.**" *Journal of Polymer Science Part B: Polymer Physics* 56, 731-738 (2018); DOI: 10.1002/polb.24585.
40. G. Wang, N. D. Eastham, T. J. Aldrich, B. Ma, E. F. Manley, Z. Chen, L. X. Chen, M. Olvera de la Cruz, R. P. H. Chang, Ferdinand S. Melkonyan, Antonio Facchetti, & Tobin J. Marks. "**Photoactive blend morphology engineering through systematically tuning aggregation in all-polymer solar cells.**" *Advanced Energy Materials*: 1702173 (2018); DOI: 10.1002/aenm.201702173.
41. Z. L. Yu, A. Erbas, F. Tantakitti, L. C. Palmer, J. A. Jackman, M. Olvera de la Cruz, N. J. Cho, & S. I. Stupp. "**Co-assembly of peptide amphiphiles and lipids into supramolecular nanostructures driven by anion- π interactions.**" *Journal of the American Chemical Society* 139: 7823-7830 (2017); DOI: 10.1021/jacs.7b02058.
42. M. X. Wang, J. D. Brodin, J. A. Millan, S. E. Seo, M. Girard, M. Olvera de la Cruz, B. Lee, & C. A. Mirkin. "**Altering DNA-programmable colloidal crystallization paths by modulating particle repulsion.**" *Nano Letters* 17: 5126-5132 (2017); DOI: 10.1021/acs.nanolett.7b02502.
43. P. Vazquez-Montejo, J. M. Dempster, & M. Olvera de la Cruz. "**Paramagnetic filaments in a fast precessing field: Planar versus helical conformations.**" *Physical Review Materials* 1: 20 (2017); DOI: 10.1103/PhysRevMaterials.1.064402.
44. M. Shen, H. H. Li, & M. Olvera de la Cruz. "**Surface polarization effects on ion-containing emulsions.**" *Physical Review Letters* 119: 5 (2017); DOI: 10.1103/PhysRevLett.119.138002.

45. A. Ramirez-Hernandez, S. M. Hur, J. C. Armas-Perez, M. Olvera de la Cruz, & J. J. de Pablo. **Demixing by a nematic mean field: Coarse-grained simulations of liquid crystalline polymers.** *Polymers* 9: 11 (2017); DOI: 10.3390/polym9030088.
46. B. F. Qiao, J. V. Muntean, M. Olvera de la Cruz, & R. J. Ellis. **Ion transport mechanisms in liquid-liquid interface.** *Langmuir* 33: 6135-6142 (2017); DOI: 10.1021/acs.langmuir.7b01230.
47. V. A. Pryamitsyn, H. K. Kwon, J. W. Zwanikken, & M. Olvera de la Cruz. **Anomalous phase behavior of ionic polymer blends and ionic copolymers.** *Macromolecules* 50: 5194-5207 (2017); DOI: 10.1021/acs.macromol.7b00523.
48. J. H. Ortony, B. F. Qiao, C. J. Newcomb, T. J. Keller, L. C. Palmer, E. Deiss-Yehiely, M. Olvera de la Cruz, S. Han, & S. I. Stupp. **Water dynamics from the surface to the interior of a supramolecular nanostructure.** *Journal of the American Chemical Society* 139: 8915-8921 (2017); DOI: 10.1021/jacs.7b02969.
49. J. R. McMillan, J. D. Brodin, J. A. Millan, B. Lee, M. Olvera de la Cruz, & C. A. Mirkin. **Modulating nanoparticle superlattice structure using proteins with tunable bond distributions.** *Journal of the American Chemical Society* 139: 1754-1757 (2017); DOI: 10.1021/jacs.6b11893.
50. Y. H. Li, M. Girard, M. Shen, J. A. Millan, & M. Olvera de la Cruz. **Strong attractions and repulsions mediated by monovalent salts.** *Proceedings of the National Academy of Sciences of the United States of America* 114: 11838-11843 (2017); DOI: 10.1073/pnas.1713168114.
51. H. K. Kwon, V. A. Pryamitsyn, J. W. Zwanikken, K. R. Shull, & M. Olvera de la Cruz. **Solubility and interfacial segregation of salts in ternary polyelectrolyte blends.** *Soft Matter* 13: 4830-4840 (2017); DOI: 10.1039/c7sm00570a.
52. R. I. Kamar, E. J. Banigan, A. Erbas, R. D. Giuntoli, M. Olvera de la Cruz, R. C. Johnson, & J. F. Marko. **Facilitated dissociation of transcription factors from single DNA binding sites.** *Proceedings of the National Academy of Sciences of the United States of America* 114: E3251-E3257 (2017); DOI: 10.1073/pnas.1701884114.
53. C. He, T. D. Nguyen, K. Edme, M. Olvera de la Cruz, & E. A. Weiss. **Noncovalent control of the electrostatic potential of quantum dots through the formation of interfacial ion pairs.** *Journal of the American Chemical Society* 139: 10126-10132 (2017); DOI: 10.1021/jacs.7b05501.
54. M. Girard, T. D. Nguyen, & M. Olvera de la Cruz. **Orbitals for classical arbitrary anisotropic colloidal potentials.** *Physical Review E* 96: 11 (2017); DOI: 10.1103/PhysRevE.96.053309
55. M. Girard, J. A. Millan, & M. Olvera de la Cruz (2017) DNA-driven assembly: From polyhedral nanoparticles to proteins. *Annual review of materials research, vol 47*, Annual review of materials research, ed Clarke DR (Annual Reviews, Palo Alto), Vol 47, pp 33-49.
56. C. R. Gao, H. H. Li, Y. Li, S. Kewalramani, L. C. Palmer, V. P. Dravid, S. I. Stupp, M. Olvera de la Cruz, & M. J. Bedzyk. **Electrostatic control of polymorphism in charged amphiphile assemblies.** *Journal of Physical Chemistry B* 121: 1623-1628 (2017); DOI: 10.1021/acs.jpccb.6b11602.
57. J. M. Dempster, P. Vazquez-Montejo, & M. Olvera de la Cruz. **Contractile actuation and dynamical gel assembly of paramagnetic filaments in fast precessing fields.** *Physical Review E* 95: 8 (2017); DOI: 10.1103/PhysRevE.95.052606.
58. C. Delre, B. Panganiban, T. Li, C. Huang, M. Olvera de la Cruz, P. Dennis, & T. Xu. **Rational design of a synthetic peg-like polymer for protein stabilization.** *Biophysical Journal* 112: 59a-59a (2017); DOI: DOI 10.1016/j.bpj.2016.11.355.
59. E. Deiss-Yehiely, J. H. Ortony, B. F. Qiao, S. I. Stupp, & M. Olvera de la Cruz. **Ion condensation onto self-assembled nanofibers.** *Journal of Polymer Science Part B-Polymer Physics* 55: 901-906 (2017); DOI: 10.1002/polb.24353.
60. N. J. Zhou, A. S. Dudnik, Ting Li, E. F. Manley, T. J. Aldrich, P. J. Guo, H. C. Liao, Z. H. Chen, L. X. Chen, R. P. H. Chang, A. Facchetti, M. Olvera de la Cruz, *et al.* **All-polymer solar cell performance optimized via systematic molecular weight tuning of both donor and acceptor polymers.** *Journal of the American Chemical Society* 138: 1240-1251 (2016); DOI: 10.1021/jacs.5b10735.
61. Z. W. Yao & M. Olvera de la Cruz. **Ordered self-similar patterns in anisotropic stochastic growth.** *Journal of Physical Chemistry B* 120: 5960-5965 (2016); DOI: 10.1021/acs.jpccb.6b01789.
62. Z. W. Yao & M. Olvera de la Cruz. **Electrostatics-driven hierarchical buckling of charged flexible ribbons.** *Physical Review Letters* 116: 5 (2016); DOI: 10.1103/PhysRevLett.116.148101.
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277. K. E. Bassler & M. Olvera de la Cruz. **Monte-carlo study of diblock copolymers in dilute-solution.** *Journal De Physique I* 3: 2387-2395 (1993)
278. M. Olvera de la Cruz, A. M. Mayes, & B. W. Swift. **Transition to lamellar catenoid structure in block-copolymer melts.** *Macromolecules* 25: 944-948 (1992)

279. M. Olvera de la Cruz. **Nearly continuous transitions to periodic structures in block copolymer melts.** *Revista Mexicana De Fisica* 38: 205-211 (1992)
280. A. M. Mayes & M. Olvera de la Cruz. **Equilibrium domain spacing in weakly segregated block copolymers.** *Macromolecules* 24: 3975-3976 (1991); DOI: 10.1021/ma00013a038.
281. A. M. Mayes & M. Olvera de la Cruz. **Concentration fluctuation effects on disorder-order transitions in block copolymer melts.** *Journal of Chemical Physics* 95: 4670-4677 (1991); DOI: Doi 10.1063/1.461736.
282. D. Gersappe, J. M. Deutsch, & M. Olvera de la Cruz. **Density-fluctuations of self-avoiding walks in random-systems.** *Physical Review Letters* 66: 731-734 (1991); DOI: 10.1103/PhysRevLett.66.731.
283. M. Olvera de la Cruz. **Transitions to periodic structures in block copolymer melts.** *Physical Review Letters* 67: 85-88 (1991)
284. C. H. R. Kao & M. Olvera de la Cruz. **Model for micelle formation in copolymer homopolymer blends.** *Journal of Chemical Physics* 93: 8284-8293 (1990); DOI: 10.1063/1.459310.
285. M. Olvera de la Cruz, D. Gersappe, & E. O. Shaffer. **Dynamics of DNA during pulsed-field gel-electrophoresis.** *Physical Review Letters* 64: 2324-2327 (1990)
286. E. O. Shaffer & M. Olvera de la Cruz. **Dynamics of gel-electrophoresis.** *Macromolecules* 22: 1351-1355 (1989); DOI: 10.1021/ma00193a057.
287. A. M. Mayes & M. Olvera de la Cruz. **Microphase separation in multiblock copolymer melts.** *Journal of Chemical Physics* 91: 7228-7235 (1989); DOI: 10.1063/1.457290.
288. A. M. Mayes & M. Olvera de la Cruz. **Strain effects on the thermal-stability of rod eutectics.** *Acta Metallurgica* 37: 615-620 (1989); DOI: 10.1016/0001-6160(89)90245-9.
289. M. Olvera de la Cruz. **Theory of microphase separation in block copolymer solutions.** *Journal of Chemical Physics* 90: 1995-2002 (1989); DOI: 10.1063/1.456042.
290. A. M. Mayes & M. Olvera de la Cruz. **Cylindrical versus spherical micelle formation in block copolymer homopolymer blends.** *Macromolecules* 21: 2543-2547 (1988); DOI: 10.1021/ma00186a038.
291. M. Olvera de la Cruz, S. F. Edwards, & I. C. Sanchez. **Concentration fluctuations in polymer blend thermodynamics.** *Journal of Chemical Physics* 89: 1704-1708 (1988); DOI: 10.1063/1.455116.
292. M. Olvera de la Cruz & Isaac C. Sanchez. **Microphase separation in block copolymer/homopolymer blends.** *Macromolecules* 20: 440-443 (1987); DOI: 10.1021/ma00168a040.
293. S. F. Edwards & M. Olvera de la Cruz (1987) Quantum field theory methods in polymer blends. *Quantum field theory and quantum statistics*, eds Batalin IA, Isham CJ, & Vilkovisky GA (Taylor and Francis), Vol 1, p 371.
294. M. Olvera de la Cruz & I. C. Sanchez. **Theory of microphase separation in graft and star copolymers.** *Macromolecules* 19: 2501-2508 (1986).
295. M. Olvera de la Cruz, J. M. Deutsch, & S. F. Edwards. **Electrophoresis in strong fields.** *Physical Review A* 33: 2047-2055 (1986); DOI: 10.1103/PhysRevA.33.2047.

Submitted (under revision)

296. D. Bagchi, T. D. Nguyen, M. Olvera de la Cruz " Polyelectrolyte solution under spatial and dielectric confinement" <https://arxiv.org/pdf/1906.01106.pdf>
297. C. Waltmann, R. Asor, U. Raviv, and M. Olvera de la Cruz, "Assembly and Stability of SV40 Polymorphs" (submitted, *ACS Nano*)

Book Chapters and Selected Publications in Conference Proceedings

298. 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).
299. D. Gersappe and M. Olvera de la Cruz, "Dynamics of Gel Electrophoresis," in "Computer Simulation of Polymers," Ed. R. J. Roe, Prentice Hall, (1991).
300. 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).

