**DALE W. SCHAEFER,** **Professor**

Chemical and Materials Engineering Programs

Department of Biomedical, Chemical and Environmental Engineering

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2014 08 08

PERSONAL:

 Married, 2 adult children

EDUCATION:

 B.S., Professional Chemistry, Wheaton Col., Wheaton, IL (1963), GPA 2.8/3.0

 Ph.D., Physical Chemistry, MIT (1968)

 Thesis Advisor, J. S. Waugh

 Thesis Title: The Kerr Effect and the Structure of Fluids

 GPA 4.8/5.0

 Post Doc. (1968 - 1970) Biophysics

 Department of Physics, MIT

 Cambridge, MA, G. Benedek, Advisor

PROFESSIONAL EXPERIENCE:

 2012 Visiting Scholar, Oak Ridge National Laboratory

 2012 Visiting Scholar, Los Alamos National Laboratory

 2005 – present Affiliate Staff Member, Los Alamos National Laboratory

 2004-2005 John Wheatley Scholar, Los Alamos National Laboratory

 2004 and 2007 Visiting Scientist, Chinese Academy of Sciences, Beijing

 1999-2003 Summer Faculty Fellow, Air Force Research Laboratory

 1998 Visiting Summer Faculty, PPG Corporation, Monroeville, PA

 1997- present University of Cincinnati, Professor of Materials Science and Engineering

 Director, Polymer Research Center (1998-2004)

 Dean, College of Engineering (1997)

 Geier Professor of Engineering Education (1997- 99)

 Professor of Chemical and Materials Engineering,

 College of Engineering and Applied Science (1997-present)

 1972-1997 Sandia National Laboratories

 Manager, Industry and Government Liaison Department (1996-1997)

 Senior Technical Advisor, US Department of Energy (1996)

 Technical Advisor, DOE Office of Technology Partnerships (1995)

Manager, Materials Research for Energy and Environmental Technology (92-94)

 Manager, Organic and Electronic Materials Department (1989-1992)

 Supervisor, Chemical Physics Division (1982-1988)

 Supervisor, Corrosion Division (1980-1982)

 Member of Technical Staff, Organic Materials Division (1972-1980)

 1970 - 1972 IBM, T. J. Watson Research Center, Yorktown Heights, NY,

 Senior Research Associate

OTHER EXPERIENCE:

 Manager, International Fellowship House, Boston, MA (1966-1968)

 Manager, Henry Baay Apartments, Marblehead, MA (1968-1970)

 Proprietor, Schaefer Farms, Estancia, NM (1980-1988)

COURSES:

 Short Courses:

 Fractals for the Beginner

 Synthesis and Structure of Hybrid Organic Inorganic Materials

 Porous Materials

 Colloid Science

 X-ray Diffraction

 Fundamentals of Small-Angle X-ray Scattering

 University Courses:

 Basic Thermodynamics

 Nature and Property of Materials

 Computer Applications for Engineers

 Biomaterials

 Diffraction Theory

 Properties of Materials

 Materials Thermodynamics II

 Soft Matter

 Introduction to Polymers

 X-ray Diffraction

 Corrosion of Metal

 Properties of Materials

 Chemical Engineering Thermodynamics

CONSULTING:

 Bridgestone-Firestone Research, Akron, OH

 J. M Huber Corporation, Harve de Grace, MD

 PPG Industries, Silica Products, Monroeville, PA

 International Science and Technology Network, York, PA

 Millennium Inorganic Chemicals, Baltimore, MD

 Dimona Silica Industries, Beer Shiva, Israel

 Goodyear Tire and Rubber Co., Akron OH

 OVAL Getränkeproduktions und Vertriebs GMBH, Vienna, Austria

**SERVICE:**

 Faculty Representative University of Cincinnati Board of Trustees (elected 2010-2012 )

 Principle Editor, Journal of the Materials Research Society (2008- 2012 )

 Faculty Advisor, Charter Colony of Sigma Phi Delta engineering fraternity. (1998-2000)

 Trustee Colorado Christian University (2000-2008, 2010-)

 Numerous Department, College and University Committees.

**TECHNICAL EXPERTISE:**

 Broad expertise in materials engineering, physics, chemistry, and chemical engineering.

Specific experience in polymer physics, colloid science, light scattering, aggregation, ceramic and polymer materials science, in-situ composites, semi -crystalline polymers, structure of fluids, polymer solutions, dielectric properties of fluids, small angle x-ray and neutron scattering, porous materials, aerosols, inelastic neutron scattering, dynamics of disordered systems, corrosion, neutron and x-ray reflectivity.

MANAGEMENT ACCOMPLISHMENTS:

 Led the development of a strategic plan for the University of Cincinnati, College of Engineering that incorporates modern management methodology and educational partnerships with industry.

 Analyzed the DOE R&D management system. Traced inefficiencies to failure to integrate science and technology on the project level. Wrote a series of policy analysis reports to the Deputy Under Secretary of Energy recommending a team-based, decentralized project management system. Co-organized a DOE-wide workshop to address these issues.

. Developed and secured funding for Cooperative Research and Development Agreements (CRADA) with three major corporations. Formed a partnership with two universities and three national laboratories to meet project goals.

 Organized National DOE Basic Energy Sciences (BES) research program in polymer science.

 Guided the Organic and Electronic Materials Department ($4M/Yr.) during the transition from weapons program support to multiprogram applied research (1989-1991). During this period a loss of 17 FTEs of weapons funding was replaced by 14 major new initiatives in which the organization enjoyed an 80% proposal acceptance. Five staff members were promoted to management. Organization enjoyed continuous overfunding.

 Established Sandia's program in disordered materials including obtaining Department of Energy funding. Program spans polymer, colloids and aerosols. Management of four related projects for DOE Basic Energy Sciences and Defense Programs Technology Transfer Initiative.

 Formed Cooperative Scattering Research Facility with University of New Mexico.

 Established Sandia on Participating Research Teams at National Synchrotron Light Source, National Institute of Science and Technology, Argonne National Laboratories and Oak Ridge National Laboratories.

 Established joint Industry/National Laboratory research program on complex materials. Obtained Department of Energy (Basic Energy Sciences, Technology Commercialization Initiative) and industry support.

 Special assignment (1991): Part of a 16 member management team that determined Sandia's noncompliance with Federal, State and Local Laws concerning environment, health and safety (ES&H). Concentrated on Training and Quality programs.

 Initiated department and ultimately directorate-wide network-based management information system.

 Project manager for lab-wide ES&H management information system. 1991.

 Recruiter, MIT: Materials Engineering, Chemical Engineering, Physics, and Chemistry.

RESEARCH ACCOMPLISHMENTS:

 First measurement of the second virial coefficient of the Kerr effect in gases.

 Measurement of the anisotropy of the diffusion constant of rod-like particles.

 First study of the effect of charge in the dynamics of colloids.

 Use of liquid theory to model solutions of charged colloids.

 Discovery of non-Gaussian number fluctuations in scattering from colloidal systems.

 Theory of statistics of light scattered from small numbers of particles.

 Theory and experiments on the effect of rotational motion on light scattered from motile bacteria.

 First study of motility of microorganisms using number-fluctuation spectroscopy.

 Systematic study of effect of temperature and solvent quality in the dynamics of semidilute polymer solutions.

 Development of a unified theory for the dynamics of polymers and solution including cooperative diffusion, self diffusion, viscosity and osmotic pressure.

 Developed fractal concepts to determine the *in-situ* structure of randomly branched polymers, colloidal aggregates, and porous materials.

 Developed a unified model to explain structure and growth in silicate (sol-gel) polymers.

 Discovery of fractal structures near the critical point in micellar solutions. Postulated polymer-like growth as an explanation.

 Systematic study of the growth and structure of colloidal aggregates of silica, gold, and alumina.

 Determination of the structure of porous silicates and explanation of the origin of porosity in terms of chemical and physical growth processes.

 Determination of alumina polymers grown in solution and explanation of properties in terms of rigidity percolation.

 Measured structure of and developed a model for combustion aerosols materials including fumed silica and carbon black.

 Discovered surface roughness in colloids generated by dissolution.

 Studied sintering of ceramics by scattering techniques and observed smoothing of fractally rough surfaces.

 Established structure-property relationships in *in-situ* composites.

 Systematic investigation of extremely low energy excitations (fractons) in glassy materials by inelastic neutron scattering including first direct measurement of vibrational density of states in this regime.

 Investigated new strategies for pore formation via sacrificial phases using neutron and x-ray scattering.

 Based on extensive experimental studies, developed a model of the critical factors that control the performance of reinforcing fillers in elastomers.

 Established the mechanism by which silane coating protect metals

 Developed the method to neutron reflectivity to determine the protective mechanism of organic and inorganic films on metals.

 Developed a mode for reinforcement of polymers with carbon nanotubes. Showed that disorder lead to drastically reduced level of reinforcement, explaining why nanocomposites have not gained commercial acceptance.

 Elucidated the mechanism of corrosion protection by vanadate and cerate inhibitors including the first in-situ measurement of film evolution in a corrosive environment by neutron reflectivity

 Using a combination of spectroscopic and simulation methods, proposed a new concept regarding alcohol perception whereby ethanol-induced water restructuring effects taste perception.

 Determined the mechanism of cell proliferation and release on polymer-grafted surfaces using x-ray and neutron reflectivity.

 Developed a soft materials approach to enzyme immobilization to mitigate clotting in stented patients.

 Established synthesis-structure-performance relationships for bare and sealed anodic oxide films on aluminum using a variety of scattering methods (first *in situ* measurement of anodic film formation).

**PROFESSIONAL** **SOCIETIES:**

 American Physical Society (Fellow)

 Materials Research Society

 American Chemical Society

 Sigma Xi

 American Institute of Chemists (Fellow)

HONORS AND RECOGNITION:

 Rensselaer Science Medal (1959)

 American Institute of Chemists Award (1963)

 National Science Foundation Pre-Doctoral Fellow (1964)

 DuPont Teaching Fellow (1965)

 Kodak Prize (1966)

 Sigma XI (1970)

 National Science Foundation Post-Doctoral Fellow (1968)

 DOE-BES Outstanding Sustained Research Award (1986)

 Fellow, American Institute of Chemists (1986)

 Who’s Who in America (1988-)

 Fellow, American Physical Society (1988)

 American Men and Women of Science (1997-)

 Tau Beta Pi Eminent Engineer (1999)

Named in the best 150 out of 40,000 referees by the American Physical Society (2011) <http://publish.aps.org/OutstandingReferees>

College of Engineering and Applied Science Research Excellence Award (2011)

College of Engineering and Applied Science Distinguished Engineering Researcher Award (2014)

PROFESSIONAL ACTIVITIES:

 Chairman, Workshop on Small Angle Scattering, Sandia NationalLaboratories (1979).

 Chairman, Program Committee, Nat. Ctr. for Small-Angle Scattering, Oak Ridge, TN (1980 - 1983).

 Visiting Scientist, Center for Theoretical Physics, University of California, Santa Barbara, CA (1983).

 International Scientific Organizing Committee, STATPHYS 16 (1985 - 1986).

 Chairman, Symposium on Fractal Aspects of Materials, Materials Research Society (1986).

 National Science Foundation Site Visit Committee, Case Western Reserve University (1986).

 NATO Advance Study Institute on Growth and Form, Cargese, France, 1985.

 Advisory Committee, Low-Q Diffractometer, Los Alamos National Laboratory (1985 - 1989).

 LANSCE (Los Alamos Neutron Scattering Center) Advisory Committee (1987 -1992 ).

 International Advisory Committee, Second International Conference on Aerogels, Montpellier, France, 1988.

 Executive Committee, National Center for Small Angle Scattering User's Group, Oak Ridge National Laboratory (1987-1991).

 NSF Travel Review Committee (1984 and 1988).

 NATO Advanced Study Institute on Fluctuations and Pattern Growth, Cargese, France, 1988.

 Chairman, MRS Symposium on Polymer-Based Molecular Composites, Boston, Mass. Dec. 1989.

 International Advisory Committee, Third International Conference on Aerogels, Würzburg, Germany, 1991.

 Meeting Chair, Materials Research Society Spring 1992 Meeting, San Francisco, April, 1992.

 Nomination Committee, American Physical Society Division of Biological Physics (1992).

 NSF Spectroscopy Laboratory Site Review Committee, MIT, 1992.

 NRC Naval Research Laboratory Review Panel on Chaos and Nonlinear Dynamics (1992-95).

 NSF/European Science Foundation workshop on Particulate and Multiphase Flow (1992).

 Member, Program Committee, Materials Research Society (1991-1994).

 Theme Leader for Polymers, DOE Basic Energy Sciences Center of Excellence in Synthesis and Processing (1991- 1993).

 Member, Program Committee, International Symposium on Automotive Technology and Automation (ISATA), Germany, 1993, 1994, 1995 and 1996.

 Conference Chair, ‘Porous Materials EXPO ‘93'”, Albuquerque, NM, May 4-6, 1993. DOE-commissioned industrial workshop.

 Program Committee, Forth International Conference on Aerogels, Berkeley, CA, Sept. 1994.

 Co-chair, Materials Research Society Symposium on Hybrid Materials, San Francisco, Spring 1996.

 Chair of the Industry/Government Advisory Group, Organo-Silicon Center, University of Cincinnati (1996 )

 Member, Polymer Advisory Committee, Howard University, Washington, DC, (1996-1997)

 Member, Board of Trustees of Dayton Area Graduate Studies Institute (1997 )

 Member, Governing Board, Edison Materials Technology Center, Dayton, OH (1997)

 Member, Solid State Sciences Committee, National Research Council, (1998-2000 )

 Co-organizer, James E. Mark Symposium on Emerging Opportunities in Polymer Technologies, Oct. 14-16, 1999.

 Scientific Advisor, Industrial Science and Technology Network, York, PA, 2001-

 Materials Program Advisory Committee, Los Alamos National Laboratory, 2006 -

 LANL LANSCE User Group Executive committee (elected 2008 - 2012)

 NIST Center for Neutron Research User Group Executive Committee (elected 2010 - 2013)

 Scientific Advisory Committee, ChemMatCARS, University of Chicago (2011-2013)

**FUNDING (listed below):**

Recorded in Coeus:

Credited to individual: $2,825,781.95 (2001- 2013)

Total: $4,281,507.00

**PUBLICATIONS AND PRESENTATIONS (listed below)**:

h-index impact factor = 49 (8893 citations: <http://scholar.google.com/citations?user=vEkk0-cAAAAJ>)

**Total Publications: 231**

 Refereed Journal Publications: 149

 Refereed Book Sections: 18

 Refereed Proceedings: 19

 Edited books: 3

 Un-refereed Proceedings: 17

 Un-refereed Articles: 11

 Published Reports: 9

**Total Invited Presentations: 297**

 UC: 1997- 2013: 99

 Prior: 1972-1996: 198

**Contributed presentations (with UC students): 63**

**Funding sources (some funding is not recorded in Coeus).**

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| --- | --- | --- | --- | --- |
| **Year** | **Research Funding** | **Period** | **Amount**  | **Title** |
| 1999 | Givaudan Flavors | 1999-2003 | $145,000 | Smart Membranes for Flavor Release |
| 2001 | Systran Federal Corporation(Sub AF) | 2001-2002 | $53,302 | Scattering Techniques to Determine the Hierarchical Structures of Carbon Single Wall Nanotubes |
| 2001 | Bridgestone-Firestone | 2001-2002 | $52,000 | Synthesis and Characterization of Highly Dispersing Silica |
| 2002 | Amtek Research International | 2002-2003 | $30,000 | Pore Evolution in Battery Separators During Excursion |
| 2002 | Edison Polymer Innovation Corporation | 2002-2004 | $67,489 | Conformal Membranes for Barrier Applications |
| 2002 | UES (Sub AF) | 2002-2004 | $104,700 | Synthesis and Analysis of Nanostructured Materials |
| 2003 | Ohio Board of Regents | 2002-2006 | $80,000 | Biomedical and Pharmaceutical Thrust  |
| 2003 | Anteon Corporation(Sub AF) | 2003-2004 | $80,472 | Two-Phase Liquid Crystal Polymer Composite Structures |
| 2003 | University of Dayton Research Institute (Sub AF) | 2003-2005 | $214,941 | Hierarchical Structures of Nanocarbon Suspensions |
| 2003 | Ohio Board of Regents | 2003-2007 | $90,000 | Chromium-Free Coating System for Department of Defense Applications |
| 2003 | Strategic Environmental Research and Development Program | 2003-2007 | $313,601 | Chromium-Free Coating System for Department of Defense Applications |
| 2004 | Givaudan Flavors (MAST) | 2004-2008 | $139,865 | Smart Membranes for Flavor Release |
| 2005 | Dimona Silica Industries | 2005-2008 | $313,416 | Morphology of Precipitated Silica |
| 2005 | Air Products and Chemicals | 2005-2006 | $50,000 | Morphology of low-k Films |
| 2005 | University of Dayton Research Institute (Sub AF) | 2005-2006 | $100,000 | Hierarchical Structures of NanoCarbon Suspensions |
| 2006 | Sandia National Laboratories (MAST) | 2006-2011 | $140,000 | Smart Materials for Membrane Defouling |
| 2007 | OVAL Corporation | 2007-2009 | $264,564 | Structure in Water-Alcohol Solutions |
| 2008 | Strategic Environmental Research and Development Program | 2008-2011 | $371,430 | Morphology and Mechanism of Benign Inhibitors |
| 2008 | Sandia National Laboratories | 2008-2008 | $32,214 | Internship for Sandip Argekar |
| 2009 | Sandia National Laboratories | 2009-2009 | $34,214 | Internship for Sandip Argekar |
| 2009 | NSF | 2009-2009 | $27,035 | Acquisition of a Nanoscale Imprint Lithography System |
| 1997 | Gifts to the University for conferences and consulting | 1997-2010 | $42,000 | Various |
| 2012 | Arkema AF | 2012-2013 | $442,757 | Chemical and Biological Resistant Clothing |
| 2012 | ORNL Battelle | 2012-2013 | $50,406 | Morphology of Metal Protective Films |
| 2012 | ORNL Battelle | 2012-2013 | $74,776 | Program Development in Corrosion Research |
| 2012 | UES AFRL  | 2012-2013 | $4,221 | Functional Bio Interfaces |
| 2013 | Dow Agro Sciences | 2013-2013 | $50,000 | Colloid Science of Enlist Herbicide |
|  |  |  | $3,368,402 |  |

**PATENTS:**

D.W. Schaefer, C. Chen and A.J.-M. Yang, Methods for Synthesizing Precipitated Silica and Use Thereof, 2010, US Patent 7,700,062 B2

**REFEREED JOURNAL PUBLICATIONS**

1. Sridhar, M.; Reddy, G. K.; Hu, N.; Motahari, A.; Schaefer, D. W.; Thiel, S. W.; Smirniotis, P. G., Preparation, characterization and lysozyme immobilization studies on siliceous mesocellular foams: Effect of precursor chemistry on pore size, wall thickness and interpore spacing. *Microporous and Mesoporous Materials* **2014,** *190* (C), 215-226.

2. Zhang, Y.; Zhu, Y.; Lin, G.; Ruoff, R. S.; Hu, N.; Schaefer, D. W.; Mark, J. E., What factors control the mechanical properties of poly (dimethylsiloxane) reinforced with nanosheets of 3-aminopropyltriethoxysilane modified graphene oxide. *Polymer* **2013,** *54*, 3605-3611.

3. St John, S.; Nan, Z.; Hu, N.; Schaefer, D. W.; Angelopoulos, A. P., A nanoscale-modified LaMer model for particle synthesis from inorganic tin–platinum complexes. *J. Mater. Chem. A* **2013,** *1* (31), 8903-8916.

4. St John, S.; Hu, N.; Schaefer, D. W.; Angelopoulos, A. P., Time-resolved, in situ, small- and wide-angle X-ray scattering to monitor Pt nanoparticle structure evolution stabilized by adsorbed SnCl3 - ligands during synthesis. *The Journal of Physical Chemistry C* **2013,** *117* (15), 7924-7933.

5. Hu, N.; Dong, X.; He, X.; Argekar, S.; Zhang, Y.; Browning, J. F.; Schaefer, D. W., Interfacial morphology of low-voltage anodic aluminium oxide. *Journal Of Applied Crystallography* **2013,** *46*, 1386-1396.

6. Argekar, S. U.; Kirley, T. L.; Schaefer, D. W., Determination of structure-property relationships for 3-aminopropyltriethoxysilane films using x-ray reflectivity. *Journal Of Materials Research* **2013,** *28* (8), 1118-1128.

7. Schaefer, D. W.; Kohls, D.; Feinblum, E., Morphology of Highly Dispersing Precipitated Silica: Impact of Drying and Sonication. *J Inorg Organomet Polym* **2012,** *22* (3), 617-623.

8. Schaefer, D. W.; Hu, N.; Patsaeva, S., Structurability and Its Relation to Taste Perception. *Journal of Agricultural and Food Chemistry* **2011,** *59*, 466-466.

9. Hu, N.; Schaefer, D. W., Identification of ethanol hydrate complexes by multivariate curve resolution analysis of radial distribution functions. *Journal of Molecular Liquids* **2011,** *159*, 189-195.

10. Hu, N.; Borkar, N.; Kohls, D. J.; Schaefer, D. W., Characterization of porous materials using combined small-angle X-ray and neutron scattering techniques. *J Membrane Sci* **2011,** *379* (1-2), 138-145.

11. Dong, X.; Argekar, S.; Wang, P.; Schaefer, D. W., In situ Evolution of Trivalent Chromium Process Passive Film on Al in a Corrosive Aqueous Environment. *ACS Appl. Mater. Interfaces* **2011,** *3* (11), 4206-4214.

12. Wang, P.; Schaefer, D. W., Hygrothermal Aging of Silane-Laced Epoxy Coatings. *Journal of Adhesion Science and Technology* **2010,** *24*, 699-708.

13. Wang, P.; Dong, X.; Schaefer, D. W., Structure and water-barrier properties of vanadate-based corrosion inhibitor films. *Corros Sci* **2010,** *52* (3), 943-949.

14. Hu, N.; Wu, D. Q.; Cross, K. J.; Schaefer, D. W., Structural Basis of the 1H-Nuclear Magnetic Resonance Spectra of Ethanol-Water Solutions Based on Multivariate Curve Resolution Analysis of Mid-Infrared Spectra. *Applied Spectroscopy* **2010,** *64* (3), 337-341.

15. Hu, N.; Wu, D.; Cross, K.; Burikov, S.; Dolenko, T.; Patsaeva, S.; Schaefer, D. W., Structurability: A Collective Measure of the Structural Differences in Vodkas. *J. Agric. Food Chem.* **2010,** *58* (12), 7394-7401.

16. Hu, N.; Schaefer, D. W., Effect of impurity compounds on ethanol hydration. *Journal of Molecular Liquids* **2010,** *155* (1), 29-36.

17. Dong, X.; Wang, P.; Argekar, S.; Schaefer, D. W., Structure and Composition of Trivalent Chromium Process (TCP) Films on Al Alloy. *Langmuir* **2010,** *26* (13), 10833–10841.

18. Brühwiler, P. A.; Barbezatt, M.; Necola, A.; Kohls, D. J.; Bunk, O.; Schaefer, D. W.; Pötschke, P., Comparison of quasistatic to impact mechanical properties of multiwall carbon nanotube/polycarbonate composites. *Journal of Materials Research* **2010,** *25* (6), 1118-1130.

19. Xie, Y.; Kohls, D. J.; Noda, I.; Schaefer, D. W.; Akpalu, Y. A., Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) nanocomposites with optimal mechanical properties. *Polymer* **2009,** *50* (19), 4656-4670.