301. 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).
302. 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).
303. 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.
304. K.L. Kohlstedt, G. Vernizzi, and M.O. de la Cruz, "**Patterning Cylindrical Fibers with Long-Range Electrostatic Forces**". Mat. Res. Soc. Proc., (2007), 1062-NN05-17.
305. P. K. Jha, F. J. Solis, J. J. de Pablo and M.O. de la Cruz, "**Nanoscale Pattern Formation in Polyelectrolyte Gels**", Mat. Res. Soc. Proc., (2009).
306. W. Kung, M. Olvera de la Cruz and F. J. Solis "**Adsorption Profiles and Solvation of Ions at Liquid-Liquid Interfaces and Membranes**" *Application of Thermodynamics to Biological and Materials Science*, In Tech (2011), ISBN 978-953-307-980-6.
307. T.I.N.G. Li, R. J. McMurray and M. Olvera de la Cruz, "**Multiscale Modeling and Simulation of DNA-Programmable Nanoparticle Assembly**" *Self-Assembly: From Surfactants to Nanoparticles*, Wiley (2019), ISBN 978-1-119-00136-2.

DEGREES AWARDED

- Anne M. Mayes* "**A Study of Transition to Periodic Structures in Block Copolymer Melts**" Ph.D., February 1991. (Professor, Dept. Materials Science, M.I.T., MA; deceased)
- Dilip Gersappe* "**Statistics and Dynamics of Polymers in Topologically Restricted Environments**" Ph.D., April 1992. (Associate Professor, Dept. Materials Science, SUNY at Stony Brook, NY.)
- Edward O. Shaffer* "**The Dynamics of Gel Electrophoresis**" M.S. June 1988. (Dow Chemical, Midland MI.)
- Cheng-heng Kao* "**Micelle Formation in Copolymer-Homopolymer Blends**" M.S. June 1990. (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**" (currently known as FRET) Ph.D., July 1994. Co-Advised with J. M. Torkelson (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. (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. (Developer, Matlock Capital, Chicago IL.)
- Ching-I Huang* "**Studies of Phase Separation Dynamics and Interfaces in Ternary Systems**" Ph.D. June 1996. (Associate Professor, National Taiwan University of Science and Technology, Taiwan.)
- Khaled Mahdi* "**Phase Diagrams of Polyelectrolyte Solutions**" Ph. D. December 2000. (Associate 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 (Data Scientist, Twitter, San Francisco, CA)
- Hao Cheng* "**Polyelectrolyte Adsorption and Self-Assembly on Charged Surfaces**" Ph.D. December 2005 (Assistant Professor, Drexel University).
- 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.
- Sharon M. Loverde* "**Theory and Simulation of Polymer and Polyelectrolyte Self-Assembly**" Ph. D. June 2007 (Assistant Professor, City College New York).

<i>Kevin L. Kohlstedt</i>	“The Formation of Chiral Nanopatterns on Low-Dimensional Ionic Assemblies Via Electrostatic Interactions” Ph. D. June 2009 (Postdoctoral Research Associate, Northwestern University, Advisors: George Schatz and Monica Olvera de la Cruz).
<i>Megan A. Greenfield</i>	“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).
<i>Mark Anderson</i>	“Gel formation in charged telechelics in poor solvent studied by replica exchange Monte Carlo simulations” M.A. June 2010. Co-supervised with M. Ratner and I. Szleifer.
<i>Peijun Guo</i>	“Self-Assembly of pH responsive nano-particles” M.S. April 2011.
<i>Prateek Kumar Jha</i>	“Mesoscopic simulations of gels, nanogels, and nanoparticle Assemblies: Competing interactions and dynamics” Ph.D. May 2012 (Assistant Professor, IIT Roorkee, India).
<i>Matthew Demers</i>	“Curvature-driven Pattern Formation in Multicomponent Membranes” Ph.D. August 2012 (Postdoctoral Associate, Massachusetts Institute of Technology).
<i>Doris M. Grillo</i>	“Protein Adsorption Studies” . Co-supervised with I. Szleifer. (Analytical Consultant, JPMorgan Chase)
<i>Ting Li</i>	“Simulations of polyvalent nucleic acid-functionalized nanoparticles” Ph.D June 2015 (Data Engineer, Jump Trading LLC)
<i>Joshua Dempster</i>	“Self-Replication” PhD, September 2016 (Data Scientist, Broad Institute, Boston)
<i>Yufei Jing</i>	“Dynamics of charged nanoparticles at interfaces” PhD, November 2016 (Citibank)
<i>Shuangping Liu</i>	“Elasticity of heterogeneous gels” PhD, November 2017 (Google)
<i>Saijie Pan</i>	“Charged membranes and electrostatics” PhD, April 2018
<i>Ha-Kyung Kwon</i>	“Charged-neutral copolymers” PhD, May 2018 (Toyota Research Institute)
<i>Martin Girard</i>	“DNA functionalized nanoparticles” PhD, July 2018 (Max Planck, Mainz, Germany)
<i>Honghao Li</i>	“Ion transfer in heterogeneous media” PhD, Aug 2018 (Google)
<i>Boarn Ma</i>	“Assembly of polymers for energy applications” PhD Dec 2019 (postdoc, Duke U.)

CURRENT GRADUATE STUDENTS

<i>Yaohua Li</i> PhD, expected 2020	“Complex Electrolytes”
<i>Debadutta Prusty</i> PhD, expected 2020	“Polymer Electrolytes”
<i>Chase Brisbois</i> PhD, expected 2021	“Magnetic Composite Materials”
<i>Ali Ehlen</i> PhD, expected 2022	“Charged Proteins and Assembly”
<i>Jeremy Wang</i> PhD, expected 2022	“Charged Polymers and Membranes”
<i>Yange Lin</i> PhD, expected 2022	“Protein Self-Assembly”
<i>Hang Yuan</i> PhD, expected 2022	“Magnetoelastic Membranes”
<i>Hector Lopez de la Cerda Rios</i> PhD, expected 2023	“Active Matter”
<i>Curt Waltmann</i>	“Protein Assembly”

PhD, expected 2023

Dingwen Qian
PhD, expected 2023

“Dynamics in Dielectric Confinement”

Joseph McCourt
PhD, expected 2023
(co-supervised with Prof. Bedzyk)

“Amphiphiles”

Aaveg Aggarwal
PhD, expected 2022

“Magnetic Nanoparticles”

ASSOCIATES AND POST-DOCTORAL FELLOWS

RESEARCH ASSISTANT PROFESSOR:

Dr. B. Qiao
Dec 2017-Present

Solvent Extraction

Dr. Trung Nguyen
August 2016-Present

Optimization of Simulations for Charged Systems

RESEARCH ASSOCIATES:

Dr. Rebecca J. Holmes (McMurray)
March 2014-Present

Dr. Felipe Jimenez Angeles
January 2018-Present

Polyelectrolyte Interfaces

CURRENT POSTDOCS:

Dr. Debarshee Bagchi
Jan 2018-Present

Polymer Electrolytes

Dr. Yihao Liang
Aug 2018-Present

Membranes and Electrostatics

Dr. Dulce Maria Valencia
Oct 2018-Present

Membranes

PREVIOUS POSTDOCS AND RESEARCH ASSOCIATES

Dr. Wei Li
Sept 2018-Aug 2019

Polyelectrolytes
(Postdoc, University of Tennessee, Knoxville)

Dr. Luis Gonzalo Lopez
Jan 2018-Dec 2018

Protein Assembly
(Germany)

Dr. Jaime Millan
Aug 2015-Nov 2018

Functionalized Nanoparticles and Proteins (Data Scientist, Thrive Market)

Dr. Victor Pryamitsyn
Dec 2015-Nov 2018

Polymer Electrolytes (Scientist at Global Science & Technology, Inc.)

Prof. Aykut Erbas
Feb 2014-Aug 2018

Polymeric Charged Liquids (Assistant Professor at Bilkent University, Ankara, Turkey)

Dr. Meng Shen
Nov 2015-June 2018

Electrolytes at Surfaces (Postdoc, University of Chicago)

Dr. Kyle Hoffman

DNA-Functionalized Proteins (DuPont)

Nov 2015-Dec 2017

Prof. Mykola Tasinkevych
Sept 2016-August 2017

Dr. Pablo Vazquez
Jan 2016-March 2017

Prof. Zhenwei Yao
June 2012-Dec 2015

Prof. Johannes Willem Zwanikken
Aug 2009-Aug 2015

Dr. Nicholaas Boon
Aug 2013- July 2015

Prof. Jiaye Su
Jan 2014- April 2015

Dr. Guillermo Ivan Guerrero
Nov 2009-2014

Prof. Kevin Kohlstedt
Nov 2011-2014

Dr. B. Qiao
Sept 2011-2014

Prof. Vikram Jadhao
Aug 2010- 2014

Prof. Charles Sing
Sept 2012-Aug 2014

Dr. Janette Jones
Nov 1990-Dec 1991

Prof. Kevin Bassler
Dec 1990-Aug 1992

Prof. Pedro Gonzalez-Mozuelos
September 1, 1992-November 1994

Prof. Francisco Solis
Oct 1996-Aug 2000

Prof. Katsuyo Thorton
Dec 1997-March 1998

Dr. Alexander Ermoshkin
Nov 2001-Dec 2003

Dr. Min Sum Yeom
Aug 2001-July 2003

Dr. Alexander Kudlay
Oct 2002-April 2005

Dr. Yuri Velichko
Oct 2003-July 2007

Functional Materials (Assistant Professor, Center for Theoretical and Computational Physics at the University of Lisbon, Portugal)

Confined Semi-Flexible Polymers, Interfaces and Membranes (Research Associate, Faculty of Mathematics at the Autonomous University of Yucatan, Mexico)

Membrane Pores (Distinguished Research Fellow, Institute of Natural Sciences and Dept. of Physics and Astronomy, Shanghai Jiao Tong University, China)

Charged Macro-ions at Liquid Interfaces (Assistant Professor, University of Massachusetts Lowell)

Ultracapacitors and Heterogeneous Charged Systems (Postdoctoral Fellow, Lund University)

"Ionic Transport" (Professor, Nanjing University of Science and Technology, Nanjing, China)

Molecular Electrolytes (CONACYT Researcher, University of San Luis Potosí, México)

Properties of polyvalent nucleic acid nanostructures (Research Assistant Professor, Northwestern University)

Atomistic Simulations (Research Scientist, Argonne National Laboratory)

Self-assembly of charge systems in media with dielectric heterogeneities (Assistant Professor, Indiana University)

Charged Polymer Systems (Associate Professor, University of Illinois, Urbana Champaign)

Weak Crystallization (Manager, Unilever, UK)

Copolymers (Professor, Physics Department, University of Houston)

Polyelectrolytes (Professor, Physics Department, CINVESTAV, Mexico)

Colloids and Polymer Mixtures (Associate Professor, State University of Arizona West)

Phase Separation in Multicomponent Fluids (Associate Professor, Mats. Scie., University of Michigan)

Charged Gels (CTO and co-founder of Carbon (<http://www.carbon3d.com/about/alex-ermoshkin/>))

Simulations of Complex Macromolecules (National Center for Supercomputers, Korea)

Gelation of Charged Systems (Research Associate, Chemistry Department, Maryland University)

Peptide Amphiphiles (Senior Research Associate, Chemistry Department, Northwestern)

Prof. Hongxia Guo
March 2004-Dec 2005

Dr. William Kung
Sept 2006-Nov 2010

Dr. Dongsheng Zhang
April 2007-May 2010

Prof. Graziano Vernizzi
Sept 2005-Aug 2010

Prof. Kuo-An Wu
March 2010- Dec 2010

Dr. Kostantin Popov
Dec 2009-Nov 2010

Dr. Sumanth Swaminthan
Oct 2009-Feb 2012

Dr. Azita Parsaeian
May 2010-Aug 2012

Prof. Rastko Sknepnek
June 2009-Aug 2012

Dr. Chloe Funkhouser
2011-Jan 2013

Dr. Subas Dhakal
July 2010-March 2013

Dr. Creighton Thomas
Oct 2011-Aug 2013

Prof. Srikanth Patala
2011-Aug 2013

Prof. Gabriel Longo
Nov 2009-Sept 2013

Prof. Rui Zhang
Oct 2011-Oct 2013

Dr. Meng Shen
April 2016-July 2018

Dr. Yuba Dahal
Sept 2017-2019

COURSES TAUGHT

Statistical Mechanics
Thermodynamics
Polymers (lecture and lab course)
Solis State Physics/Physics of Solids

Micelles and Interfaces (Professor, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China)

Ionic Liquid Interfaces (Director of Operations, Material Research Center, Northwestern)

Simulations of Charged Networks (Postdoctoral Fellow, University of Colorado, Boulder)

Cationic-Anionic Vesicles and RNA Folding (Associate Professor, Physics Dept., Siena College)

Functional Materials (Assist. Prof., Physics Dept., National Tsing Hua University, Taiwan)

Non-Equilibrium Self-Assembly (Postdoctoral Fellow, University of Maryland)

Non-Equilibrium Self-Assembly (Technology Consultant, WL Gore & Associates)

Bacterial Chromosomes
(Senior Analyst)

Nanoparticles and Membranes (Lecturer, University of Dundee, Scotland.)

Lamin Meshworks (Principal Engineer, Baxter, Round July Lake IL)

Liquid Crystalline Shells (Postdoctoral Fellow, Syracuse University)

Ionic Membranes (Google)

Metallic Nanoparticles (Assist. Prof. Mat. Sci. North Sept Carolina State University)

Self-regulated ionic gels (Assist. Professor, Inst. of Theoretical and Applied Physical Chemistry Research, La Plata, Argentina)

Dynamics of Charged Colloids
(Advanced Institute for Soft Matter Science and Technology (AISMST), South China University of Technology (SCUT), Guangzhou)

Emulsions
(University of Chicago)

Protein Dispersion
(National Institute of Standards and technology)

Principles of the Properties of Materials (lecture and lab course)
 Phase Transformations
 Senior Project
 High Polymers in Solid State (Polymer Physics; Polymer Blends and Copolymers)
 Special Topics in High Polymer Sciences (Polymer Solutions, Melts and Blends; Polymer Statistics and Dynamics; Polyelectrolyte Solutions, Brushes and Gels; Networks and Membranes)

RECENT SELECTED INTERNATIONAL SCHOOLS/WORKSHOPS (2000-19):

- 2000** **Lecturer-** NSF workshop on opportunities in materials theory, Oct. 4-6.
- 2001** **Lecturer-** Electrostatic Interactions in Polymers, Colloids, and Biophysics, Theoretical Physics Institute, Minneapolis, MN, May 11-13
- 2001** **Lecturer-** Gordon Research Conference on Condensed Matter Physics” Connecticut College, June
- 2002** **Lecturer-** Coulomb Effects in Soft Condensed Matter and Biomolecular Science workshop, Aspen Center for Physics (Aspen, CO), May 23-June 21
- 2002** NSF workshop “Theoretical Science in the Mathematical and Physical Sciences Directorate.” Oct 28-29
- 2003** **Lecturer-** The 43rd High Polymer Research Group Conference, Moretonhampstead, Devon, England, April
- 2003** **Lecturer-** Second International Conference on Applied Statistical Physics: Molecular Engineering (ASTATPHYS-MEX-2003)”, Puerto Vallarta, Mexico, August 24-29
- 2003** **Lecturer-** Telluride Workshop on “Polymer Theory vs. Polymer Experiment, Colorado, July
- 2003** **Lecturer-** Nano Training Bootcamp, ASME Nanotechnology Institute, Evanston IL, July 8-11
- 2004** **Co-organizer & plenary speaker-** Role of Theory in Biological Physics and Materials workshop, National Science Foundation, May 17-18, 2004, Tempe, Arizona
- 2004** **Lecturer-** Biophysics Workshop, Theoretical Physics Institute, University of Minnesota, April 30-May 2
- 2004** **Lecturer-** US-South America Workshop “Mechanics and Advanced Materials: Research and Education”, Rio de Janeiro, Brazil, August 2-6
- 2005** **Lecturer-** Baetjer Lecture Series, Princeton University, March 3-4
- 2005** **Lecturer-** North American Lectures in Chemical Engineering and Materials Science, NSF and Universidades de San Luis Potosi and Guanajuato, Mexico, November 23-25
- 2005** **Lecturer-** Ion-Containing Polymers, Gordon Research Conference, Il Ciocco, Italy, April 2-6 (elected co-vice chair with Paula Hammond)
- 2005** **Lecturer-** Polymer Physics Workshop, Telluride Science Research Center, Telluride, CO, August 27-29
- 2005** **Lecturer-** Polymer Physics Lecture Series, Advanced Summer School 2005, Physics Department, Centro de Investigaciones y Estudios Avanzados (Cinvestav), Mexico D. F., July 18- August 2
- 2006** **Lecturer-** Pan-American Advanced Studies Institute Program (PASI) on Nano and Biotechnology, Bariloche, Argentina, November 13-22
- 2006** **Lecturer-** School in Physics and Mathematics, The International Center for Theoretical Physics, ICTP, Trieste, and Brazilian National Research Council, CNPq, Sao Pablo, Brazil, Feb. 20-24
- 2006** **Lecturer-** Micro and Nano Devices with Applications to Biology and Nanoelectronics, NSF Summer Institute on Nano Mechanics and Materials, Evanston IL, USA, Aug. 7-11
- 2007** **Lecturer-** Polymer Physics Workshop, Telluride Science Research Center, Telluride, CO, Aug. 6-10
- 2007** **Lecturer-** Polymer Physics, Gordon Research Conference, Salve Regina University Newport, RI, June 29-July 4
- 2007** Interdisciplinary, Globally Leading Polymer Science and Engineering NSF Workshop, Aug 15-16
- 2008** **Dow Distinguished Lecturer**, University of California Santa Barbara, October 3

- 2008** **Plenary Lecture**- International Conference on Molecular Electronic Devices, Korea, May 29-30
- 2008** **Speaker**- McCormick's PhD Hooding Ceremony, Northwestern University, June 20
- 2009** **Lecturer**- 10th Berkeley Mini Stat. Mech. Meeting, Berkeley Uni., CA, January 9-11
- 2009** **Lecturer**- Macromolecular Materials Gordon Research Conference, Ventura, CA, January 11-15
- 2009** **Lecturer**- Chemistry of Supramolecules and Assemblies, Gordon Research Conference, Waterville, Maine, June 28-July 3
- 2009** **Lecturer**- 6th International Discussion Meeting on Relaxations in Complex Systems, Rome, Italy, August 30-September 6
- 2009** **Lecturer**- Polymer Phys. Workshop, Telluride Science Research Center, Telluride, CO, July 6-10
- 2009** **Lecturer**- Lecture Series, in Science and Technology of Complex Fluids, San Luis Potosi, Mexico, August 21-30
- 2010** **Lecturer**- Colloidal, Macromolecular & Polyelectrolyte Solutions, Gordon Research Conference, Ventura, CA, February 21-25
- 2010** Discussion Leader- Polymer Physics, Gordon Research Conference, Mount Holyoke College, South Hadley, MA, June 27-July 2
- 2010** **Plenary Talk**, The 4th PENN-UPRH PREM Symposium on Soft Matters in Materials Science, Humacao, Puerto Rico, May 7, 2010
- 2010** **Plenary Lecture**- Society of Industrial and Applied Mathematics (SIAM) meeting on Mathematical Aspects of Materials Science, Philadelphia, PA, May 23-26
- 2010** **Plenary Lecture**- 2nd International Soft Matter Conference (ISMC 2010), Granada, Spain, July 5
- 2011** Fay Ajzenberg-Selove Colloquium, Physics Department, University of Wisconsin, Madison
- 2011** **Plenary Lecture**- First Workshop on Advances in Colloidal Materials, Granada, Spain
- 2012** Procter and Gamble Lecture Series, University of California, Los Angeles
- 2012** **Plenary Lecture**- XXI International Materials Research Congress (IMRC), August 13-17, Cancun, Mexico
- 2013** **Lecturer, Discussion leader**, Self-assembly and supramolecular chemistry, Gordon Research Conference, May 5-10, Les Diablerets, Switzerland
- 2013** **Plenary Lecture**- The 13th International conference on Properties and Phase Equilibria for Product and Process Design (PPEPPD), May 26-30, Iguaza Falls, Argentina.
- 2014** **Lecturer**, "Ion adsorption at solid-electrolyte interfaces" Lorentz Center, Leiden (NL) March 10-14, 2014
- 2015** **Lecturer**, ARO Meeting, NC, Sept 24-25, 2015
- 2017** **Lecturer, Mainz Materials Simulation Days 2017**, CECAM-DE-SMSM, Max Planck Institute for Polymer Research, Mainz, Germany, June 12-14, 2017
- 2018** **Lecturer, Surface Polarization Effects in Confinement**, CECAM Workshop, Collective behavior of soft and active matter under confinement, Mainz, Germany, Sept 24-26, 2018
- 2019** **Lecturer**, "Molecular Electrolytes" Optimal Design Of Soft Matter Workshop, Isaac Newton Institute for Mathematical Sciences, Cambridge University, UK, May 13-17
- 2019** **Lecturer**, "Control of Soft Matter" 3rd International Workshop on Matter Out of Equilibrium, San Luis Potosi, Mexico, Nov 25-27th, 2019
- 2020** **Lecturer**, International Summer School: "The Physics of Bio-inspired and Biological Systems: From Emergent Behaviors to Functional Materials," Madrid September, 5-9

RECENT SELECTED SERVICES & SYNERGETIC ACTIVITIES (2000-16):

- 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, American Physical Society
- NSF Nanoscale Modeling and Simulation panel, June 1-2. 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
MRSEC competition of the NSF Materials Research Science and Engineering Centers, March.
2004 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.
2005 NSF site visit UPR-Humacao University, Humacao, Oct 18-19
2005-09 **Advisory Committee**, NSF Mathematical and Physical Sciences Directorate
2005-2011. **External Advisory Board**, Nanoscale Science and Engineering Center (NSEC) Materials on Templated Synthesis and Assembly at the Nanoscale, University of Wisconsin-Madison
2006 **Chair**, Internal Review of Dept. of Surgery, Northwestern University
2006 **Search Committee** for the Director of the Division of Materials Research Mathematical Physical Science Directorate, National Science Foundation Search Committee
2006-09 Solid State Science Committee, National Research Council, National Research Council, the National Academy of Sciences
2007-09 **Chair, Advisory Committee**, NSF Division of Materials Research
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
2007-08 NSF Advisory Panel on Light Source Facilities
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 Committee**, NSF University New Mexico / Harvard Partnership for Research and Education in Materials (PI: Gabriel P. Lopez).
2009-Pre **External Advisory Committee (EAB)**, NSF Wisconsin - Puerto Rico Partnership for Research and Education in Materials" (PI: Carlos Rinaldi)
2008-11 **Advisory Committee**, 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 **Search Committee** for the Assistant Director of the Mathematical Physical Science Directorate, National Science Foundation Search Committee
2009 **Search Committee** for the Director of the Division of Materials Research Mathematical Physical Science Directorate, National Science Foundation Search Committee
2009 **External Review**, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, IL, March 29-31
2009 **External Reviewer**, U.S. Department of Energy Center for Nanophase Materials Science (CNMS) Operations Review, Oak Ridge National Laboratory, Oak Ridge, TN, December 9-11
2009-13 **Advisory Committee**, Center for Interdisciplinary Exploration and Research in Astrophysics CIERA, Northwestern University (Directors Vicky Kalogera, Fred Rasio and Dave Meyer)
2009-Pre **Advisory Board**, Materials Research Laboratory (MRL), University of Illinois at Urbana-Champaign, IL
2010 **Search Committee** for the Director of the Advance Photon Source at Argonne
2010-13 **Editorial Board**, *Current Opinion in Solid State and Materials Science*
2010-Pre **Scientific Advisory Committee**, Materials Science Division, Argonne National Laboratory
2011-Pre **Advisory Committee**, NSF Harvard MRSEC (PI: David Weiz)

2011-2015 **Editorial Committee**, *Annual Review of Materials Research*
2013 **Organizer**, Evolution of Colloidal Matter, New York City, NY, June 27-29
2013 **Co-Chair**, Fifth Biennial Principal Investigators' Meeting in "Biomolecular Materials", Materials Sciences and Engineering Division (MSED) in the DOE Office of Basic Energy Sciences (DOE-BES), Gaithersburg, MD, August 19-21
2013 **Co-Chair**, NSF Workshop on Opportunities in Theoretical and Computational Polymeric Materials and Soft Matter, Santa Barbara, CA, October 20-22
2013-15 Basic Energy Sciences Advisory Committee, Department of Energy
2014 US-EU Workshop on Computational Materials Science, San Francisco, CA, April 2-25, 2014
2014 Scientific Grand Challenges in Soft Condensed Matter workshop, Santa Barbara, CA, May 17-18, 2014
2014 **External Review**, Materials Science, University of Drexel, Philadelphia, PA, May 19, 2014
2014 **Scientific Advisory Committee**, National Science Foundation Advisory Committee for International Science and Engineering
2015 **Review Committee**, Deutsche Forschungsgemeinschaft (DFG), Transregional Collaborative Research Centre, Leipzig, Germany, January 21-22
2015-18 **Editorial Board**, *Journal of Chemical Theory and Computation*
2015-18 **Editorial Board**, *Journal of Chemical Physics*
2015 **Board of Visitors**, ARO Biennial Review of Life Sciences, NC, 6-8 May
2016 **Panelist**, BES workshop on Basic Research Needs for synthesis Science of Energy Relevant Technology, Maryland, MD May 2-4
2016 **Co-Leader**, "Transformational experimental tools through integration of instrumentation with theory and computation", Basic Research Needs (BRN) for Innovation and Discovery of Transformative Experimental Tools: Solving Grand Challenges in the Energy Sciences, Washington DC, June 1-3
2017 Program Review, MSE, University of California, Berkeley, Oct 23-25th
2017-18 Commemorating the 40th Anniversary of Basic Energy Sciences, Department of Energy, Subcommittee of the Basic Energy Sciences Advisory Committee (BESAC)
2018 **Chair**, Polymer Physics Prize
2018 **International Scientific Advisory Board**, CIC biomaGUNE, Donostia-San Sebastián, Spain, September 10-12
2019 **Review Panel**, SFB TRR 102 Transregional Collaborative Research Centre, Leipzig on "Polymers Under Multiple Constraints: Restricted And Controlled Molecular Order And Mobility," March 12-13
2019 **Scientific Committee**, Optimal Design of Soft Matter Workshop, Isaac Newton Institute for Mathematical Sciences, Cambridge University, UK, May 13-17
2020-26 International Scientific Committee, Ecole Supérieure de Physique et Chimie Industrielle de la ville de Paris (ESPCI Paris)