20. Wang, Y.; Wang, P.; Kohls, D.; Hamilton, W. A.; Schaefer, D. W., Water absorption and transport in bis-silane films. *Physical Chemistry Chemical Physics* **2009,** *11* (1), 161 - 166.

21. Wang, P.; Schaefer, D. W., Salt Exclusion in Silane-Laced Epoxy Coatings. *Langmuir* **2009,** *26* (1), 234-240.

22. Metroke, T.; Wang, Y.; van Ooij, W. J.; Schaefer, D. W., Chemistry of mixtures of bis-[trimethoxysilylpropyl]amine and vinyltriacetoxysilane: an NMR analysis. *Journal of Sol-Gel Science and Technology* **2009,** *51* (1), 23-31.

23. Heitfeld, K. A.; Schaefer, D. W., Structure-Property Relationships in Flavor-Barrier Membranes with Reduced High-Temperature Diffusivity. *Soft Matter* **2009,** *5*, 156-163.

24. Zhao, J.; Schaefer, D. W., Morphology of PEG-Stabilized Carbon Nanofibers in Water. *Journal of Physical Chemistry B* **2008,** *112* (39), 15306-15310.

25. Wang, P.; Schaefer, D. W., Why does Silane Enhance the Protective Properties of Epoxy Films? *Langmuir* **2008,** *24* (23), 13496-13501.

26. Schaefer, D. W.; Zhao, J.; Dowty, H.; Alexander, M.; Orler, E. B., Carbon nanofibre reinforcement of soft materials. *Soft Matter* **2008,** *4* (10), 2071.

27. Heitfeld, K. A.; Guo, T.; Yang, G.; Schaefer, D. W., Temperature responsive hydroxypropyl cellulose for encapsulation. *Mat Sci Eng C-Bio S* **2008,** *28* (3), 374-379.

28. Chen, C.; Justice, R. S.; Schaefer, D. W.; Baur, J. W., Highly dispersed nanosilica-epoxy resins with enhanced mechanical properties *Polymer* **2008,** *49* (17), 3805-3815.

29. Arlen, M. J.; Wang, D.; Jacobs, J. D.; Justice, R.; Trionfi, A.; Hsu, J. W. P.; Schaefer, D.; Tan, L.-S.; Vaia, R. A., Thermal-Electrical Character of in Situ Synthesized Polyimide-Grafted Carbon Nanofiber Composites. *Macromolecules* **2008,** *41* (21), 8053-8062.

30. Wang, Y.; Watkins, E.; Ilavsky, J.; Metroke, T. L.; Wang, P.; Lee, B.; Schaefer, D. W., Water-Barrier Properties of Mixed Bis-[trimethoxysilypropyl]amine and Vinyl Triacetoxysilane Films *Journal of Physical Chemistry, B* **2007,** *111*, 7041-7051.

31. Schaefer, D. W.; Justice, R. S., How nano are nanocomposites? In *Macromolecules*, 2007; Vol. 40, pp 8501-8517.

32. Pan, G.; Watkins, E.; Majewski, J.; Schaefer, D. W., Effect of Thickness on the Water-Barrier Properties of Silane Films. *Journal of Physical Chemistry C* **2007,** *111*, 15325-15330.

33. Kohls, D. J.; Schaefer, D. W.; Kosso, R.; Tsyganova, I., Mechanical Properties of rubbers reinforced with porcelainite-derived precipitated silica. *Rubber World* **2007,** *236* (1), 19-29.

34. Justice, R. S.; Wang, D. H.; Tan, L. S.; Schaefer, D. W., Simplified tube form factor for analysis of small-angle scattering data from carbon nanotube filled systems. *Journal of Applied Crystallography* **2007,** *40*, S88-S92.

35. Schaefer, D. W.; Pan, G.; van Ooij, W. J., Anticorrosion Coatings: Can They Be Made Without Chromium? *Los Alamos Science* **2006,** *30*, 172-177.

36. Pan, G.; Schaefer, D. W.; van Ooij, W. J.; Kent, M. S.; Majewski, J.; Yim, H., Morphology and Water Resistance of Mixed Silane Films of Bis[3-(triethoxysilyl) propyl]tetrasulfide and Bis-[trimethoxysilylpropyl]amine. *Thin Solid Films* **2006,** *515*, 2771-2780.

37. Pan, G.; Schaefer, D. W.; Ilavsky, J., Morphology and Water Barrier Properties of Organosilane Films: The Effect of Curing Temperature *Journal of Colloid and Interface Science* **2006,** *302* (1), 287-293.

38. Pan, G.; Schaefer, D. W., Morphology and Water-Barrier Properties of Silane Films on Aluminum and Silicon. *Thin Solid Films* **2006,** *503*, 259-267.

39. Hurd, A. J.; Schaefer, D. W., Introduction to Materials and Bioscience Neutron-Scattering Research. *Los Alamos Science* **2006,** *30*, 146-151.

40. Zhao, L.; Clapsaddle, B. J.; Joe H. Satcher, J.; Schaefer, D. W.; Shea, K. J., Integrated Chemical Systems: The Simultaneous Formation of Hybrid Nanocomposites of Iron Oxide and Organo Silsesquioxanes. *Chem. Mat.* **2005,** *17*, 1358-1366.

41. Zhao, J.; Schaefer, D. W.; Shi, D.; Lian, J.; Brown, J.; Beaucage, G.; Wang, L.; Ewing, R. C., How Does Surface Modification Aid in the Dispersion of Carbon Nanofibers? *Journal of Physical Chemistry, B* **2005,** *109*, 23351-23357.

42. Zhao, C.; Hu, G.; Justice, R.; Schaefer, D. W.; Zhang, S.; Yang, M.; Han, C. C., Synthesis and characterization of multi-walled carbon nanotubes reinforced polyamide 6 via in situ polymerization. *Polymer* **2005,** *46* (14), 5125–5132.

43. Vale, J. M.; Justice, R. S.; Schaefer, D. W.; Mark, J. E., Calcium Alginate Barrier Films Modified by Montmorillonite Clay. *Journal of Macromolecular Science-Physics* **2005,** *B44*, 1821-1831.

44. Schaefer, D. W.; Justice, R. S.; Koerner, H.; Vaia, R.; Zhao, C.; Yang, M.; Vale, J., Large-Scale Morphology of Dispersed Layered Silicates. In *Neutron and X-Ray Scattering Probes of Multiscale Phenomena*, Pochan, D.; Bhatia, S. R.; Khalifah, P. G.; Radaelli, R., Eds. Materials Research Society: Warrendale, PA, 2005; Vol. 840.

45. Petrovic, Z. S.; Cevallos, M. J.; Javni, I.; Schaefer, D. W.; Justice, R., Soy-Oil-Based Segmented Polyurethanes. *Journal of Polymer Science: Part B: Polymer Physics* **2005,** *43* (22), 3178-3190.

46. Justice, R. S.; Schaefer, D. W.; Vaia, R. A.; Tomlin, D. W.; Bunning, T. J., Interface morphology and phase separation in polymer-dispersed liquid crystal composites. *Polymer* **2005,** *46* (12), 4465-4473.

47. Brown, J.; Anderson, D.; Justice, R.; Lafdi, K.; Belfor, M.; Strong, K.; Schaefer, D. W., Hierarchical morphology of carbon single-walled nanotubes during sonication in an aliphatic diamine. *Polymer* **2005,** *46* (24), 10854-10865.

48. Schaefer, D. W.; Beaucage, G.; Loy, D. A.; Shea, K. J.; Lin, J. S., Structure of arylene-bridged polysilsesquioxane xerogels and aerogels. *Chem. Mat.* **2004,** *16* (8), 1402-1410.

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**UNREFEREED PROCEEDINGS**

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3. B.T. Vu, J.E. Mark and D.W. Schaefer, *Surface modification of silica fillers formed in situ for the reinforcement of polydimethylsiloxane networks.* Abstracts of Papers of the American Chemical Society, 2000. **220**, p. U356.

4. E.P. Black, T.A. Ulibarri, G. Beaucage, D.W. Schaefer, R.A. Assink, G. Zender, D.F. Bergstrom, P.A. Giwa-Agbomeirele, and G.T. Burns, *Sol-Gel Derived Silica/Siloxane Composite Materials: The Effect of Loading Level and Catalyst Activity on Silica Domain Formation.* Polymer Materials Science and Engineering, 1993. **70**, p. 382-383.

5. G. Beaucage, T.A. Ulibarri, E. Black and D.W. Schaefer, *Multiple Size Scale Structure in Silica/Siloxane Composites Studied by Small-Angle Scattering.* Polymer Materials Science and Engineering, 1993. **70**, p. 268-269.

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**REPORTS**

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4. D.W. Schaefer, *Dual-Benefit Technologies at Sandia National Laboratories*, in *Pulp and Paper Mill of the Future-An Information-Exchange, Orono, Maine*. 1993, Department of Energy.

5. D.W. Schaefer, *Engineered Porous Materials Expo '93*, in *SAND Report*. 1993, Sandia National Laboratories.

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**INVITED PRESENTATIONS, 1997 - 2011**

1. D.W. Schaefer, *Exploring the Nano World*, presented by D.W. Schaefer at NX School, Argonne National Laboratory, August 11, 2013, (Invited).

2. D.W. Schaefer, *Small Angle Scattering*, presented by D.W. Schaefer at NX School August 8, 2012, (Invited).

3. N. Hu, X. Dong, X. He and D.W. Schaefer, *Formation and Sealing of Anodic Aluminum Oxide (AAO) Films*, presented by D.W. Schaefer at 15th International Small-Angle Scattering Conference SAS2012, Sydney, AU, Nov 22, 2012, (Invited Keynote).

4. D.W. Schaefer, *Morphology of Sol-Gel Materials: From Aerogels to Paint Primers*, presented by D.W. Schaefer at MS&T ACerS Sosman Award Symposium: Sol-Gel Fundamentals and Applications, Houston, TX, Oct 17 - 21, 2010, (Invited).

5. N. Hu, K. Cross, D. Kohls, D.W. Schaefer and S. Patseava, *Restructurization of water in presence of ethanol studied by NMR, molecular dynamics and IR spectroscopy*, presented by D.W. Schaefer at Scientific Seminar Devoted to 145 Anniversary of Doctoral Dissertation by Dmitriy Mendeleev «On mixing of ethanol and water», Moscow State University, Moscow, Russia, Jan 18, 2010, 2010, (Invited).

6. D.W. Schaefer and P. Wang, *Structure of chromate-free metal protective films from neutron reflectivity*, presented by D.W. Schaefer at NACE Corrossion 2009, Atlanta, March 22-29, 2009, (Invited).

7. D.W. Schaefer, *Characterization of Nanoparticles and Nanocomposites*, presented by D.W. Schaefer at From Nanoparticles to Nanocomposites: Processing, Performance and Toxicity, Lowell Mass, June 15-18, 2009, (Invited).

8. D.W. Schaefer, *Structure of Non-Chromate Metal-Protective Films: Evidence from Neutron and X-ray Reflectivity.*, presented by D.W. Schaefer at ECE department seminar, Cincinnati, May 15, 2009, (Invited).

9. D.W. Schaefer, *Carbon Nanofiber Reinforcement of Soft Materials*, presented by D.W. Schaefer at Goodyear Tire and Rubber Company, Akron, OH, August 1, 2008, (Invited).

10. R.S. Justice, D.J. Kohls and D.W. Schaefer, *Nanocomposites: Does Morphology Matter?*, presented by D.W. Schaefer at Nanotechnology Materials Workshop, Cincinnati, OH, April 30, 2008, (Invited).

11. N. Hu, D. Wu, K. Cross, N. Borkar, R. Laughlin, and D.W. Schaefer, *Structure of Water-Alcohol Mixtures*, presented by D.W. Schaefer at OVAL Corporation, Vienna, Austria, May 15, 2008, (Invited).