RECENT BRIEFINGS:

2018 **"A Remarkable Return on Investment in Fundamental Research"** is a report on 40 years of DOE Basic Energy Science research briefed to Mr. Paul Dabbar, DOE Under Secretary of Science, and in to Congressional staffers, Capitol Hill, June 12
2011 **"High Magnetic Field Sciences"**, Board of Physics and Astronomy, National Research Council, Beckman Center, UC Irvine, November 7
2011 **"Condensed Matter and Materials Research Committee - New Activities"**, Board of Physics and Astronomy, National Research Council, Beckman Center, UC Irvine, November 6
2010 **"Current Activities of the Condensed Matter and Materials Research Committee"**, Board of Physics and Astronomy, National Research Council, Beckman Center, UC Irvine, November 6

- 2009** **“Research at the Intersection of the Physical and Life Science”**, National Research Council Committee on Forefronts of Science at the Interface of Physical and Life Sciences, National Academies, briefing to the Office of Science and Technology Policy (OSTP), Washington DC, November 12
- 2009** **“Research at the Intersection of the Physical and Life Science”**, National Research Council Committee on Forefronts of Science at the Interface of Physical and Life Sciences, National Academies, briefing to the funding agencies, Keck Center, Washington DC, November 12
- 2009** **“Research at the Intersection of the Physical and Life Science”**, National Research Council Committee on Forefronts of Science at the Interface of Physical and Life Sciences, briefing to the Board of Physics and Astronomy, Beckman Center, Irvine, CA, November 7

TALKS, SHORT COURSES AND PARTICIPATION IN INTERNATIONAL CONFERENCES

(* invited presentations)

*Monica Olvera de la Cruz, Introductory Keynote Presentation, Systems Chemistry Gordon Research Conference, Newry, MA, June 28 - July 3, 2020 (postponed until 2022)

*Monica Olvera de la Cruz, Keynote Principles and Theory FNANO 2020 “Colloidal crystal metallicity” Snowbird, UT, April 7, 2020 (cancelled)

*Monica Olvera de la Cruz, “Polyelectrolytes in confinement” ACS National Meeting, Philadelphia, PA, March 22nd, 2020 (cancelled)

*Monica Olvera de la Cruz, “Control of Soft Matter with Magnetic Fields” Chemical Physics Seminar, Caltech, CA, March 10th, 2020 (postponed)

*Monica Olvera de la Cruz, “Physical Chemistry of DNA”, Short Course on DNA, APS March Meeting, Denver, CO, March 2-6th, 2020(cancelled)

Yaohua Li, Felipe Jimenez-Angeles and Monica Olvera de la Cruz, “Interaction of highly charged rigid polymer in monovalent salt” APS March Meeting, Denver, CO, March 2-6th, 2020

Trung Nguyen and Monica Olvera de la Cruz, “Nontrivial effects of dielectric mismatch on the conformational behavior of confined polyelectrolytes” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Yange Lin and Monica Olvera de la Cruz, “Sublattice Melting in Binary Superionic Colloidal Crystals” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Katherine Harmon, Felipe Jimenez-Angeles, Sang Soo Lee, Michael J Bedzyk, Monica Olvera de la Cruz and Paul Fenter, “Atomic Scale Characterization of the Voltage-Dependent Electrical Double Layer Structure” APS March Meeting, Denver, CO, March 2-6th, 2020 (cancelled)

Siyu Li, Yaohua Li, Taylor Nichols, Nolan Kennedy, Danielle Tullman-Ercek and Monica Olvera de la Cruz, “Multi-component assembly of microcompartments” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Ali Ehlen, Hector Manuel Lopez Rios and Monica Olvera de la Cruz, “Binary colloidal compounds with depletants” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Jeremy Wang, Baofu Qiao, Trung Nguyen, John Torkelson and Monica Olvera de la Cruz, “Random Copolymer Complexation with Proteins and Possible Applications” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Hector Manuel Lopez Rios, Ali Ehlen and Monica Olvera de la Cruz, “Localization to delocalization transitions in size asymmetric mixtures of colloidal particles with grafted chains” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Yihao Liang, Boran Ma and Monica Olvera de la Cruz, “Electrostatic Effects on Charged Block Copolymer Melts” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Curt Waltmann, Monica Olvera de la Cruz, Roi Asor and Uri Raviv, “Role of C-Terminal "Arms" in the Assembly and Stability of SV40 Polymorphs” APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Aaveg Aggarwal, Hang Yuan and Monica Olvera de la Cruz, "Control of a Hydrogel Based Soft Robot Using Light" APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Debarshee Bagchi and Monica Olvera de la Cruz, "Confined polyelectrolyte solution driven by an external electric field" APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Chase Brisbois, Mykola Tasinkevych and Monica Olvera de la Cruz, "Non-reciprocal motion in superparamagnetic magnetoelastic membrane patches" APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

Felipe Jimenez-Angeles, Katherine Harmon, Trung Nguyen, Paul Fenter and Monica Olvera de la Cruz, "The structure and polarization of the water-graphene interface from molecular dynamics simulations and X-ray reflectivity experiments" APS March Meeting, Denver, CO, March 2-6th, 2020 (web talk)

*Monica Olvera de la Cruz, "Colloidal Crystal Metallicity", Materials Science Colloquium, Lehigh University, PA, Feb 26th, 2020 (postponed)

*Monica Olvera de la Cruz, "Control of Magnetic Matter", University of Toronto, Toronto, Canada, February 20th, 2020

*Monica Olvera de la Cruz, "Colloidal Crystal Metallicity", The George & Dot Bishop Advanced Materials Colloquium Series, Clemson University, SC, Jan 30th, 2020

*Monica Olvera de la Cruz, "Polymer Electrolytes" Chemical Engineering Colloquium, University of North Carolina, Chapel Hill, NC, Jan 14th, 2020

*Monica Olvera de la Cruz, "Control of Magnetoelastic Filaments and Membranes via Dynamic Magnetic Fields" Physics Colloquium, Northwestern University, January 10, 2020

*Monica Olvera de la Cruz, AIChE Thermodynamics and Transport Properties Keynote Address, Orlando, Nov 10-14, 2019

*Monica Olvera de la Cruz, "Design of Functional Protein Membranes" Duke University, October 23, 2019

*Monica Olvera de la Cruz, Distinguished Lecture, Polymer Science and Engineering Department, University of Massachusetts Amherst, MA, Oct 4, 2019

*Monica Olvera de la Cruz, "Design of Functional Protein Membranes" Indiana University, August 30, 2019

*Monica Olvera de la Cruz, "Design of Functional Protein Membranes" ACS Fall Meeting, San Diego, CA, August 25-29, 2019

*Monica Olvera de la Cruz, "Polymer Electrolytes Statistics and Thermodynamics" ACS Fall Meeting, San Diego, CA, August 25-29, 2019

*Monica Olvera de la Cruz, "Functional Membranes and Polymer Electrolytes" Isaac C. Sanchez Retirement Celebration, UT Austin, August 8, 2019

*Monica Olvera de la Cruz, "Self-assembly surprises in functionalized nanoparticles/colloids" Nano Assembly 2040, Shanghai, China, August 2-4, 2019

*Monica Olvera de la Cruz, "Functional polymer electrolytes" Department of Applied Physics, Nanjing University of Science and Technology, Nanjing, China, August 1, 2019

*Monica Olvera de la Cruz, Plenary Speaker "Design of Bio-Inspired Membranes" 10th Triennial Congress of the International Society for Theoretical Chemical Physics, Tromsø, Norway, July 11-17, 2019

*(Keynote) Monica Olvera de la Cruz, "Polymer-Protein Assemblies" 29th Annual Midwest Thermodynamics and Statistical Mechanics (MTSM) conference, Beckman Institute, University of Illinois at Urbana-Champaign, IL, June 2-4, 2019

*Monica Olvera de la Cruz, "Control of Colloidal Metallicity by Tuning Bonds" Self-Assembly and Supramolecular Chemistry Gordon Research Conference, Les Diablerets, CH, May 19-24, 2019

*Monica Olvera de la Cruz, "Molecular Electrolytes" Optimal Design Of Soft Matter Workshop, Isaac Newton Institute for Mathematical Sciences, Cambridge University, UK, May 13-17, 2019

*Monica Olvera de la Cruz, "Polymer Electrolytes" Stanford University, CA, April 26, 2019

*Monica Olvera de la Cruz, "Puzzles in Molecular Electrolytes" Northwestern Institute on Complex Systems (NICO), Northwestern University, IL, April 24, 2019

*Monica Olvera de la Cruz, "Design of Functional Protein Membranes" Chemical and Biological Engineering, Princeton University, NJ, April 10, 2019

*Monica Olvera de la Cruz, "Polymer Electrolytes" School of Molecular Science, Arizona State University, AZ, April 4, 2019

Boran Ma and Monica Olvera de la Cruz "Effect of size asymmetry on morphology and dynamics of ionomers" ACS Spring Meeting 2019, Orlando, FL, March 31- April 4, 2019

*(Keynote) Monica Olvera de la Cruz, "Biomolecular Assembly" Nanoday 2019, National Nanotechnology Research Center, Bilkent University UNAM, Ankara, Turkey, March 21, 2019

Hang Yuan and Monica Olvera de la Cruz, "Membrane morphology beyond polyhedral" APS March Meeting, Boston, MA, March 4-8, 2019

Aykut Erbas, John Marko and Monica Olvera de la Cruz, "Relaxation spectrum of a concentration quench of Brownian particles" APS March Meeting, Boston, MA, March 4-8, 2019

Yihao Liang, Xiangjun Xing and Monica Olvera de la Cruz, "Morphology of toroidal vesicles" APS March Meeting, Boston, MA, March 4-8, 2019

Sumit Kewalramani, Changrui Gao, Honghao Li, Monica Olvera de la Cruz and Michael J. Bedzyk, "Electrostatic shape control of a charged molecular membrane from ribbon to scroll" APS March Meeting, Boston, MA, March 4-8, 2019

Sebastian Russell, Alan C West, Oleg Gang, Monica Olvera de la Cruz, Luis M. Campos and Sanat Kumar, "Compositionally Asymmetric Block Polyelectrolyte Morphologies" APS March Meeting, Boston, MA, March 4-8, 2019

Felipe Jimenez, Ha-Kyung Kwon and Monica Olvera de la Cruz, "Configurable Self-Assembly of Block Copolymers at the Liquid-Liquid Interface" APS March Meeting, Boston, MA, March 4-8, 2019

*Monica Olvera de la Cruz, B. Qiao and Trung Nguyen, "Design of Functional Protein Membranes" APS March Meeting, Boston, MA, March 4-8, 2019

Trung Nguyen and Monica Olvera de la Cruz, "Polyelectrolytes under spatial and dielectric confinement" APS March Meeting, Boston, MA, March 4-8, 2019

Graziano Vernizzi, Trung Nguyen, Henri Orland and Monica Olvera de la Cruz, "Ensemble Monte Carlo Growth simulations of polymers in confined environments" APS March Meeting, Boston, MA, March 4-8, 2019

Ali Ehlen, Kurinji Krisnamoorthy, Sumit Kewalramani, Michael J. Bedzyk and Monica Olvera de la Cruz, "Characterizing the counterionic cloud of DNA-functionalized nanoparticles with molecular dynamics simulations" APS March Meeting, Boston, MA, March 4-8, 2019

Yuba Dahal and Monica Olvera de la Cruz, "Protein crystallizing assembly via free and grafted linkers" APS March Meeting, Boston, MA, March 4-8, 2019

Debarshee Bagchi, Trung Nguyen and Monica Olvera de la Cruz, "Polyelectrolyte solution confined between oppositely charged dielectric surfaces" APS March Meeting, Boston, MA, March 4-8, 2019

Katherine Harmon, Felipe Jimenez, Sang Soo Lee, Michale J. Bedzyk, Monica Olvera de la Cruz and Paul Fenter, "Mapping the Atomistic Structure of the Electrical Double Layer with X-ray Reflectivity and Molecular Dynamics" APS March Meeting, Boston, MA, March 4-8, 2019

*Monica Olvera de la Cruz, "Electrostatic Effects in Viral Assembly" Physical Virology Gordon Research Conference, Ventura, CA Jan 20-25, 2019

*Monica Olvera de la Cruz, "Polymer Electrolytes" American Physical Society Conference For Undergraduate Women In Physics, Chicago, IL, January 19, 2019

*Monica Olvera de la Cruz, "Encapsulation of Proteins with Random Copolymers" MRS Fall Meeting, Boston, MA, November 26-29, 2018

*Monica Olvera de la Cruz, Frontiers of Molecular Engineering Symposium, Chicago, United States, September, 27- 28 2018

*Monica Olvera de la Cruz, "Surface Polarization Effects in Confinement" Collective Behavior of Soft and Active Matter Under Confinement, CECAM-DE-SMSM, Mainz, Germany, September 24-26, 2018

*Monica Olvera de la Cruz, "Correlations in polymer electrolytes", 256th ACS National Meeting in Boston, MA, August 19-23rd, 2018

*B. Qiao (presented on behalf of Monica Olvera de la Cruz.) "Protein surface patches drive the stability in non-aqueous solution", 256th ACS National Meeting in Boston, MA, August 19-23rd, 2018

*Monica Olvera de la Cruz, "Attractions and Repulsions Mediated by Monovalent Salts", 30th International Conference on Science and Technology of Complex Fluids, San Luis Potosi, Mexico, June 18-22nd, 2018.

*Monica Olvera de la Cruz, "Control of Functionalized Nanoparticle Assembly", Massachusetts Institute of Technology, MA, May 3rd, 2018

*Monica Olvera de la Cruz, "Attractions and Repulsions Mediated by Monovalent Salts" State University of New York at Stony Brook, NY, April 3rd, 2018

Boran Ma, Trung Dac Nguyen, Victor A. Pryamitsyn and Monica Olvera de la Cruz, "Electrostatic effect on nanostructure and dynamics in random ionomers" Materials Research Society, Phoenix, Arizona, April 2-6, 2018

*Monica Olvera de la Cruz, "Attractions and Repulsions Mediated by Monovalent Salts" Electrostatics in Concentrated Electrolytes Workshop, CECAM, Switzerland, March 21st, 2018

*B. Qiao (presented on behalf of Monica Olvera de la Cruz), "Stabilizing Proteins in Non-Aqueous Solution" ACS March Meeting, New Orleans, LA, March 18-22, 2018

B. Qiao, "Altering protein crystallization by modulating salt concentration" ACS March Meeting, New Orleans, LA, March 18-22nd, 2018

Anton Chavez, Chao Sun, Meng Shen, Monica Olvera De La Cruz, William R. Dichtel, "Designed nanotubes formed by the dynamic assembly of imine-linked macrocycles" ACS March Meeting, New Orleans, LA, March 18-22nd, 2018

*Monica Olvera de la Cruz, "Biomimetic functions of hydrophobic-hydrophilic random copolymers" German Physical Society, Berlin, Germany, March 15th, 2018

Victor Pryamitsyn, Monica Olvera de la Cruz "Physical origin and the architectural pathway to the "inverted" phases of the micro-segregated diblock copolymers" APS March Meeting, Los Angeles, California March 5-9, 2018

Ha-Kyung Kwon, Kenneth Shull, Monica Olvera de la Cruz "Effect of Charge on Interfacial Activity and Micelle Formation of Ion-containing Block Copolymers at the Oil-Water Interface" APS March Meeting, March 5-9, 2018; Los Angeles, California

Graziano Vernizzi, Trung Nguyen, Henri Orland, Monica Olvera de la Cruz, "A Multicanonical Monte Carlo Ensemble Growth method" APS March Meeting, March 5-9, 2018; Los Angeles, California

Martin Girard, Trung Nguyen, Monica Olvera de la Cruz, "Coarse-grained multibody interactions in colloids" APS March Meeting, March 5-9, 2018; Los Angeles, California

Debadutta Prusty, Victor Pryamitsyn, Monica Olvera de la Cruz, "Modeling hydrogen bonding in polymer blends using association models" APS March Meeting, March 5-9, 2018; Los Angeles, California

Jaime Millan, Mary Wang, Martin Girard, Byeongdu Lee, Chad Mirkin, Monica Olvera de la Cruz, "The Role of Repulsion in Colloidal Crystal Engineering with DNA" APS March Meeting, March 5-9, 2018; Los Angeles, California

Trung Nguyen, Ting Xu, Monica Olvera de la Cruz, "Adsorption of random copolymers onto heterogeneous nanostructures" APS March Meeting, March 5-9, 2018; Los Angeles, California

Aykut Erbas, Monica Olvera de la Cruz, John Marko, "Electrostatic effects on facilitated dissociation of molecular ligands" APS March Meeting, March 5-9, 2018; Los Angeles, California

Christopher DelRe, Brian Panganiban, B. Qiao, Tim Li, Charley Huang, Patrick Dennis, Monica Olvera De La Cruz, Ting Xu, "Noncovalent Interactions with a Synthetic Random Heteropolymer Allow for Protein Stabilization in Nonnatural Environments" APS March Meeting, March 5-9, 2018; Los Angeles, California

Ramsey Kumar, Edward Banigan, Aykut Erbas, Rebecca Giuntoli, Monica Olvera de la Cruz, Reid Johnson, John Marko, "Facilitated Dissociation Kinetics of Transcription Factor Proteins from Single DNA Binding Sites" APS March Meeting, March 5-9, 2018; Los Angeles, California

Christopher DelRe, Brian Panganiban, B. Qiao, Charley Huang, Tim Li, Patrick Dennis, Monica Olvera de la Cruz, Ting Xu, "Development of Catalytic Materials Based on the Stabilization of Organophosphorus Hydrolase in Organic Solvents" APS March Meeting, March 5-9, 2018; Los Angeles, California

B. Qiao, Brian Panganiban, Ting Xu, Monica Olvera de la Cruz, "Local Heterogeneous Domains Drive Stability of Proteins in Non-Aqueous Solution" APS March Meeting, March 5-9, 2018; Los Angeles, California

Tao Jiang, B. Qiao, Monica Olvera de la Cruz, Ting Xu, "Nature-Inspired Polymer Design with Protein-Like Functionality" APS March Meeting, March 5-9, 2018; Los Angeles, California

*Monica Olvera de la Cruz, PAM Lecture: Controlling Nanoparticle Assembly, Akron University, OH, March 2nd, 2018

*Monica Olvera de la Cruz, Physics Colloquium & Visiting Women & Minority Lecturer Series, Surface Polarization Effects on Metal-Amphiphile Emulsions, Michigan Technological University, MI, Feb 15th, 2018

*Monica Olvera de la Cruz, "Polymer Electrolytes", Materials Science and Engineering Colloquium, Texas A&M University, TX, Feb 12th, 2018

*Monica Olvera de la Cruz, "Self-assembly of heterogeneous molecules", Chemistry Department Colloquium, University of Oxford, United Kingdom, Jan 29th, 2018

*Monica Olvera de la Cruz, "Controlling Nanoparticle Assembly", BOSE-125 Distinguished Lecture, S. N. Bose National Center for Basic Sciences, Kolkata, India, Jan 3rd, 2018

*Monica Olvera de la Cruz, "Surface Polarization Effects on Metal-Amphiphile Emulsions", Saha Institute of Nuclear Physics, Kolkata, India, Jan 2nd, 2018

*Monica Olvera de la Cruz, "Polymer Electrolytes", Symposium on Structure and Behavior of Polymers from Equilibrium to Far-From-Equilibrium, Kyoto Institute of Technology, Kyoto, Japan, Nov 18th, 2017

*Monica Olvera de la Cruz, 7th CCS-PD/ACS-PMSE Joint Symposium on Frontiers in Polymer Science and Engineering, Chengdu, China, October 2017

*Monica Olvera de la Cruz, 2017 Larson Lectures in Chemistry, University of St. Thomas, St Paul, MN, Oct 4-6th, 2017

*Monica Olvera de la Cruz, "Nanoparticle Assembly in Electrolytes", Chemistry and Physics of Liquids Gordon Research Conference, Holderness, NH, Aug 6-11th, 2017

*Monica Olvera de la Cruz, "Polymer Electrolytes Thermodynamics and Microstructures", American Conference on Theoretical Chemistry (ACTC), Boston, MA, July 16-21st, 2017

*Monica Olvera de la Cruz, "Mesoscale Studies of Ionic Vesicles with Polyhedral Geometries" MRS Spring Meeting 2017, Phoenix, AZ, April 17-21st, 2017.

*Monica Olvera de la Cruz, "Control of DNA-functionalized nanoparticle assembly" ACS Award in Colloid Chemistry: Symposium in honor of Nicholas A. Kotov, ACS Spring Meeting 2017, San Francisco, CA, April 2-8th, 2017.

Monica Olvera de la Cruz, "Electrolyte-Mediated Assembly of Charged Nanoparticles" ACS Spring Meeting 2017, San Francisco, CA, April 2-8th, 2017.

Shuangping Liu, Monica Olvera de la Cruz, "Anisotropic contraction of hydrogel reinforced by aligned fibers" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Boran Ma, Trung Nguyen, Victor Pryamitsyn, Monica Olvera de la Cruz, "Electrostatic Effects on Clustering and Ion Dynamics in Ionomer Melts" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Elad Deiss-Yehiely, Julia Ortony, B. Qiao, Samuel Stupp, Monica Olvera de la Cruz, "Ion Condensation onto Self-Assembled Nanofibers" (Poster) APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Pablo Vazquez-Montejo, Joshua Dempster, Mykola Tasinkevych, Monica Olvera de la Cruz, "Flexible Magnetic Membranes" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Ha-Kyung Kwon, Kenneth R. Shull, Jos W. Zwanikken, Monica Olvera de la Cruz, "Effects of ion size and charge asymmetry on the salt distribution in polyelectrolyte blends and block copolymers" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Victor Pryamitsyn, Ha-Kyung Kwon, Johannes Zwanikken, Monica Olvera de la Cruz, "Anomalous phase behavior of ionic polymer blends and ionic copolymers" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Martin Girard, Soyoung Seo, Yaohua Li, Chad Mirkin, Monica Olvera De La Cruz, "Potential of Mean Force of DNA Guided Assemblies Past Debye-Hückel Regime" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Trung Nguyen, B. Qiao, Brian Panganiban, Christopher Delre, Ting Xu, Monica Olvera De La Cruz, "Strong Adsorption of Random Heteropolymers on Protein Surfaces" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Aykut Erbas, Monica Olvera de la Cruz, "Repulsive Interactions Between Two Polyelectrolyte Networks" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Meng Shen, Honghao Li, Monica Olvera de la Cruz, "The Effects of Interfacial Polarization on Long-Range Interaction Between Aqueous Phases in Oil" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Jaime Millan, Janet McMillan, Jeff Brodin, Byeongdu Lee, Chad Mirkin, Monica Olvera de la Cruz, "Modelling of DNA-Mediated of Two- and --Three dimensional Protein-Protein and Protein-Nanoparticle Self-Assembly" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Yaohua Li, Jaime A. Millan, Meng Shen, Trung Nguyen, M. Olvera de la Cruz, "Strong Ion-Driven Nanoparticle Assembly: A Multi-Scale Molecular Dynamics Study" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

Kyle Hoffmann, Kurinji Krishnamoorthy, Sumit Kewalramani, Michael Bedzyk, Monica Olvera De La Cruz, "Electrostatics of DNA-Functionalized Nanoparticles" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

*Monica Olvera de la Cruz, "Control of DNA-Functionalized Nanoparticle Assembly" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

*Monica Olvera de la Cruz, "Polymer Physics Prize Talk" APS March Meeting 2017, New Orleans, LA, March 13-17th, 2017.

*Monica Olvera de la Cruz, "Molecular Electrolytes" Princeton University, Department of Astrophysical Sciences, NJ, February 15th, 2017.