12. D.W. Schaefer, Y. Wang, G. Pan and P. Wang, *Water-Barrier Properties of Anticorrosion Coatings Based on Bridged Silanes*, presented by D.W. Schaefer at 2007 Annual Meeting of the American Crystallographic Association, Salt Lake City, UT, July 21-26, 2007, (Invited).

13. D.W. Schaefer, D. Kohls and R. Justice, *Reinforcing potential of nanoscale fillers in soft and hard matrices*, presented by D.W. Schaefer at 172nd ACS Rubber Division Meeting, Cleveland, October 16-18, 2007, (Invited).

14. D.W. Schaefer, R. Justice, D. Kohls, R.A. Vaia and H. Koerner, *Impact of Large-Scale Morphology on the Reinforcement Potential of Nanocomposites*, presented by D.W. Schaefer at Pacific Northwest Laboratory, Richland, WA, March 2, 2007, (Invited).

15. D.W. Schaefer and K.A. Heitfeld, *Morphological Considerations in the Design of Temperature Responsive Encapsulants*, presented by D.W. Schaefer at 2007 Annual Meeting of the American Crystallographic Association, Salt Lake City, UT, July 21-26 2007, (Invited).

16. D.W. Schaefer, *Nanofiber Reinforcement of Soft Materials*, presented by D.W. Schaefer at Goodyear Tire and Rubber Company, Akron, OH, August 1, 2007, (Invited).

17. D.W. Schaefer, *How Nano are Nanocomposites*, presented by D.W. Schaefer at Department of Chemistry, University of Cincinnati, Cincinnati, October 4, 2007, (Invited).

18. D.W. Schaefer, *How Nano are Nanocomposites*, presented by D.W. Schaefer at Department of Physics, New Mexico State University, Las Cruces, NM, November 1, 2007, (Invited).

19. D.W. Schaefer, *Water-Barrier Properties of Silane Films*, presented by D.W. Schaefer at Institute of Chemistry, Chinese Academy of Sciences, Beijing, China, April 24, 2007, (Invited).

20. D.W. Schaefer, *Mechanical Properties of Nanocomposites: Does Morphology Matter?*, presented by D.W. Schaefer at AFRL March 15, 2007, (Invited).

21. D.W. Schaefer, *Analysis of Flavor System Colloids by Light Scattering*, presented by D.W. Schaefer at Givaudan Flavors Corporation, Cincinnati, February 20, 2007, (Invited).

22. D.W. Schaefer, *New Materials - Endless Supply: Uniqueness and Innovation in the Production of DSI's Precipitated Silica & Precipitated Calcium Carbonate*, presented by D.W. Schaefer at 11th International Exhibition for Plastics & Rubber: PLASTO-ISPAC, Tel Aviv, Israel, January 16, 2007, (Invited).

23. D.W. Schaefer, *Impact of Large-Scale Morphology on the Reinforcement Potential of Layered Silicates*, presented by D.W. Schaefer at Goodyear Tire and Rubber Company, Akron, OH, March 7, 2007, (Invited).

24. D.W. Schaefer, *The Role of Silane Coupling Agents in Metal-Protective Films*, presented by D.W. Schaefer at Sixth International Symposium on Silanes and Other Coupling Agents, Cincinnati, OH, June 13-15 2007, (Invited).

25. D. Kohls and D.W. Schaefer, *Small-angle scattering studies on the hierarchical structure of reinforcing fillers.*, presented by D.W. Schaefer at 2007 Annual Meeting of the American Crystallographic Association, Salt Lake City, UT, July 21-26 2007, (Invited).

26. R. Justice and D.W. Schaefer, *Characterization of nanocomposite filler morphology using ultra-small angle x-ray scattering*, presented by R. Justice at Denver X-ray Conference, Colorado Springs, CO, August 2, 2007, (Invited).

27. D.W. Schaefer, *Precipitated Silica from Amorphous Porcellanite*, presented by D.W. Schaefer at Goodyear Tire and Rubber Co., Akron, OH, October 4, 2006, (Invited).

28. D.W. Schaefer, *Barrier properties of metal-protective films: what can we learn from neutron reflectivity*, presented by D.W. Schaefer at DOE Review of HFIR Center for Neutron Scattering, Oak Ridge National Laboratory, May 23 2006, (Invited).

29. D.W. Schaefer, *How Nano are Nanocomposites?*, presented by D.W. Schaefer at Dupont Wilmington, DE, Nov. 13, 2006, (Invited).

30. D.W. Schaefer, *Nanocomposites: Anarchy, Democracy or Hierarchy?*, presented by D.W. Schaefer at IPRIME, Minneapolis, May 30 - 31 2006, (Invited).

31. D.W. Schaefer, *Are Silane Films Water Barriers?*, presented by D.W. Schaefer at Sandia National Laboratories, Albuquerque, NM, May 2 2006, (Invited).

32. D.W. Schaefer, *Morphology and Microstructure of Reinforced Polymers*, presented by D.W. Schaefer at Goodyear Tire and Rubber Company, Akron, OH, April 21 2006, (Invited).

33. D.W. Schaefer, *Temperature-Responsive Hydrogels for Flavor Encapsulation*, presented by D.W. Schaefer at Materials Science and Technology 2006, Cincinnati, Oct. 16 2006, (Invited).

34. D.W. Schaefer, *Nanocomposites: Anarchy, Democracy or Hierarchy?*, presented by D.W. Schaefer at XIII International Conference on Small-angle Scattering Kyoto, Japan, July 9-13 2006, (Invited).

35. D.W. Schaefer, *Morphological Complexity in Nanomaterials*, presented by D.W. Schaefer at International Science and Technology Network, York,PA, January 10 2006, (Invited).

36. D.W. Schaefer, *Nanocomposites: Anarchy, Democracy or Hierarchy?*, presented by D.W. Schaefer at Cross-cut Review: Polymer Science at the APS, Argonne National Laboratory, January 25 2006, (Invited).

37. R. Vaia, D. Schaefer, L. Drummy, H. Koerner and P. Mirau, *Polymer Nanocomposites: What are the Necessary Morphological Cartoons?*, presented by R. Vaia at University of Cincinnati

Chemical and Materials Engineering Seminar, Cincinnati, OH, April 28 2005, (Invited).

38. C. Shivane, A. Ashirgade, Wim Van Ooij, D. Schaefer, G. Pan, and Y. Wang, *Superprimer: Chromate free coating systems for DoD applications*, presented by W. vanOoij at SERDP Program Review, Washington, DC, Dec. 3, 2005, (Invited).

39. D.W. Schaefer, G. Pan and Y. Wang, *Water Barrier Properties of Silane Films*, presented by D.W. Schaefer at Argonne National Laboratory, Argonne, IL, February 3 2005, (Invited).

40. D.W. Schaefer and G. Pan, *Water Barrier Properties of Silane Films*, presented by D.W. Schaefer at International Science and Technology Network, York,PA, December 2 2005, (Invited).

41. D.W. Schaefer, *Nanoscale Morphology of Composites and Films*, presented by D.W. Schaefer at International Science and Technology Network, York,PA, January 9-14 2005, (Invited).

42. D.W. Schaefer, *How Nano are Nanocomposites?*, presented by D.W. Schaefer at Goodyear Tire and Rubber Co, Akron, OH, October 27 2005, (Invited).

43. D.W. Schaefer, *Morphology of Precipitated Silica*, presented by D.W. Schaefer at Dimona Silica Industries, BeerSheva, Israel, Aug.29 2005, (Invited).

44. D.W. Schaefer, *Indroduction to Recripocal Space*, presented by D.W. Schaefer at Cabot Corporation, Bellirica, MA, August 22 2005, (Invited).

45. D.W. Schaefer, *Bulk Properties of Thin Films*, presented by D.W. Schaefer at Indiana University Cyclotron Faciliity, Los Alamos, NM, October 23 2005, (Invited).

46. D.W. Schaefer, *Introduction to Small-Angle Scattering*, presented by D.W. Schaefer at Army Research Laboratory, Aberdeen, MD, July 19 2005, (Invited).

47. D.W. Schaefer, *How Nano are Nanocomposites?: Evidence from Light and X-ray Scattering*, presented by D.W. Schaefer at Army Research Laboratory, Aberdeen, MD, July 19 2005, (Invited).

48. D.W. Schaefer, *How Nano are Nanocomposites?:  Evidence from USAXS*, presented by D.W. Schaefer at 2nd US-Japan Workshop on Synchrotron Radiation and Nanoscience, San Diego,CA, April 4-6 2005, (Invited).

49. D.W. Schaefer, *Bulk Properties of Thin Films*, presented by D.W. Schaefer at Los Alamos National Laboratory, Los Alamos, NM, February 8, 2005, (Invited).

50. D.W. Schaefer, *How Nano are Nanocomposites?*, presented by D.W. Schaefer at ACS Spring Meeting, San Diego, CA, March 13-17, 2005, (Invited).

51. G. Pan and D.W. Schaefer, *Are Silane Films Water Barriers?*, presented by D.W. Schaefer at Fifth International Symposium On Silanes And Other Coupling Agents, Toronto, OT, June 22-24 2005, (Invited).

52. M. Agamalian, J.M. Carpenter and D.W. Schaefer, *Ultra-Small-Angle Neutron Scattering (USANS): A New Tool for Materials Research*, presented by M.A. Agamalian at Next Generation Neutron Source Workshop, San Diego, CA, June 7-8 2005, (Invited).

53. W.J. vanOoij, D.W. Schaefer, T. Mugada and G. Pan, *Superprimer – Development Towards a Chromate-Free, VOC-Free Coating For Al Alloys That Does Not Require a Conversion Coating*, presented by W. vanOoij at NACE-Corrosion 2004, New Orleans, LA, March 28–April 1 2004, (Invited).

54. D.W. Schaefer, G. Pan, M.S. Kent and H. Yim, *Swelling & Degradation of Silane Water-Barrier Films*, presented by D.W. Schaefer at International Symposium on Polymer Physics, Dali, China, June 1-5 2004, (Invited).

55. D.W. Schaefer, *Morphology of thin films from reflectivity and grazing-incidence small-angle scattering*, presented by D.W. Schaefer at International Science and Technology Network, Chantilly VA, Dec. 12 2004, (Invited).

56. D.W. Schaefer, *Nanocompsoites: Morphology and Interfaces*, presented by D.W. Schaefer at State Key Lab in Polymer Physics and Chemistry, Changchun, China, May 21 2004, (Invited).

57. D.W. Schaefer, *Nanocompsoites: Morphology and Interfaces*, presented by D.W. Schaefer at Peiking University, Beijing, China,, May 18 2004, (Invited).

58. D.W. Schaefer, *Nanocompsoites: Morphology and Interfaces*, presented by D.W. Schaefer at Fudan University, Shanghai, China,, June 12 2004, (Invited).

59. D.W. Schaefer, *Morphology of Disordered Systems (Short Course)*, presented by D.W. Schaefer at Chinese Academy of Sciences, Beijing, China, April-May 2004 2004, (invited).

60. D.W. Schaefer, *Morphology of Thin Films from Reflectivity and Grazing-Incidence Small-Angle Scattering*, presented by D.W. Schaefer at International Science and Technology Network, Chantilly, VA, December 12 2004, (Invited).

61. D.W. Schaefer, *Morphology of Membrane Filters*, presented by D.W. Schaefer at Millipore Corporation, Bedford, MA, Dec. 9, 2004, (Invited).

62. D.W. Schaefer, *Bulk Properties of Thin Films*, presented by D.W. Schaefer at Air Products and Chemicals, Allentown, PA, Dec 3, 2004, (Invited).

63. A. Kim, K. Chokalingam, R. Justice, M. Belfor and D.W. Schaefer, *Pore Morphology of Membrane Filters*, presented by D.W. Schaefer at American Crystallographic Association, Annual Meeting, Chicago, IL, July 17-22, 2004, (Invited).

64. D.W. Schaefer, *Challenges and Opportunities in Complex Materials*, presented by D.W. Schaefer at Second LANSCE Workshop on Defense Basic and Applied Science, Los Alamos, January 12-15, 2003, (Invited).