- *Monica Olvera de la Cruz, "Using Computational Modeling to Probe and Design Biomimetic Behavior" Gordon Research Conference, Santa Barbara, California, Jan 29th- Feb 3rd, 2017
- *Monica Olvera de la Cruz, "Biomimetic Materials Design by Computer Simulations" Conference for Undergraduate Women in Physics, UW-Madison, WI, Jan 15th, 2017.
- *Monica Olvera de la Cruz, "Controlling the Geometry of Elastic Membranes" New York University, NY, Nov 4th, 2016.
- *Monica Olvera de la Cruz, Perspectives of GPU Computing in Science, Sapienza Universita di Roma, Italy, Sept 26-28, 2016. (Not able to attend.)
- *Monica Olvera de la Cruz, "Polymer Electrolytes" Soft Matter - Theoretical and Industrial Challenges Celebrating the Pioneering Work of Sir Sam Edwards, Isaac Newton Institute, Cambridge UK, Sept 7-9, 2016.
- *Monica Olvera de la Cruz, "Phase Segregation in Polymer Electrolytes" Polymer Physics, Gordon Research Conference, south Hadley, MA, July 24-29, 2016
- *Monica Olvera de la Cruz, "Multiple phase coexistence in polymer electrolytes" 11-th International Symposium on Polyelectrolytes - ISP 2016, Lomonosov Moscow State University, Russia, June 23-25, 2016.
- *Monica Olvera de la Cruz, "Formation of ion clusters in the phase separated structures of neutral-charged polymer blends and copolymers" 28th International Conference on Science and Technology of Complex Fluids, Physic Department, Universidad Nacional Autonoma de San Luis Potosi, Mexico, June 20-24, 2016.
- *Monica Olvera de la Cruz, "Assembly of anisotropic functionalized particles" 28th International Conference on Science and Technology of Complex Fluids, Physic Department, Universidad Nacional Autonoma de San Luis Potosi, Mexico, June 20-24, 2016.
- *Monica Olvera de la Cruz, "Formation of ion clusters in the phase separated structures of neutral-charged polymer blends and copolymers" 28th International Conference on Science and Technology of Complex Fluids, San Luis Potosi, Mexico, June 20-24, 2016.
- *Monica Olvera de la Cruz, "Polyhedral Crystalline Membranes" Physics Department, Tel Aviv University, Israel, May 22, 2016.
- *Monica Olvera de la Cruz, "The Shape of Single Soft Crystals" Computations in Science Seminar, University of Chicago, IL, April 13, 2016
- F. Solis, G.I. Guerrero, and M. Olvera de la Cruz, "Low frequency ionic conduction across liquid interfaces." APS Meeting, Baltimore, MD, March 14-18, 2016
- H. Li, A. Erbas, J. Zwanikken and M. Olvera de la Cruz, "Ion transferring in polyelectrolyte networks in electric fields." APS Meeting, Baltimore, MD, March 14-18, 2016
- J. Zwanikken, Y. Jing, V. Jadhao and M. Olvera de la Cruz, "Electrolyte-mediated adsorption to neutral and dielectric interfaces" APS Meeting, Baltimore, MD, March 14-18, 2016
- M. Olvera de la Cruz and A. Erbas "Energy conversion in polyelectrolyte hydrogels" APS Meeting, Baltimore, MD, March 14-18, 2016
- M. Girard and M. Olvera de la Cruz, "Colloidal models for anisotropic particles" APS Meeting, Baltimore, MD, March 14-18, 2016
- S. Pan, N. Boon and M. Olvera de la Cruz, "Novel liquid crystal phase transition of linear defects in an epitaxial layer of DNA-nanoparticle superlattices" APS Meeting, Baltimore, MD, March 14-18, 2016
- A. Erbas and M. Olvera de la Cruz, "Morphology-induced low temperature conductivity in ionic liquids." APS Meeting, Baltimore, MD, March 14-18, 2016
- H. Kwon and M. Olvera de la Cruz, "The effect of ionic correlations on the distribution of ions across polyelectrolyte blend interfaces" APS Meeting, Baltimore, MD, March 14-18, 2016

J. Dempster, M. Olvera de la Cruz “Driving magnetic colloidal polymers” APS Meeting, Baltimore, MD, March 14-18, 2016

J. Millan, M. Girard, J. Brodin, M. O’Brien, C. Mirkin, M. Olvera de la Cruz, “Modeling of DNA-Mediated Self-Assembly from Anisotropic Nanoparticles: A Molecular Dynamics Study” APS Meeting, Baltimore, MD, March 14-18, 2016

S. Kewalramani, M. Bedzyk, L. Moreau, J. Zwanikken, C. Mirkin, M. Olvera de la Cruz, “Electrolyte-Mediated Assembly of Charged Nanoparticles” APS Meeting, Baltimore, MD, March 14-18, 2016

Y. Jing, V. Jadhao, J.W. Zwanikken, M. Olvera de la Cruz, “Ionic structure in electrolyte confined by dielectric interfaces” APS Meeting, Baltimore, MD, March 14-18, 2016

B. Qiao, G. Ferru, M. Olvera de la Cruz and R. Ellis, “Integrated toolkit of synchrotron X-ray and atomistic simulations for rare earth element refinery” ACS National Meeting, San Diego, CA, March 13-17, 2016

* M. Olvera de la Cruz, J. Zwanikken and H. Kwon, “Multiple phase coexistence in polymer electrolytes” ACS National Meeting, San Diego, CA, March 13-17, 2016

*M. Olvera de la Cruz, “DNA-functionalized anisotropic particle assembly” ACS National Meeting, San Diego, CA, March 13-17, 2016

*B. Qiao, Geoffroy Ferru, Monica Olvera de La Cruz, Ross Ellis “Integrated toolkit of synchrotron X-ray and atomistic simulations for rare earth element refinery” ACS National Meeting, San Diego, March 13-17, 2016

*Monica Olvera de la Cruz "Assembly of anisotropic functionalized particles" Physics Colloquium, University of California, Santa Cruz, CA, March 3, 2016

*M. Olvera de la Cruz, “DNA-functionalized nanoparticle assembly” MRSEC-UC Santa Barbara, Santa Barbara, CA February 25, 2016

*Monica Olvera de la Cruz "DNA-Functionalized Nanoparticle Assembly" Materials Science Colloquium, Caltech, CA, February 24, 2016

*Monica Olvera de la Cruz ""DNA-Functionalized Nanoparticle Assembly"" Materials Science Seminar Series, U. C. Berkeley, Berkeley, CA, February 18, 2016

*M. Olvera de la Cruz, “DNA-functionalized nanoparticle assembly” Chemical Engineering Colloquium, Penn State University, Oct 7, 2015

*M. Olvera de la Cruz, “DNA-functionalized Nanoparticle Assembly” Rutgers University, Sept 22, 2015

*M. Olvera de la Cruz, “Polyhedral Crystalline Membranes” ISTeC Lecture, Colorado State, Sept 14-16, 2015

*M. Olvera de la Cruz, “Polyhedral Crystalline Membranes” MaGavock Lecture, Trinity University, Sept 17-18, 2015

*M. Olvera de la Cruz, “Ion clusters in neutral-charged polymer blends and copolymers” ACS National Meeting, Boston, MA, Aug 16-18, 2015

*M. Olvera de la Cruz, “DNA-functionalized nanoparticle assembly and crystallization” Frontiers of Polymer Science, Chinese Academy of Sciences, China, Aug 8-10, 2015.

*M. Olvera de la Cruz “Ion clusters in neutral-charged polymer blends and copolymers” Beijing Institute of Technology, Beijing, China, Aug 5-7, 2015

*M. Olvera de la Cruz “Electrostatic Driven Self Assembly Design of Functional Nanostructures” Biomolecular Materials Principal Investigators’ Meeting, Gaithersburg, MD August 3-5, 2015

*M. Olvera de la Cruz “Self-Assembly of Biomolecules” Gordon Research Conference, Mount Holyoke College, MD, July 26-31, 2015

*M. Olvera de la Cruz “Ion Clusters in Neutral-Charged Polymer Blends and Copolymers” 1st US-Japan Materials Genome Workshop, Ibaraki, Japan, June 22-25, 2015

*M. Olvera de la Cruz "Ion Clusters in Neutral-Charged Polymer Blends and Copolymers" Penn State University, PA, April 21, 2015.

* M. Olvera de la Cruz "DNA-functionalized Nanoparticle Assembly" NU Computational Research Day, April 14, 2015.

*M. Olvera de la Cruz "DNA-functionalized Nanoparticle Assembly" Rutgers University, Jamestown, MI, April 1, 2015

* M. Olvera de la Cruz "DNA-functionalized nanoparticle assembly" ACS National Meeting, Denver, CO, March 22-27, 2015.

* M. Olvera de la Cruz "DNA-functionalized Nanoparticle Assembly and Crystallization" SIAM Conference on Computational Science and Engineering, Salt Lake City, UT, March 14-18, 2015.

* M. Olvera de la Cruz "Electrostatic Self-Assembly of Biomolecules," APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Jos Zwanikken and Monica Olvera de la Cruz, Tuning the phase diagram of polyelectrolyte blends with a pinch of salt" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Charles Sing and Monica Olvera de la Cruz, "Surface tension and lamellar spacing in polyelectrolyte blends and block copolymers" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Huanxin Wu, Yufei Jing, Francisco Solis, Monica Olvera de la Cruz, Erik Luijten, "Electrolytes near structured dielectric interfaces" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Sumit Kewalramani, Liane Moreau, Guillermo Guerrero-Garcia, Monica Olvera de la Cruz and Michael Bedzyk, "Counterion-mediated assembly of spherical nucleic acid-Au nanoparticle conjugates (SNA-AuNPs)" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Niels Boon and Monica Olvera de la Cruz, "'Soft' amplifier circuits based on field-effect ionic transistors" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Brian Panganiban, B. Qiao, Mona Obadia, Monica Olvera de la Cruz, Eric Drockenmuller, Ting Xu, "Rationally Designed random heteropolymer surfactants for encapsulation and stabilization of proteins in organic solvents" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Francisco Solis, Vikram Jadhao, Kaushik Mitra, Monica Olvera de la Cruz, "A variational free-energy functional approach to Schrodinger-Poisson theory" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Saijie Pan, Ting Li, Monica Olvera de la Cruz, "Simulation of epitaxial growth of dNA-nanoparticle superlattices on pre-patterned substrates" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Zhenwei Yao and Monica Olvera de la Cruz, Dynamics of vacancies in two-dimensional Lennard-jones crystals" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Ha-Kyung Kwon and Monica Olvera de la Cruz, "Formation of ion clusters in the phase separated structures of neutral-charged polymer blends" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Yufei Jing, Vikram Jadhao, Jos W. Zwanikken, Monica Olvera de la Cruz "Electrostatic effects of dielectric interfaces on confined electrolyte" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Shuangping Liu, Zhenwei Yao, Monica Olvera de la Cruz, "Perversions driven spontaneous symmetry breaking in heterogeneous elastic ribbons" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Ting Li, Monica Olvera de la Cruz, "DNA-programmable Nanoparticle Self-Assembly and Crystallization via Multi-Scale Modelling & Simulation" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

Aykut Erbas, Jos Zwanikken, Monica Olvera de la Cruz, "Electrostatics effects on normal load capacity of two like-charge hydrogels" APS Spring Meeting, San Antonio, TX, March 2-6, 2015.

* M. Olvera de la Cruz "Electrostatic Self-Assembly of Biomolecules", Advanced Workshop on Out-of-Equilibrium Matter, San Luis Potosi, Mexico, December 8-12, 2014.

*M. Olvera de la Cruz, "DNA-Functionalized Nanoparticle Assembly and Crystallization," Dept. of Materials Science and Eng. Colloquium, University of Illinois Urbana, November 17, 2014.

*M. Olvera de la Cruz, "Polyhedral Crystalline Membrane", Department of Chem. Eng. Colloquium, Stanford University, October 27, 2014.

*M. Olvera de la Cruz, "Electrostatic Self-assembly of Biomolecules", First "self-assembly of biomolecules" International Symposium, Montpellier, October 12-14, 2014.

*M. Olvera de la Cruz, "Ionic Membranes", Department of Mechanical Eng. Colloquium, University of Illinois Urbana, September 2, 2014.

*M. Olvera de la Cruz, "Ionic Bilayers, Tail Packing and Mesoscale Geometry", Workshop on Coarse-Grained Modeling of Polymers and Soft Materials for Genome Initiative, National Institute of Standards and Technology, August 6-7, 2014.

*M. Olvera de la Cruz, "Polyhedral Crystalline Membranes", APS Colloquium, Argonne National Laboratory, Chicago, July 16, 2014.

*M. Olvera de la Cruz, "Crystalline Membranes", Frontiers in Materials Sciences Seminar Series, Pacific Northwest National Laboratory, Richland, Washington, June 2, 2014.

*M. Olvera De La Cruz, "Electrostatic Driven Assembly", Grand Challenges in Soft Matter Workshop, University of California, Santa Barbara, May 17-18, 2014

T. Li, E. Auyeung, C.A. Mirkin, M. Olvera de la Cruz, "Self-Assembly and Crystallization of DNA-Functionalized Nanoparticle into Wulff Polyhedra", MRS Spring Meeting, San Francisco, California, April 21-25, 2014.