65. D.W. Schaefer, *Multilevel Structure of Reinforcing Silica and Carbon*, presented by D.W. Schaefer at Workshop, International Consortium on Ultra Small Angle Scattering, Oak Ridge, TN, July 9-10, 2003, (Invited).

66. M.S. Kent, G. Pan, J. Majewski and D.W. Schaefer, *Swelling Of Silane Water-Barrier Films*, presented by D.W. Schaefer at Fourth International Symposium on Silanes And Other Adhesion Promoters, Orlando, FL, June 11-13, 2003, (Invited).

67. J. Zhao, K. Chokalingham, D.W. Schaefer, J.M. Brown, D.P. Anderson, D.W. Tomlin, M. Alexander, and R. Vaia, *Structure Carbon Nanotube Suspensions*, presented by D.W. Schaefer at Carbon Nanotube Workshop at Rice U, Houston,TX, Aug. 2002, 2002, (Invited).

68. D.W. Schaefer, J. Zhao, J.M. Brown, D.P. Anderson and J. Ilavsky, *Structure of Carbon Nanotubes*, presented by D.W. Schaefer at XII International Conference on Small-Angle Scattering, Venice, Italy, August 19-25, 2002, (Invited).

69. D.W. Schaefer, *Challenges And Opportunities In Complex Materials*, presented by D.W. Schaefer at P&G Miami Valley Laboratory, Cincinnati, OH, February. 14, 2002, (Invited).

70. D.W. Schaefer, *Challenges And Opportunities In Complex Materials*, presented by D.W. Schaefer at The 2002 Morley Symposium Honoring James E. Mark, Cleveland, OH, May 15, 2002, (Invited).

71. D.W. Schaefer, *Challenges And Opportunities In Complex Materials*, presented by D.W. Schaefer at New Horizons in Complex Materials, Messina, Italy, December 5-8, 2001, (Invited).

72. D.W. Schaefer, *Opportunities In Complex Materials*, presented by D.W. Schaefer at Indiana University Workshop University-Based Pulsed Neutron Scattering Facilities, Bloomington, IN, Nov. 16, 2001, (Invited).

73. D.W. Schaefer, *Designing Reinforcing Fillers:  Structure and Interfaces*, presented by D.W. Schaefer at Dept. of Macromolecular Science, Case-Western Reserve University, Cleveland, OH, Nov. 2, 2001, (Invited).

74. D.W. Schaefer, *Between A Rock And A Soft Place: Interfaces In Organic/Inorganic Hybrid Materials.*, presented by D.W. Schaefer at Ceramics Department, University of Illinois, Urbana, IL, October 11, 2001, (Invited).

75. D.W. Schaefer, *Polymer Reinforcement*, presented by D.W. Schaefer at Air Force Research Laboratory, WPAFB, Sept. 28, 2001, (Invited).

76. D.W. Schaefer, *Chemical Routes To Composite Materials: Silica-Silane Elastomers*, presented by D.W. Schaefer at Bridgestone-Firestone, Akron, OH, September 24, 2001, (Invited).

77. D.W. Schaefer, *Interfaces In Nanophase Materials*, presented by D.W. Schaefer at International Paper, Cincinnati, OH, Jan. 18, 2001, (Invited).

78. D.W. Schaefer, *Structure Optimization In Colloidal Reinforcing Fillers : Precipitated Silica*, presented by D.W. Schaefer at 60th ACS Rubber Division Technical Meeting, Cleveland, OH, Oct. 16-18, 2001, (Invited).

79. D.W. Schaefer, *Designing Nanostructured Colloids for Polymer Reinforcement*, presented by D.W. Schaefer at Air Force Research Laboratory, WPAFB, OH, Jan. 4, 2001, (Invited).

80. D.W. Schaefer, *Designing Reinforcing Fillers for Elastomers*, presented by D.W. Schaefer at 158th ACS Rubber Division Technical Meeting, Cincinnati, OH, Oct. 17-20, 2000, (Invited).

81. D.W. Schaefer, *Designing Reinforcing Fillers for Elastomers*, presented by D.W. Schaefer at Chemical Engineering, University of Maryland, College Park, MD, March 14, 2000, (Invited).

82. D.W. Schaefer, *Designing Reinforcing Fillers for Elastomers*, presented by D.W. Schaefer at Department of Physics, Texas A&M University, College Station, TX, April 19, 2000, (Invited).

83. D.W. Schaefer, *Morphological Issues In Rubber Reinforcement,*, presented by D.W. Schaefer at Goodyear Tire and Rubber Co, Akron, OH, Nov. 22, 1999, (Invited).

84. D.W. Schaefer, *Polymer Research Center, Past and Future*, presented by D.W. Schaefer at James E. Mark Symposium on Emerging Opportunities on Polymer Technologies, Cincinnati, OH, Oct. 14, 1999, (Invited).

85. D.W. Schaefer, *Structure Of Precipitated Silica, Workshop on Small-Angle Scattering*, presented by D.W. Schaefer at Workshop on Small-Angle Scattering, PPG Industries, Monroeville, PA, September 17, 1999, (Invited).

86. D.W. Schaefer, *Morphological Issues In Polymer Reinforcement,*, presented by D.W. Schaefer at Cabot Corporation, Billerica, MA, April 15, 1998, (Invited).

87. D.W. Schaefer, *Designing Colloidal Fillers*, presented by D.W. Schaefer at PPG Industries, Monroeville, PA, Oct. 13, 1998, (Invited).

88. D.W. Schaefer, *Complexity*, presented by D.W. Schaefer at Pacific Northwest Laboratory, Richland, WA, June 9, 1998, (Invited).

89. D.W. Schaefer, *Motivating Discovery in the 21st Century*, presented by D.W. Schaefer at University of West Virginia, Morgantown, WV, May 7, 1998, (Invited).

90. D.W. Schaefer, *Hybrid Materials*, presented by D.W. Schaefer at PPG Industries, Monroeville, PA, March 19, 1998, (Invited).

91. D.W. Schaefer, *Herman Schneider and the Moravians*, presented by D.W. Schaefer at Tau Beta Pi, Cincinnati, OH, Dec. 12, 1997, (Invited).

92. D.W. Schaefer, *The End Of The Modern Era*, presented by D.W. Schaefer at Annual Meeting of National Association of Engineering Student Councils, Cincinnati, Oct. 31, 1997, (Invited).

93. D.W. Schaefer, *What’s In An Oath?*, presented by D.W. Schaefer at Society of Professional Engineers, Cincinnati, Oct. 10, 1997, (Invited).

94. D.W. Schaefer, *Technology Has Consequences--Ideas Have Consequences*, presented by D.W. Schaefer at Scientists and Engineers Serving Cincinnati, Cincinnati, May 22, 1997, (Invited).

95. D.W. Schaefer, *Technology Has Consequences--Ideas Have Consequences*, presented by D.W. Schaefer at Consulting Engineer’s Association, Cincinnati, May 5, 1997, (Invited).

96. D.W. Schaefer, *Chemical Routes To Composite Materials*, presented by D.W. Schaefer at Department of Materials Science and Engineering, Cincinnati, IL, May 2, 1997, (Invited).

97. D.W. Schaefer, *So Many Jobs, So Few Engineers*, presented by D.W. Schaefer at American Society of Civil Engineers, Cincinnati Chapter, Cincinnati, April 4, 1996, (Invited).

98. D.W. Schaefer, *Millennial Megatrends*, presented by D.W. Schaefer at World Environmental Congress-World ‘96, Cincinnati, OH, October 28, 1996, (Invited).

99. D.W. Schaefer, *Millennial Megatrends In Engineering*, presented by D.W. Schaefer at University of Cincinnati, Cincinnati, Aug. 17, 1996, (Invited).

**CONTRIBUTED PRESENTATIONS 1997-2013**

1. P. Wang, D.W. Schaefer, X. Dong, J. Carey, D. Hickmott, J. Baldwin, J. Majewski, and J.F. Browning, *The Nature of Passive Films on Stainless Steel*, presented by P. Wang at American Conference on Neutron Scattering 2012, Washington DC June 18 - 24 2012, (Contributed).

2. S. St. John, N. Hu, D.W. Schaefer and A. Angelopoulos, *Small and Wide-Angle X-Ray Scattering for in Situ Monitoring of Particle Size Evolution During Platinum Nanoparticle Synthesis*, presented by A. Angelopoulos at AIChE 2012 Annual Meeting, Philadelphia, OCT 30, 2012, 2012, (Contributed).

3. S. Argekar, Y. Zhang, G. Kumar and D.W. Schaefer, *Understanding the tissue-release behavior of thermally responsive end-grafted nanolayers*, presented by S. Argekar at Polymer Initiative of Northeast Ohio (PiNO) conference, Case Western Reserve University, Jun 8, 2012, (Contributed).

4. S. Argekar, Y. Zhang, G. Kumar, D. Huber and D.W. Schaefer, *End-grafted thermally responsive polymers – Effect of polymer morphology on cell-release characteristics*, presented by S. Argekar at Midwest SAMPE symposium Feb. 28, 2012, (Contributed).

5. S. Argekar, Y. Zhang, G. Kumar, D. Huber and D.W. Schaefer, *End-grafted thermally responsive polymers – Effect of polymer morphology on cell-release*, presented by S. Argekar at MRS Fall Meeting, Boston, Nov. 18 - Dec. 2, 2011, (Contributed).

6. X. Dong and D.W. Schaefer, *Trivalent Chromium Process Conversion Coatings: A New Look at a New Problem*, presented by D.W. Schaefer at Materials Science & Technology 2010 Conference

Advanced Coatings and Surface Treatments for Corrosion Protection Symposium, Houston, TX, Oct. 17-21, 2010, (contributed).

7. X. Dong and D.W. Schaefer, *In Situ Evolution of Non-Chromate Inhibitor Films by Simultaneous Neutron Reflectivity and Electrochemical Methods*, presented by X. Dong at 8th Spring Meeting of the International Society of Electrochemistry Columbus, OH, May 2 - 5, 2010, (Contributed).

8. P.A. Brühwiler, M. Barbezat, A. Necola, D.J. Kohls, O. Bunk, D.W. Schaefer, and P. Pötschke, *Comparison of Quasistatic to Impact Mechanical Properties of Multiwall Carbon Nanotube/Polycarbonate Composites*, presented by Paul A. Brühwiler at Eighteenth European Conference on Fracture, ECF18, Dresden, Germany, Aug. 30 - Sept. 3, 2010, (Contributed).

9. Y. Xie, D.W. Schaefer, D.J. Kohls, I. Noda and Y.A. Akpalu, *Renewable Polymer Nanocomposites with Optimal Mechanical Properties*, presented by Y.A. Akpalu at Frontiers in Polymer Science, International Symposium Celebrating the 50th Anniversary of the Journal polymer, Mainz, Germany, June 7-9, 2009, (Contributed).

10. D.W. Schaefer and N. Hu, *Reorientation of water in the presence of ethanol*, presented by D.W. Schaefer at 11th ISSP International Symposium (ISSP-11) on Hydrogen and Water in Condensed Matter Physics, Chiba, Japan, Oct. 10 - 17, 2009, (Contributed).

11. Y.A. Akpalu, D.W. Schaefer and I. Noda, *NodaxTM Class Copolymer Nanocomposites with Optimal Mechanical Properties*, presented by Y.A. Akpalu at The 13th Annual Green Chemistry & Engineering Conference, College Park, MD, June 23-25, 2009, (Contributed).

12. Y.A. Akpalu, I. Noda and D.W. Schaefer, *Polyhydroxyalkanoate Nanocomposites with Optimal Mechanical Properties*, presented by Y. Akpalu at MRS Fall Meeting, Boston, MA, Nov. 30 - Dec. 4, 2009, (Contributed).

13. P. Wang and D.W. Schaefer, *Characterization of Epoxy-Silane Films by Combined Scattering Techniques*, presented by D.W. Schaefer at Sixth International Symposium on Silanes and Other Coupling Agents, Cincinnati, OH, June 13-15, 2007, (Contributed).

14. P. Wang, B. Hamilton and Dale W. Schaefer, *Characterization of Hydrothermal Degradation of Organosilane Neutron Reflectivity*, presented by D.W. Schaefer at Sixth International Symposium on Silanes and Other Coupling Agents, Cincinnati, OH, June 13-15 2007, (Contributed).

15. C. Chen, R.S. Justice, D.W. Schaefer and J.W. Baur, *Aerospace Epoxy Reinforced with Core-Shell Silica Particles*, presented by C. Chen at Nanomaterials for Defense, San Diego, CA, April 23-26, 2007, (Contributed).

16. Y. Wang, D. Kohls, J. Ilavsky, T. Metroke and D.W. Schaefer, *Evolution of Morphology in Aqueous Bis-Amino Silane and Vinyl Triacetoxy Silane Mixtures*, presented by Y. Wang at 80th ACS Colloid and Surface Science Symposium, Boulder, CO, June 18-21 2006, (Contributed).

17. P. Wang and D.W. Schaefer, *Characterization of Epoxy-Silane Films by Combined Scattering Techniques.*, presented by P. Wang at 2006 Annual Meeting of the American Crystallographic Association, Honolulu, Hawaii, June 22-27 2006, (Contributed).

18. D.W. Schaefer, D. Kohls, E. Feinblum and A. Vorobiev, *Synthesis and structure of a new generation precipitated silica for rubber reinforcement*, presented by D.W. Schaefer at 170th Technical Meeting of the Rubber Division of the American Chemical Society, Cincinnati, October 10-12, 2006, (Contributed).

19. D. Kohls and D.W. Schaefer, *Mechanical properties of rubbers reinforced with porcellanite-derived precipitated silica (Dimosil®)*, presented by D. Kohls at 170th Technical Meeting of the Rubber Division of the American Chemical Society, Cincinnati, October 10-12 2006, (Contributed).

20. R. Justice, J. Ilavsky and D.W. Schaefer, *Simplified models for hierarchical structures based on rods, tubes and disks*, presented by R. Justice at 2006 Annual Meeting of the American Crystallographic Association to be held, July 22 - 27, Honolulu, Hawaii, June 22-27 2006, (contributed).

21. M. Agamalian, D.W. Schaefer, J.M. Carpenter and K.C. Littrell, *Time-of-Flight Ultra-Small-Angle Neutron Scattering (TOF-USANS) Instrument for the Spallation Neutron Source (SNS)*, presented by M. Agamalian at XIII International Conference on Small-angle Scattering Kyoto, Japan, June 22-24 2006, (Contributed).

22. Y. Wang, J. Ilavsky and D.W. Schaefer, *X-ray Reflectivity Study of Mixed Bis-aminosilane-Vinyl Triacetoxysilane Coatings*, presented by Y. Wang at AIChE Annual Meeting, Cincinnati, OH, Oct. 30- Nov. 4 2005, (Contributed).

23. D.W. Schaefer, Y. Wang, G. Pan, M.S. Kent, H. Kim, and J. Majewski, *Hydrothermal Degradation of Bis-Silane Films*, presented by D.W. Schaefer at AIChE Annual Meeting, Cincinnati, OH, Oct. 30 - Nov. 3 2005, (Contributed).

24. G. Pan and D.W. Schaefer, *Morphology and Water Barrier Properties of Silane Films: The Effect of Process Parameters*, presented by G. Pan at AIChE Annual Meeting, Cincinnati, Oct 30- Nov 4 2005, (Contributed).

25. B. Maruyama, L.F. Drummy, H. Koerner, A. Tan, K.A. Heitfeld, D.W. Schaefer, Richard A. Vaia, and J.E. Spowart, *Multi-Scale Real-Space Characterization of Layered Silicate Nanocomposites*, presented by B. Maruyama at MRS Spring Meeting, San Francisco, CA, March 28- April 1 2005, (Contributed).

26. R.S. Justice, D.P. Anderson, J.M. Brown, K. Lafdi and D.W. Schaefer, *Morphological Characterization of Carbon-Nanofiber (VGCNF)-Reinforced Epoxy Nanocomposites Using Ultra-Small Angle Scattering*, presented by R.S. Justice at WBI Carbon Nanomaterials Workshop, Dayton, OH, November 13-15 2005, (Contributed).

27. R.S. Justice, D.P. Anderson, J.M. Brown, K. Lafdi and D.W. Schaefer, *Morphological characterization of carbon-nanofiber-reinforced epoxy nanocompsites using ultra-small angle scattering*, presented by R. Justice at 230th ACS National Meeting, Washington, DC, Aug. 28 - Sept. 1, 2005, (Contributed).

28. R. Justice, D.P. Anderson, J.M. Brown, M.J. Arlen, K. Lafdi, and D.W. Schaefer, *Morphological Characterization of Carbon-Nanofiber-Reinforced Epoxy Nanocomposites Using Ultra-Small Angle Scattering*, presented by R. Justice at AIChE, Cincinnati, OH, October 30-November 4 2005, (Contributed).

29. K. Heitfled and D.W. Schaefer, *Smart Membranes for Flavor Delivery*, presented by K. Heitfeld at AIChE, Cincinnati, OH, October 30- Novermber 4 2005, (Contributed).

30. K. Heitfeld and D.W. Schaefer, *Smart Membranes for Flavor Delivery*, presented by K. Heitfeld at NAMS 2005, Providence, RI, June 11-15 2005, (Contributed).

31. D.P. Anderson, J.M. Brown, R.S. Justice and D.W. Schaefer, *Hierarchical Morphology of Carbon Single-Walled Nanotubes (SWNTs) During Sonication in an Aliphatic Diamine Measured by Scattering*, presented by D.P. Anderson at WBI Carbon Nanomaterials Workshop, Dayton, OH, November 13-15 2005, (Contributed).

32. D.P. Anderson, J.M. Brown, R.S. Justice and D.W. Schaefer, *Hierarchical morphology of carbon single-walled nanotubes (SWNTs) during sonication in an aliphatic diamine measured by scattering*, presented by D.P. Anderson at 230th ACS National Meeting, Washington, DC, Aug. 28 - Sept. 1, 2005, (Contributed).

33. D.W. Schaefer, R.S. Justice, H. Koerner, R. Vaia, C. Zhao, and M. Yang *Large-Scale Morphology of Dispersed Layered Silicates*, presented by R.A. Vaia at MRS Fall Meeting, Boston, MA, November 29 2004, (Contributed).

34. R.S. Justice, T.J. Bunning, R.A. Vaia and D.W. Schaefer, *Morphological Characterization of Polymer/LC Composites Using Ultra Small Angle X-ray Scattering (USAXS)*, presented by R. Justice at MRS Fall Meeting, Boston, MA, Nov 29 - Dec 2, 2004, (Contributed).

35. K.A. Heitfeld, T. Guo and D.W. Schaefer, *Smart Membranes for Flavor Delivery*, presented by K. Heitfeld at Midwest Regional ACS Meeting, Indianapolis, IN, June 4 2004, (Contributed).

36. D.W. Schaefer, G. Beaucage, D.A. Loy and K.J. Shea, *Morphology of Arylene-Bridged Polysilsesquioxane Xerogels and Aerogels*, presented by D.W. Schaefer at 25th Organosilicon Symposium, Akron, OH, May, 2003, 2003, (Contributed).

37. J. Zhao, K. Chokalingham, D.W. Schaefer, J.M. Brown, D.P. Anderson, D.W. Tomlin, M. Alexander, and R. Vaia, *Structure of Carbon Nanotube Suspensions*, presented by D.W. Schaefer at Carbon Nanotube Workshop, Houston, TX, August, 2002, (Contributed).

38. C. Suryawanshi, D.W. Schaefer and P. Pakdel, *Effect of Drying on the Structure and Dispersion of Precipitated Silica in Organic Rubber*, presented by D.W. Schaefer at XII International Conference on Small-Angle Scattering, Venice, Italy, August 19-25, 2002, (Contributed).

39. D.W. Schaefer, J. Zhao, J. Brown, D. Anderson, M. Alexander, L. Donaldson, L. Richardson, J. Baur, and J. Ilavsky, *Hierarchical Structure Of Carbon Nanotubes And Nanofibers*, presented by D.W. Schaefer at APS User Meeting, Argonne National Laboratory, Argonne, OK, Oct. 9-11, 2001, (Contributed).

40. D.W. Schaefer, T. Guo, A. Greenberg, D. Hellman and S. Kelley, *Microstructure of Asymmetric Membranes Prepared by Various Methods*, presented by D.W. Schaefer at North American Membrane Society Annual Meeting, Lexington, KY, May 16-18, 2001, (Contributed).

41. D.W. Schaefer*, et al.*, *Multilevel Structure Of Reinforcing Carbon And Silica*, presented by D.W. Schaefer at Small Angle Scattering 99, Brookhaven, NY, May 17-20, 1999, (Contributed).

**POSTER PRESENTATIONS 1997 - 2013**

1. S. St. John, Z. Nan, N. Hu, D.W. Schaefer and A.P. Angelopoulos, *Time-Resolved, In-Situ SAXS/WAXS Analysis of Pt Nanoparticle Synthesis at the Atomic Cluster to Nanocrystal Transition* presented by A.P. Angelopoulos at APS Users Meeting May, 2012, (Poster).

2. D.W. Schaefer, N.-P. Hu, X. Dong, X. He and J.F. Browning, *Growth and Sealing of Anodic Aluminum Oxide*, presented by D.W. Schaefer at Gordon Research Conference on Aqueous Corrosion, New London, NH, July 7 -13, 2012, (Poster).

3. X. Dong, D.W. Schaefer and J.F. Browning, *Electro-Deposition and Hardening of Trivalent Chromium Process Films on Aluminum*, presented by D.W. Schaefer at Gordon Research Conference on Aqueous Corrosion, New London, NH, July 7 -13, 2012, (Poster).

4. X. Dong, J.F. Browning and D.W. Schaefer, *Electro-Deposition and Hardening of Trivalent Chromium Process Films on Aluminum*, presented by D.W. Schaefer at Gordon Conference on Electrodeposition, University of New England, July 29 - August 3, 2012, 2012, (Poster).

5. X. Dong, N. Hu and D.W. Schaefer, *Interface Structure of Passive Films on Al by X-ray and Neutron Reflectivity* presented by X. Dong at Partners in Environmental Technology Technical Symposium & Workshop, Washington, DC, Nov. 29 - Dec. 1, 2011, (Poster).

6. X. Dong and D.W. Schaefer, *Electrochemical Study of Ce(III) Inhibition and Zr(IV)/Cr(III) Passivation Film on AA 2024-T3*, presented by X. Dong at Gordon Conference on Aqueous Corrosion, New London, NH, July 25-30, 2010, (Poster).

7. X. Dong and D.W. Schaefer, *Recovery of TCP passivity in the presence of inhibitors*, presented by X. Dong at Partners in Environmental Technology Technical Symposium & Workshop, Washington, DC, Nov. 30 - Dec. 2, 2010, (Poster).

8. X. Dong and D.W. Schaefer, *In Situ Evolution of Non-Chromate Inhibitor Films by Simultaneous Neutron Reflectivity and Electrochemical Methods*, presented by X. Dong at The Ohio Innovation Summit OIS 10: Materials and Energy: The Building Blocks for Ohio's Economic Future Columbus, April 20-21, 2010, (Poster).

9. S. Argekar and D.W. Schaefer, *Understanding the physical basis of cell-release from environmentally responsive nanolayers*, presented by S. Argekar at MRS Workshop: Functionalized Nanobiomaterials for Medical Applications, Denver, CO, Oct. 4-7, 2010, (Poster).

10. S. Argekar and D.W. Schaefer, *Synthesis of temperature-responsive surfaces using AGET ATRP of poly (N-isopropylacrylamide)*, presented by S. Argekar at Graduate Research Conference, Cincinnati, March 5, 2010, (Poster).