J. Zwanikken, Y. Jing, V. Jadhao, C.E. Sing, N. Boon and M. Olvera de la Cruz, "Theoretical analysis on ion transport through polymer networks in electrochemical capacitors", MRS Spring Meeting, San Francisco, California, April 21-25, 2014.

C.E. Sing, J.W. Zwanikken+ and M. Olvera de la Cruz, "Electrostatic Control of Block Copolymer Morphology", MRS Spring Meeting, San Francisco, California, April 21-25, 2014.

* M. Olvera de la Cruz, "DNA-Functionalized Nanoparticle Assembly and Crystallization," Dept. of Chemical Engineering, University of Texas at Austin, Austin TX, March 27, 2014.

*M. Olvera de la Cruz, "Ion adsorption at solid-electrolyte interfaces" Lorentz Center, Leiden (NL) March 10-14, 2014.

Y. Jing, J.W. Zwanikken, V. Jadhao, M. Olvera de la Cruz, "Ion distributions in electrolyte confined by multiple dielectric interfaces", ACS National Meeting, Dallas, Texas, March 16-20, 2014.

*C. Mirkin, R.J. Macfarlane, E. Auyeung, M. Olvera de la Cruz, "Nucleic acid-modified nanostructures as programmable atom equivalents: Forging a new "Table of Elements", ACS National Meeting, Dallas, Texas, March 16-20, 2014.

F.J. Solis, V. Jadhao, M. Olvera de la Cruz, "Variational formulations for electrostatic systems: Applications to molecular dynamics simulations", ACS National Meeting, Dallas, Texas, March 16-20, 2014.

F.J. Solis, G.I. Guerrero-Garcia, M. Olvera de la Cruz, "Ion partitioning in confined oil/water interfaces", ACS National Meeting, Dallas, Texas, March 16-20, 2014.

G.I. Guerrero-Garcia, N. Boon, M. Olvera de la Cruz, "Giant charge reversal and charge amplification with monovalent ions in highly size-asymmetric colloidal suspensions", ACS National Meeting, Dallas, Texas, March 16-20, 2014.

V. Jadhao, C.K. Thomas and M. Olvera de la Cruz, "Electrostatics-driven shape transitions in charged elastic membranes" ACS Spring Meeting, Dallas, Texas, March 16-20, 2014.

J. Zwanikken, Y. Jing, V. Jadhao, C.E. Sing, N. Boon and M. Olvera de la Cruz, "Theoretical analysis on ion transport through polymer networks in electrochemical capacitors", APS March meeting, Denver, CO, March 3-7, 2014.

Y. Jing, J.W. Zwanikken, V. Jadhao, M. Olvera de la Cruz, "Ion distributions in electrolyte confined by multiple dielectric interfaces", APS March Meeting, Dallas, Texas, March 16-20, 2014.

G. Guerrero Garcia, F. Solis, M. Olvera de la Cruz, "Inversion of the electric field driven by ionic solvation energy", APS March meeting, Denver, CO, March 3-7, 2014.

S. Liu, Z. Yao and M. Olvera de la Cruz, "Spontaneous formation and evolution of kinks in elastic helical structures", APS March meeting, Denver, CO, March 3-7, 2014.

K. Kohlstedt, N. Jackson, B. Savoie, L. Chen, M. Olvera de la Cruz, G. Schatz, M. Ratner, "Controlling conformations of conjugated polymers and small molecules: The role of nonbonded interactions", APS March meeting, Denver, CO, March 3-7, 2014.

R. Zhang and M. Olvera de la Cruz, "Accelerated Self-Replication under Non-equilibrium, Periodic Energy Delivery", APS March meeting, Denver, CO, March 3-7, 2014.

J. Dempster, R. Zhang and M. Olvera de la Cruz, "Self-replicating devices with dipolar colloids", APS March meeting, Denver, CO, March 3-7, 2014.

T. Li, E. Auyeung, C.A. Mirkin and M. Olvera de la Cruz, "Multi-scale modeling for the self-assembly of DNA-functionalized nanoparticle into supperlattice and Wulff polyhedra", APS March meeting, Denver, CO, March 3-7, 2014.

C.E. Sing, J.W. Zwanikken and M. Olvera de la Cruz, "Dramatic changes in Polyelectrolyte Blend Phase Behavior due to Charge Correlations" APS March Meeting, Denver, Colorado, March 3-7, 2014.

C.E. Sing, J.W. Zwanikken, M. Olvera de la Cruz, "Highly-correlated Charges in Block Copolyelectrolytes: Charge as a Tool for Morphology Manipulation", APS March Meeting, Denver, Colorado, March 3-7 2014.

V. Jadhao, C.K. Thomas and M. Olvera de la Cruz, "Changing shape of elastic shells via electrostatic interactions", APS March Meeting, Denver, Colorado, March 3-7, 2014.

N. Boon, G.I. Guerrero, R. van Roij and M. Olvera de la Cruz, "Improving the accuracy of DLVO theory for dense systems of macroions", APS March Meeting, Denver, Colorado, March 3-7, 2014.

Z. Yao and M. Olvera de la Cruz, "Topological Defects by Size Polydispersity", APS March Meeting, Denver, Colorado, March 3-7, 2014.

B. Qiao and M. Olvera de la Cruz, "Why Hydrophilic Water can Permeate Hydrophobic Interior of Lipid Membranes", APS March Meeting, Denver, Colorado, March 3-7, 2014.

M. Olvera de la Cruz, "Report on NSF Workshop on Challenges and Opportunities of Polymer and Soft Matter Theory and Simulation", APS March meeting, Denver, CO, March 3-7, 2014

*M. Olvera de la Cruz, Condensed Matter Seminar, James Franck Institute, Departments of Chemistry and Physics & Astronomy, University of Chicago, Feb.18, 2014.

* M. Olvera de la Cruz, "DNA-Functionalized Nanoparticle Assembly and Crystallization," Dept. of Materials Science and Engineering, University of California, Berkeley, February 11, 2014.

* M. Olvera de la Cruz, "Molecular Crystallization and Mesoscale Geometry of Functionalized Nanoparticles", Telluride Conference, Telluride, Colorado, February 2-5, 2014

*M. Olvera de la Cruz, International Symposium on Polyelectrolytes, Ein Gedi, Israel, Jan.20-23, 2014.

* M. Olvera de la Cruz, "Blebbing of Nuclear Lamin Networks", American Society for Cell Biology Annual Meeting, Dec 14, 2013, New Orleans, LA.

*M. Olvera de la Cruz, "Spherical Nucleic Acid-Au Nanoparticle Assemblies", Materials Research Society Fall Meeting, Dec 1-6, 2013, Boston, MA.

*M. Olvera de la Cruz, "Molecular Crystallization and Mesoscale Geometry of Multicomponent Ionic Membranes", Materials Research Society Fall Meeting, Dec 1-6, 2013, Boston, MA.

*M. Olvera de la Cruz, Department of Physics Colloquium, UNAM, Mexico City, Nov. 21, 2013.

- * M. Olvera de la Cruz, "Derieux Lecture", Department of Physics at North Carolina State University, Nov 11, 2013.
- * M. Olvera de la Cruz, Condensed Matter Seminar, Dept. of Physics & Astronomy, University of Pennsylvania, Oct 16, 2013.
- C. Sing and M. Olvera de la Cruz, "Effects of Ion Correlations on the Thermodynamics of Polymer Interfaces" ACS Fall Meeting (Indianapolis IN), Sept. 12, 2013.
- * M. Olvera de la Cruz, "Electrostatics in Spherical Nucleic Acid-Au Nanoparticle Assemblies" Programmable Self-Assembly of Matter workshop (June 30-July 2, NYC), 2013.
- *C. Sing and M. Olvera de la Cruz, "Highly-correlated Charges in Polymer Gels and Blends", Telluride Polymer Physics Workshop, June 17, 2013.
- * M. Olvera de la Cruz, "Platonic and Archimedean geometries in elastic membranes" The 13th International conference on Properties and Phase Equilibria for Product and Process Design (PPEPPD), May 26-30, Iguaza Falls, Argentina.
- *M. Olvera de la Cruz, "The Role of Electrolytes in the Assembly of Colloids" Gordon Research Conference: Self-Assembly & Supramolecular Chemistry, Les Diablerets, May 5-10, 2013, Switzerland
- * M. Olvera de la Cruz, "Charge and Composition Patterns in Ionic Fibers, Gels and Membranes" High Polymer Research Group Conference, April 28-May 3, 2013, UK.
- * C.E Sing, J. Zwanikken, and M. Olvera de la Cruz, "Highly-correlated charges in polyelectrolyte gels: Reentrant swelling and ion-ion correlations" in Celebrating 50 Years of Polymers at Case Western, ACS National Meeting & Exposition, April 9, 2013, New Orleans, Louisiana.
- G.I. Guerrero-Garcia, and M. Olvera de la Cruz "Inversion of the electric field at the electrified liquid-liquid interface", ACS National Meeting & Exposition, April 7-11, 2013, New Orleans, Louisiana.
- B. Qiao and M. Olvera de la Cruz "Crystallization of ionic lipid membranes, elucidated by atomistic simulation", ACS National Meeting & Exposition, April 7-11, 2013, New Orleans, Louisiana.
- * M. Olvera de la Cruz, "Polyhedral Geometries in the Living World," Dept. of Chemical Engineering, University of Texas at Austin, Austin TX, April 4, 2013.
- R. Zhang, P. Jha, and M. Olvera de la Cruz, "Non-equilibrium Ionic Assemblies of Oppositely Charged Colloids," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.
- Y. Jing, G.I. Guerrero Garcia, and M. Olvera de la Cruz, "Enhancing and reversing the electric field at liquid/liquid interfaces," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.
- F. Solis, V. Jadhao, and M. Olvera de la Cruz, "A variational formulation of electrostatics for heterogeneous dielectric media," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.
- B. Qiao, R.J. Ellis, and M. Olvera de la Cruz, "For a Safe Diamide Extraction Process, Elucidated by Atomistic Simulations," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.
- C.K. Thomas, and M. Olvera de la Cruz, "Why square lattices are not seen on curved ionic membranes," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.
- C-Y. Leung, M. Greenfield, S. Kewalramani, L. Palmer, R. Sknepnek, B. Qiao, C. Newcomb, G. Vernizzi, M. Bedzyk, S. Stupp, and M. Olvera de la Cruz, "Mesoscopic Membrane Morphology Regulated by Molecular Crystallization," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.
- G.I. Guerrero Garcia, P. Gonzalez-Mozuelos, and M. Olvera de la Cruz, "Colloidal stability in concentrated electrolyte solutions using large counterions," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.
- K.L. Kohlstedt, M. Olvera de la Cruz, and G.C. Schatz, "Controlling orientational order of multivalent prisms in superlattice assemblies," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

A. Osorio-Vivanco, M. Olvera de la Cruz, and S. Glotzer, "Optimized assembly and steady-state length-scale control in dissipative systems of photo-switchable colloids," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

T.I.N.G. Li, R. Sknepnek, and M. Olvera de la Cruz, "Hybridization dynamics to DNA guided crystallization," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

S. Kewalramani, C-Y. Leung, J. Zwanikken, R. Macfarlane, M. Olvera de la Cruz, C. Mirkin, and M. Bedzyk, "Determination of counterion distribution around DNA coated nanoparticles (DNA-AuNP) by small angle X-ray scattering (SAXS)," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

J. Zwanikken, and M. Olvera de la Cruz, "Tunable Soft Structure in Charged Fluids confined by Dielectric Interfaces," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

Z. Yao, and M. Olvera de la Cruz, "Packing of charged chains on toroidal geometries," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

C. Sing, J. Zwanikken, and M. Olvera de la Cruz, "Highly-correlated charges in polyelectrolyte gels," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

V. Jadhao, F. Solis, and M. Olvera de la Cruz, "Ion distributions near dielectric interfaces from Car-Parrinello molecular dynamics," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

C. Funkhouser, R. Sknepnek, T. Shimi, A. Goldman, R. Goldman, and M. Olvera de la Cruz, "An Elastic Model of Blebbing in Nuclear Lamin Meshworks," American Physical Society March Meeting, Baltimore, MD, March 18-22, 2013.

*M. Olvera de la Cruz, "Polyhedral geometries in crystalline membranes", XLII Winter meeting on Statistical Physics, January 8-11, 2012, Taxco, Mexico.

*M. Olvera de la Cruz, "Platonic and Archimedean Geometries in Elastic Membranes", Materials Research Society Fall Meeting, Nov 27, 2012, Boston, MA.