11. P. Wang, X. Dong and Dale W. Schaefer, *Structure and Composition of Non-Chromate Conversion Coatings*, presented by D.W. Schaefer at Partners in Environmental Technology Symposium, Washington DC, Dec. 1 - 3, 2009, (Poster).

12. X. Dong and D.W. Schaefer, *A Neutron Reflectivity Approach to Investigating the Structure of Cr(III) Inhibition Film on Al 2024*, presented by D.W. Schaefer at Ninth LANSCE User Group Meeting, Santa Fe, Sept. 29-30, 2009, (Poster).

13. S. Argekar and D.W. Schaefer, *Exploring the impact of substrate topography on the cell release behavior of thermally responsive nanolayers*, presented by S. Argekar at Gordon Researh Conference on Science of Adhesion, New London, NH, July 26- 31, 2009, (Poster).

14. S. Argekar, D. Huber and D.W. Schaefer, *Thermally responsive nanolayers for protein and cell release*, presented by D.W. Schaefer at Ninth LANSCE User Group Meeting, Santa Fe, Sept. 29 - Aug. 30, 2009, (Poster).

15. P. Wang and D.W. Schaefer, *Epoxy-Silane Anticorrosion System*, presented by P. Wang at Aqueous Corrosion Gordon Conference, New London, NH, July 19 - 25, 2008, (Poster).

16. P. Wang and D.W. Schaefer, *Can Vanadates Replace Chromates?*, presented by P. Wang at Partners in Environmental Technology Technical Symposium & Workshop, Washington, DC, December 2-4, 2008, (Poster).

17. P. Wang and D.W. Schaefer, *How does Silane Enhance the Protective Properties of Epoxy Films?*, presented by P. Wang at Partners in Environmental Technology Technical Symposium & Workshop, Washington, DC, December 2-4, 2008, (Poster).

18. D.H. Wang, R.S. Justice, D.W. Schaefer, M.J. Dalton and L.-S. Tan, *Modification of carbon nanotubes with a model compound via Friedel-Crafts acylation in polyphosphoric acid*, presented by D.H. Wang at 235th ACS National Meeting, New Orleans, LA, April 6-10, 2008, (Poster).

19. N. Hu and D.W. Schaefer, *Hydrophobic Hydration of Ethanol-water Solutions*, presented by N. Hu at Water & Aqueous Solutions Gordon Conference, Holderness, NH, July 27 - August 1, 2008, (Poster).

20. P. Rajan, D. Kohls and D.W. Schaefer, *Structure property relationships in silica reinforced elastomers*, presented by P. Rajan at International Rubber Conference 2007, Cleveland, OH, October 16-18 2007, (Poster).

21. K. Heitfeld and D.W. Schaefer, *Smart membranes for flavor delivery*, presented by K. Heitfeld at Particles 2006, Orlando, FL, May 13-16 2006, (Poster).

22. D.W. Schaefer, J.M. Brown, D.P. Anderson, R. Justice, K. Lafdi, H. Koerner, R. Vaia, and M. Yang, *Dispersion of Carbon Nanotubes in Polymers*, presented by D.W. Schaefer at Gordon Research Conference–Polymers West, Ventura, CA, January 9-14 2005, (Poster).