S. Patala, L. Marks, and M. Olvera de la Cruz, "Stability Analysis for Faceted Pentagonal Nanoparticles", Materials Research Society Fall Meeting, Nov 30, 2012, Boston, MA.

*M. Olvera de la Cruz, "Modeling mesoscale phenomena in crystalline membranes", SACNAS National Conference, October 11-14, 2012, Seattle WA.

*M. Olvera de la Cruz, "Polyhedral Geometries in the Living World", Condensed Matter Seminar, Dept. of Physics, University of Illinois at Urbana-Champaign, September 21, 2012, Urbana IL.

* M. Olvera de la Cruz, "Computational efforts in Polymer Science", 244th ACS National Meeting, August 19-23, 2012, Philadelphia, PA.

* M. Olvera de la Cruz, "Computational modeling of polyelectrolyte gels: Charge regulation and nanoscale phase behavior", 244th ACS National Meeting, August 19-23, 2012, Philadelphia, PA.

* M. Olvera de la Cruz, "Platonic and Archimedean Geometries in Multicomponent Elastic Membranes" XXI International Materials Research Congress (IMRC), August 13-17, 2012, Cancun, Mexico.

* M. Olvera de la Cruz, "The stability of polyvalent nanoparticles and effective interactions in molecular electrolytes" XXI International Materials Research Congress (IMRC), August 13-17, 2012, Cancun, Mexico.

* M. Olvera de la Cruz, "Surprises in ionic driven assembly of membranes" Argonne National Laboratory, August 7, 2012, Argonne, IL.

* M. Olvera de la Cruz, "Charge and Composition Patterns in Ionic Membranes" Recent Progresses on Coulomb Many-body Systems Workshop, Shanghai Jiao Tong University, June 9-16, 2012, Shanghai, China.

* M. Olvera de la Cruz, "Polyelectrolyte Gels" International Symposium on Polymer Physics, June 4-8, 2012, Chengdu, China.

*M. Olvera de la Cruz, "Ionic driven assembly of membranes: Surprising findings in shell shape and composition", May 3, 2012, Dept. of Physics, North Dakota State University.

* M. Olvera de la Cruz, "Modeling heterogeneous fibers and membranes" (in "Computational Materials Design In Heterogeneous Systems") MRS Spring meeting, April 9-13, 2012, San Francisco, CA.

* M. Olvera de la Cruz, "Physical Properties of Heterogeneous Microcompartments", Procter and Gamble Lecture Series, Spring 2012, Department of Chemistry and Biochemistry, University of California, April 16, 2012, Los Angeles, CA.

C. Thomas and M. Olvera de la Cruz, "Charge correlations in multicomponent ionic crystalline membranes", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

M. Olvera de la Cruz, J. Zwanikken and C.A. Mirkin, "Local ionic environment around polyvalent nucleic-acid functionalized gold nanoparticles", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

M. Demers, R. Sknepnek and M. Olvera de la Cruz, "Curvature driven domain formation in ternary lipid membranes", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

R. Sknepnek and M. Olvera de la Cruz, "Thin-shell model for faceting of multicomponent elastic vesicles", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

T. Li, R. Sknepnek, R.J. Macfarlane, C.A. Mirkin and M. Olvera de la Cruz, "Modeling of DNA-directed colloidal self-assembly and crystallization", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

C-Y. Leung, L. Palmer, S. Kewalramani, R. Sknepnek, G. Vernizzi, M. Greenfield, S. Stupp, M. Bedzyk and M. Olvera de la Cruz, "Electrostatics-driven assembly of uni-lamellar cationic faceted vesicles", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

J. Zwanikken and M. Olvera de la Cruz, "Ion-induced interactions between charged macroions and dielectric inhomogeneities", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

P. Jha, J. Zwanikken, F. Detcheverry, J. de Pablo and M. Olvera de la Cruz, "Influence of charge and network inhomogeneities on the swollen-collapsed transition in polyelectrolyte nanogels", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

J. Su, H. Guo and M. Olvera de la Cruz, "Solubility and transport of cationic and anionic patterned nanoparticles", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

B. Grzybowski, M. Olvera de la Cruz, P. Jha and V. Kuzovkov, "A novel kinetic Monte Carlo algorithm for non-equilibrium simulations", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

G.I. Guerrero Garcia and M. Olvera de la Cruz, "Ion correlations in the electrical double layer near liquid/liquid interfaces", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

C. Funkhouser, R. Sknepnek and M. Olvera de la Cruz, "Morphologies of elastic membranes with fluctuating connectivity", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

B. Qiao and M. Olvera de la Cruz, "Effect of valence of counterions on the structure of charged membranes, a computer simulation study", American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.

* M. Olvera de la Cruz, "Surprises in ionic driven assembly of membranes", Caltech Chemical Physics Seminar Series, California Institute of Technology, January 31, 2012, Pasadena, CA.

* M. Olvera de la Cruz, "Surprises in electrostatic driven assembly of ionic crystalline shells", Department of Materials Science, University of Michigan, November 18, 2011, Ann Arbor, MI.

* M. Olvera de la Cruz, J. W. Zwanikken and C. A. Mirkin "Ionic screening and ion-induced attractions in solutions of nanoparticles" First Workshop on Advances in Colloidal Materials- 25th Anniversary-Biocolloid and Fluid Physics Group (1986-2011), University of Granada, September 23, 2011, Granada, Spain.

* M. Olvera de la Cruz, "Ionic Crystalline Shells", Colloquium, Dept. of Chemical & Biological Engineering, Rensselaer Polytechnic Institute, September 14, 2011, Troy, NY.

* M. Olvera de la Cruz, "Platonic and Archimedean Geometries in Elastic Membranes", Colloquium, Applied Physics, Harvard University, September 9, 2011, Cambridge, MA.

* M. Olvera de la Cruz, "New Geometries of Elastic Closed Membranes and Crystalline Shells", Laboratoire de Physique de Solides, University of Orsay, July 12, 2011, Orsay, France.

* M. Olvera de la Cruz, "Heterogeneous Elastic Membranes: New Shapes of Microcompartments", Telluride Workshop on Polymer Physics, June 20-24, 2011, Telluride, CO.

*M. Olvera de la Cruz, J. W. Zwanikken, P. Guo, R. J. Macfarlane, and C. A. Mirkin, "Grafting density effect on ionic screening around functionalized Nanoparticles", 241st ACS National Meeting & Exposition - March 27-31, 2011, Anaheim, California.

G. Ivan Guerrero-Garcia, P. Gonzalez-Mozuelos, and M. Olvera de la Cruz, "On the interaction of equally charged nanoparticles in presence of a size-asymmetric salt", 241st ACS National Meeting & Exposition - March 27-31, 2011, Anaheim, California.

J. W. Zwanikken and Monica Olvera de la Cruz, "Ions and charged macromolecules near the interface between two electrolyte solutions", 241st ACS National Meeting & Exposition - March 27-31, 2011, Anaheim, California.

*M. Olvera de la Cruz, "Responsive Polyelectrolyte Gels and Tethered Membranes", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

F. J. Solis and M. Olvera de la Cruz, "Ionic conduction at liquid-liquid interfaces", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

P. Jha, J. Zwanikken, F. Detcheverry, J. de Pablo, M. Olvera de la Cruz, "Theoretically informed coarse-grained simulations of polymer nanogels", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

P. Guo, R. Sknepnek, M. Olvera de la Cruz, "Ridge formation of charged end group ligands grafted on faceted nanoparticle", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

V. Jadhao, F. J. Solis, G. Guerrero-Garcia, M. Olvera de la Cruz, "Towards simulation of charges in the presence of varying dielectric response", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

M. Demers, F. J. Solis, M. Olvera de la Cruz, "Pattern formation in ternary lipid membranes with composition-deformation coupling", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

S. Dhakal, F. J. Solis, M. Olvera de la Cruz, "Orientational order and defect structures on curved surfaces", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

J. Zwanikken, M. Olvera de la Cruz, "Correlated electrolyte solutions and ion-induced attractions between nanoparticles", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

C. Y. Leung, R. Sknepnek, L. Palmer, G. Vernizzi, M. Greenfield, S. Stupp, M. Bedzyk, M. Olvera de la Cruz, "Crystallization induced by electrostatic correlations in vesicles of mixed-valence ionic amphiphiles", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

S. Swaminathan, F. J. Solis, M. Olvera de la Cruz, "Conformation and mechanical properties of diblock fibers", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

R. Sknepnek, C. Leung, L. C. Palmer, G. Vernizzi, S. I. Stupp, M. J. Bedzyk, M. Olvera de la Cruz, "Faceting of multicomponent charged elastic shells", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

A. Parsaeian, J. F. Marko, M. Olvera de la Cruz, "Binding-rebinding dynamics of proteins interacting non-specifically with a long DNA molecule", American Physical Society March Meeting, Dallas, TX, March 21-25, 2011.

* M. Olvera de la Cruz "Regular and Irregular Polyhedra in Multi-Component Crystalline Shells", Fay Ajzenberg-Selove Colloquium, Physics Department, University of Wisconsin, Madison, Feb. 18, 2011.

* M. Olvera de la Cruz "Regular and Irregular Polyhedra in Multi-Component Elastic Membranes" Workshop on Self-Assembled Bio-Inspired Materials for Energy, Argonne, February 4, 2011.

*M. Olvera de la Cruz "Heterogeneous Membranes" Colloquium, Department of Chemical Engineering, University of Illinois at Chicago, January 13, 2011.

* M. Olvera de la Cruz, "Surprises in Heterogeneous Elastic Membranes" Colloquium, Department of Polymer Science and Eng., University of Massachusetts, Amherst Physics, September 24, 2010.

* 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, "Heterogeneous Elastic Membranes" Self-assembly in Biology and Materials Science Workshop, Huatulco, Oaxaca, June 9-11, 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, "Self-Assembly in Molecular Electrolytes" **Plenary Talk**, The 4th PENN-UPRH PREM Symposium on Soft Matters in Materials Science, Humacao, Puerto Rico, May 7, 2010.

D. Zhang, P. González Mozuelos, and M. Olvera de la Cruz, "Cluster Formation by Charged Nanoparticles on a Surface in Aqueous Solution" American Chemical Society Spring Meeting, San Francisco, CA, March 21-25, 2010.

* M. Olvera de la Cruz and P. Gonzalez-Mozuelos, "Nanoparticles in aqueous media" American Chemical Society Spring Meeting, San Francisco, CA, March 21-25, 2010.

R. Sknepnek, A. J. Morris-Cohen, G. D. Lilly, M. Olvera de la Cruz and E. Weiss "Ligand exchange on CdSe quantum dots", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

F. J. Solis, G. Vernizzi, S. Swaminathan and M. Olvera de la Cruz "Semi-flexible polymer with heterogeneous bending rigidity adsorbed at interfaces" American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

D. Zhang, G. Vernizzi, and M. Olvera de la Cruz, "Simulation of structural phase transition in two dimensional ionic crystal", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

J. W. Zwanikken, R. Sknepnek, and M. Olvera de la Cruz, "Effective interactions between pH-responsive particles", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

G. Vernizzi, R. Sknepnek, and M. Olvera de la Cruz "The shapes of two-component crystalline shells", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

K. L. Kohlstedt, G. Vernizzi, F. J. Solis and M. Olvera de la Cruz, "Optimal arrangement of lamellar and triangular lattices confined to cylindrical fibers", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

M. Olvera de la Cruz, R. Sknepnek, G. Vernizzi "The buckling transition of ionic shells and electrostatics", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

M. J. Bedzyk, C. Leung, 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 analyzed by x-ray scattering", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

P. K. Jha, J. W. Zwanikken, J. J. de Pablo, and M. Olvera de la Cruz "Effects of charge inhomogeneities on the phase behavior of polyelectrolyte gels", American Physical Society March Meeting, Portland, OR, March 15-19, 2010.

G. I. Guerrero-Garcia, E. Gonzalez-Tovar, and M. Olvera de la Cruz "Effects of the Ionic-size Asymmetry around a Charged Colloid: Unequal Charge Neutralization and Electrostatic Screening", American Physical Society March Meeting, Portland, OR, March 15-19, 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 (cancelled).

* 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", Martin Weiner Lecture Series Department of Physics Colloquium, Brandeis University, November 17, 2009.

Dorsi Grillo, M. Olvera de la Cruz, and I. Szleifer "Phase Behavior Calculations of DOPC Phospholipid Bilayers" AIChE Annual Meeting, Nashville, TN, November 8-13, 2009.

* M. Olvera de la Cruz "Spontaneous Buckling of Ionic Membranes", Polymer Science Lecture Series, Polymer Science Department, 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 "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 – Barriloché, 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 Paulo, 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, France, 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 of 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 Absorbed 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 Systèmes 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 Moléculaire, 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 Moléculaire, 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)