**INVITED PRESENTATIONS 1972 -1996**

1. SYNTHESIS AND STRUCTURE OF ORGANIC-INORGANIC HYBRID MATERIALS, D. W. Schaefer, Tutorial Lecture, Materials Research Society Spring Meeting, San Francisco, 4/96. (invited)
2. POROSITY IN HYBRID MATERIALS, D. W. Schaefer, Greg Beaucage, Doug Loy, Ken Shea, Materials Research Society Spring Meeting San Francisco, CA, 4/96.
3. POROSITY BY DESIGN: INORGANIC, ORGANIC AND HYBRID MATERIAL PLATFORMS, D. W. Schaefer, Dupont Experimental Station, Wilmington, DE, 4/26/96. (invited)
4. POROSITY BY DESIGN, Naval Research Lab., D. W. Schaefer, Washington, DC, 4/16/96. (invited)
5. POROUS MATERIALS FROM HYBRID ORGANIC-INORGANIC PRECURSORS, D. W. Schaefer, Intersociety Symposium on Multiphase Materials, Baltimore, MD, 10/7-10/1995. (invited)
6. ROLE OF MICROPHASE SEPARATION IN THE FORMATION OF AEROGELS, D. W. Schaefer, International Symposium on Aerogels IV, Berkeley CA, 9/ 18-22/1994. (invited)
7. DESIGN AND STRUCTURE OF IN-SITU-FILLED POLYMER-CERAMIC COMPOSITES, D. W. Schaefer, Gordon Conference on Polymer Physics. 8/22-26/1994. (invited)
8. THE ROLE OF UNIVERSITIES IN INDUSTRIAL PARTNERSHIPS, D. W. Schaefer, Polymer Science Dept., University of Southern Mississippi, 10/26-28/1994. (invited)
9. STRUCTURE OF POROUS MATERIALS FROM SMALL-ANGLE SCATTERING, D. W. Schaefer, Workshop on Neutron Scattering Chalk River, Canada, 8/1994. (invited)
10. DESIGN OF NANOSTRUCTURED HYBRID MATERIALS, D. W. Schaefer, Cornell University, Cornell, NY, 4/1995. (invited)
11. INDUSTRIAL POLICY AND NATIONAL COMPETITIVENESS, D. W. Schaefer, Union Carbide Corporation, Chareston, WV,.12/12/1995. (invited)
12. THE ROLE OF MICROPHASE SEPARATION IN COMPLEX MATERIALS, D. W. Schaefer, Oklahoma State University, Nov. 11/2/1994. (invited)
13. ROLE OF MICROPHASE SEPARATION IN THE FORMATION OF AEROGELS, D. W. Schaefer, International Symposium on Aerogels IV, Berkeley CA, 9/18-22/1994. (invited)
14. DESIGN AND STRUCTURE OF IN-SITU-FILLED POLYMER-CERAMIC COMPOSITES, Gordon Conference on Polymer Physics. 8/ 22-26/1994. (invited)
15. DYNAMIC LIGHT SCATTERING STUDY OF NEMATIC AND SMECTIC A LIQUID CRYSTAL ORDERING IN SILICA AEROGEL, T. Bellini, N.A. Clark, and D.W. Schaefer, MRS 11/1994. (invited)
16. SOL-GEL DERIVED SILICA/SILOXANE COMPOSITE MATERIALS: THE EFFECT OF LOADING LEVEL AND CATALYST ACTIVITY ON SILICA DOMAIN FORMATION, E. P. Black, T. A. Ulibarri, G. Beaucage, D. W. Schaefer, R. A. Assink, G. Zender, D. F. Bergstrom, P. A. Giwa-Agbomeirele and G. T. Burns, 207th ACS National Meeting, San Diego, CA, 3/13-17/94. (invited)
17. NANOSCALE STRUCTURE OF COMPLEX MATERIALS, . W. Schaefer 207th ACS National Meeting - Symposium Honoring James E. Mark, 1994 American Chemical Society Award in Applied Polymer Science, San Diego, CA, 3/13-18/94. (invited)
18. STRUCTURE AND GROWTH OF COMBUSTION AEROSOLS, D. W. Schaefer, Raychem Corporation, Menlo Park, CA, 11/8/93. (invited)
19. DUAL-BENEFIT TECHNOLOGIES AT SANDIA NATIONAL LABORATORIES, D. W. Schaefer, Pulp and Paper Mill of the Future--An Information-Exchange, Orono, Maine, 09/08-10/1993. (invited)
20. STRUCTURE AND TOPOLOY OF GLASSES DURING DENSIFICATION, D. W. Schaefer, Int'l Conference on Relaxation in Complex Systems, Alicante, Spain, 06/28/93. (invited)
21. APPLICATIONS OF SMALL-ANGLE SCATTERING IN CERAMIC SCIENCE, NATO, D. W. Schaefer, Advanced Studies Institute, Villa Olmo, Como, Italy, 5/12/92. (invited)
22. NANOSCALE DESIGN OF MATERIALS, D. W. Schaefer, Oak Ridge National Laboratories, 03/04/93. (invited)
23. NANOSCALE MATERIALS, ARMSTRONG WORLD INDUSTRIES, D. W. Schaefer, 03/10/93. (invited)
24. FRACTAL CONCEPTS IN COMPLEX POLYMER SYSTEMS, D. W. Schaefer, Polymers Gordon Conference Ventura, Calif. 1/8/93. (invited)
25. NANOSCALE STRUCTURE OF COMPLEX POLYMERS, D. W. Schaefer, Rohm and Haas Corp., 12/15/92. (invited)
26. STRUCTURE-PROPERTY RELATIONSHIPS IN SELF-REINFORCED SILICONE ELASTOMERS, D. W. Schaefer, Networks 92, LaJolla CA, 9/4/92. (invited)
27. STRUCTURE OF COMPLEX MATERIALS, D. W. Schaefer, Naval Research Laboratory Symposium on Non Linear Dynamics and Chaos, 5/8/92. (invited)
28. MATERIALS DESIGN FOR RECYCLABILITY, D. W. Schaefer NCMS Workshop on Environmentally Conscious Materials, Ann Arbor, MI 4/14/92. (invited)
29. MATERIALS CONCEPTS FOR TIRE TECHNOLOGY, D. W. Schaefer, Goodyear Tire and Rubber Co. 3/14/92. (invited)
30. DESIGN OF COMPLEX MATERIALS, D. W. Schaefer, Dow Chemical Co., Plaquemene, LA. 2/21/92. (invited)
31. STRUCTURE OF NANOPHASE MATERIALS: POLYMERS, CERAMICS AND POROUS MATERIALS, Pacific Northwest Laboratories, 1/30/92. (invited).
32. STRUCTURE OF NANOPHASE POLYMERS, D. W. Schaefer, Southern Mississippi State University, 12/12/91. (invited)
33. STRUCTURE AND TOPOLOGY OF WEAKLY CONNECTED SOLIDS, D. W. Schaefer, 9/23/91, ETH, Zurich, Switzerland. (invited)
34. STRUCTURE AND GROWTH OF COMBUSTION AEROSOLS, D. W. Schaefer and B. J. Olivier, 9/14-21/91, European Aerosol Conference, Karlsruhe, Germany. (invited)
35. RELATIONSHIP BETWEEN SYNTHESIS AND STRUCTURE AND TOPOLOGY OF NANOPOROUS MATERIALS, D. W. Schaefer, International Symposium on Aerogels, 9/29-10/3/91, Wurzburg, Germany. (invited)
36. RIGIDITY AND CONNECTIVITY IN NETWORK GLASSES, D. W. Schaefer, 93rd Annual Meeting & Exposition of The American Ceramic Society, Inc., 4/28-5/2/91, Cincinnati, OH. (invited)
37. FRACTON DYNAMICS IN TENUOUS SOLIDS, D. W. Schaefer, Materials Research Society Fall Meeting - Symposium M on Dynamics in Small Confining Systems, 11/26-30/90, Boston, MA. (invited)
38. FRACTAL CONCEPTS IN MATERIAL SCIENCE, D. W. Schaefer, Chevron Research and Technology Company, 7/23/90, Richmond, CA. (invited)
39. STRUCTURE AND DYNAMICS OF POLYMERIC CERAMICS BY NEUTRON SCATTERING SPECTROSCOPY, D. W. Schaefer, C. S. Ashley, C. J. Brinker, and B. J.I. Olivier, BES Program Review, 6/20/90, Albuquerque, NM. (invited)
40. OPPORTUNITIES IN MACROMOLECULAR MATERIALS, D. W. Schaefer, Dow Corning, 5/23/90, Midland, MI. (invited)
41. OPPORTUNITIES IN MACROMOLECULAR MATERIALS, D. W. Schaefer, DOE Neutron Scattering Workshop, 5/14-16, 1990, Gatlinburg, TN. (invited)
42. DYNAMICS OF SiO2 RELATED NETWORKS, B. J. Olivier, D. W. Schaefer, D. Richter, B. Farago, and B. Frick, Workshop on Glass and Liquid Diffraction, 4/16-17/90, Argonne, IL. (invited)
43. STRUCTURE/PROPERTY RELATIONSHIPS IN POLYMER-BASED MOLECULAR COMPOSITES, D. W. Schaefer, 1990 American Crystallographic Association Meeting, 4/8-13/90, New Orleans, LA. (invited)
44. FRACTAL CONCEPTS IN MATERIAL SCIENCE, D. W. Schaefer, United Technologies Research Center, Hartford, CN, 3/29/90. (invited)
45. COMPARISON OF NEUTRON SCATTERING DATA FROM CAB-O-SIL, GRADES M-5 AND EH-5, AND AEROGEL, B. J. Olivier, D. W. Schaefer, B. Frick, and D. Richter, Gordon Research Conference on Dynamics of Macromolecular and Polyelectrolyte Solutions, Casa Sirena, Oxnard, CA, 2/12-16/90. (invited)
46. FRACTAL ANALYSIS OF AEROSOLS, D. W. Schaefer, Columbian Chemicals, Monroe, LA, 1/19/90. (invited)
47. POLYMERIC PRECURSORS TO INORGANIC MATERIALS, D. W. Schaefer, Seminar at the University of Massachusetts - General Electric Seminar Series, 11/30/89. (invited)
48. COMPARISON OF NEUTRON ELASTIC AND INELASTIC SCATTERING FROM FUSED QUARTZ, CAB-O-SIL, AND AEROGEL, J. H. Root, W.J.L. Buyers, J. H. Page, D. W. Schaefer, and C. J. Brinker, Materials Research Society Fall Symposium, Boston, MA, 11/27-12/1/89. (invited)
49. VIBRATIONAL EXCITATIONS OF WEAKLY CONNECTED SOLIDS, D. W. Schaefer, C. J. Brinker, and C. S. Ashley, Materials Research Society Symposium on Polymer-Based Molecular Composites, Boston, MA, 11/27-12/1/89. (invited)
50. SICICA/SILOXANE MICROCOMPOSITES, J. Mark, D. W. Schaefer, McCarthy, C.-Y. Jiang, and Y.-P. Materials Research Society Symposium on Polymer- Based Molecular Composites, Boston, MA, 11/27-12/1/89. (invited)
51. STRUCTURE-PROPERTY RELATIONSHIPS IN SILOXANE MOLECULAR COMPOSITES, D. W. Schaefer, J. E. Mark, L. Jian, C.-C. Sun, D. Ning, Materials Research Society Symposium on Polymer- Based Molecular Composites, Boston, MA, 11/27-12/1/89. (invited)
52. STRUCTURE OF MULTIPHASE SILICATES, D. W. Schaefer, LANSCE Annual Users' Group Meeting - LANL, Los Alamos, NM, 11/16-17/89. (invited)
53. FRACTAL ANALYSIS OF AEROSOLS, D. W. Schaefer, Meeting of the American Association for Aerosol Research, Reno, NV, 10/8-10/89. (invited)
54. NEUTRON SCATTERING FROM SILICA: AEROGELS, CABOSIL, AND AMORPHOUS BULK GLASS, J. H. Page, D. W. Schaefer, J. H. Root, W.J.L. Buyers, and C. J. Brinker, PHONONS '89 Conference, Heidelberg, Germany, 8/21-25/89. (invited)
55. STRUCTURE OF COMBUSTION AEROSOLS, D. W. Schaefer, American Society of Mechanical Engineers Meeting, San Diego, CA, 7/10-12/89. (invited)
56. ORIGIN OF FRACTAL ROUGHNESS IN SYNTHETIC AND NATURAL MATERIALS, D. W. Schaefer, ACS Meeting, Dallas, TX, 6/18-21/89. (invited)
57. POLYMERIC PRECURSORS TO INORGANIC MATERIALS: SILICA AEROGELS, D. W. Schaefer, National Institute of Standards & Technology, Washington, DC, 3/16/89. (invited)
58. STRUCTURE OF SILICA AEROGELS, D. W. Schaefer, University of Manitoba, Manitoba, Canada, 3/15/89. (invited)
59. STRUCTURE OF COMBUSTION AEROSOLS, D. W. Schaefer, UCLA Department of Chemical Engineering, Los Angeles, CA, 2/10/89. (invited)
60. STUDY OF SOL-GEL HYDROLYSIS REACTIONS BY SCATTERING MEASUREMENTS ON CERAMIC SPECIES PRECIPITATED INTO AN INERT POLYMER MATRIX, J. E. Mark, U. Cincinnati. and D. W. Schaefer, 4th Int'l Conference on Ultrastructure Processing of Ceramics, Glasses, and Composites, 2/19-24/89, Tucson, AZ
61. FRACTAL ASPECTS OF MATERIALS: POLYMERS, COLLOIDS, AND POROUS SOLIDS, D. W. Schaefer, University of Colorado, Boulder, CO, 12/7/88. (invited)
62. STRUCTURE OF COMBUSTION AEROSOLS, D. W. Schaefer, Cabot Corp., Billerica, MA, 12/1/88. (invited)
63. STRUCTURE OF SILICA AEROGELS, D. W. Schaefer, Chalk River Nuclear Laboratory, Chalk River, Canada, 12/1/88. (invited)
64. GROWTH AND STRUCTURE OF SILICA POLYMERS, D. W. Schaefer, Dow Corning Corp., Midland, MI, 11/11/88. (invited)
65. FRACTALS AND PHASE SEPARATION, D. W. Schaefer, B. C. Bunker (1846) and J. P. Wilcoxon (1152), Royal Society Discussion Mtg. on Fractals in the Natural Sciences, London, England, 10/19-20/88. (invited)
66. FRACTAL ANALYSIS OF PYROGENIC MATERIALS, D. W. Schaefer, 1988 AAAR Mtg., Chapel Hill, NC, 10/10-14/88. (invited)
67. WHAT FACTORS CONTROL THE STRUCTURE OF SILICA AEROGELS?, D. W. Schaefer, 2nd International Symposium on Aerogels, Montepellier, France, 9/21- 23/88. (invited)
68. INTRODUCTORY LECTURE ON AGGREGATION, D. W. Schaefer, NATO Advanced Study Institute, Random Fluctuations & Pattern Growth: Experiments & Theory, Cargese, France, 7/17-30/88. (invited)
69. ORIGIN OF FRACTAL ROUGHNESS: COLLOIDS AND POROUS MATERIALS, D. W. Schaefer, NATO Advanced Study Institute, Random Fluctuations and Pattern Growth: Experiments & Theory, Cargese, France, 7/17-30/88. (invited)
70. PRECURSOR CHEMISTRY AND THE STRUCTURE OF SILICA AEROGELS, D. W. Schaefer, Symposium H - MRS Spring Meeting, Reno, NV, 4/4-8/88. (invited)
71. STRUCTURE OF SILICA AEROGELS, D. W. Schaefer, LANSCE User's Group Mtg., Los Alamos National Laboratory, Los Alamos, NM, 3/2-3/88. (invited)
72. GROWTH AND STRUCTURE OF PYROGENIC MATERIALS, D. W. Schaefer, Center for Materials Science, Los Alamos, NM, 11/19/87. (invited)
73. POLYMER PRECURSORS FOR INORGANIC MATERIALS, D. W. Schaefer, Workshop on Neutron Scattering Studies of Polymers at LANL, Los Alamos, NM, 11/3- 5/87. (invited)
74. THE DISSOLUTION AND SINTERING OF PYROGENIC MATERIALS, D. W. Schaefer, Argonne National Laboratory, Argonne, IL, 9/23/87. (invited)
75. FRACTAL PRECURSORS OF CERAMIC MATERIALS, D. W. Schaefer, 37th Industrial Affiliates Symposium, Disordered Materials, Fractals, and Chaos, Stanford Univ., Stanford, CA, 9/21-22/87. (invited)
76. AN INTRODUCTION TO FRACTALS, WITH APPLICATIONS TO COLLOID SYNTHESIS, D. W. Schaefer, Seattle Am. Assoc. for Aerosol Research, Seattle, WA, 9/14/87. (invited)
77. GROWTH AND STRUCTURE OF DISORDERED MATERIALS, D. W. Schaefer, Idaho National Eng. Lab, Idaho Falls, Idaho, 7/24/87. (invited)
78. FRACTAL STRUCTURES IN DISORDERED MATERIALS, D. W. Schaefer, Lawrence Livermore Labs., Livermore, CA, 6/23/87. (invited)
79. STRUCTURE OF DISORDERED MATERIALS, D. W. Schaefer, Dept. of Chemistry, Univ. of Michigan, Ann Arbor, MI, 6/7/87. (invited)
80. SCATTERING FROM DISORDERED SYSTEMS, D. W. Schaefer, ORNL Users' Group Mtg., Oak Ridge, TN, 5/12-13/87. (invited)
81. STRUCTURE OF DISORDERED MATERIALS, D. W. Schaefer, Louisiana State University, 4/24/87. (invited)
82. STRUCTURE AND GROWTH OF CERAMIC PRECURSORS, D. W. Schaefer, Ohio State University in Columbus, Ohio, 4/16/87. (invited)
83. FRACTAL CLUSTERS AND SURFACES IN FUMED SILICA, A. J. Hurd, D. W. Schaefer, J. E. Martin , and W. L. Flower, American Physical Society Mtg., NY, NY, 3/16-20/87. (invited)
84. STRUCTURE OF DISORDERED MATERIALS, D. W. Schaefer (1152), Spring Mtg. of the Metallurgical Soc., Denver, CO, 2/22-27/87. (invited)
85. FRACTAL ASPECTS OF MATERIALS, D. W. Schaefer (1152), American Physical Society Winter Mtg., San Francisco, CA, 1/28-31/87. (invited plenary)
86. FRACTAL STRUCTURES IN MATERIALS SCIENCE, D. W. Schaefer (1152, Sandia Livermore, Livermore, CA, 12/10/86. (invited)
87. ORIGIN OF POROSITY IN SYNTHETIC MATERIALS, D. W. Schaefer (1152), American Geophysical Union Mtg., San Francisco, CA, 12/8-12/86. (invited)
88. STRUCTURE OF RANDOM MATERIALS, D. W. Schaefer (1152), Colloquium at Harvard Univ. Dept. of Physics, Cambridge, MA, 12/8/86. (invited)
89. APPLICATIONS OF SMALL-ANGLE SCATTERING TO POLYMER SOLUTIONS AND DISORDERED STRUCTURES, D. W. Schaefer (1152), Materials Research Society Fall Mtg., Boston, MA, 12/1-5/86. (invited)
90. STRUCTURE AND GROWTH OF CERAMIC PRECURSORS, D. W. Schaefer (1152), 1986 ACerS Division Mtg., New Orleans, LA, 11/2-5/86. (invited)
91. ORIGIN OF POROSITY IN SYNTHETIC MATERIALS, D. W. Schaefer (1152), Schlumberger Symposium on the Physics and Chemistry of Porous Media, Ridgefield, CO, 10/15-17/86. (invited)
92. FRACTAL AGGREGATION PRECURSORS OF CERAMIC MATERIALS, D. W. Schaefer (1152), Gordon Research Conference on Fractals at Colby-Sawyer College, New London, NH, 8/18-22/86. (invited)
93. GROWTH AND STRUCTURE OF DISORDERED MATERIALS, D. W. Schaefer (1152), STATPHYS 16 Mtg., Boston Univ., Boston, MA, 8/11-15/86. (invited)
94. FRACTAL ASPECTS OF MATERIALS, D. W. Schaefer (1152), Ceramic Powder Science & Technology, Boston, MA, 8/3-6/86. (invited)
95. SCATTERING STUDY OF THE STRUCTURAL CHANGES DURING THE GELATION OF A FOAM PRECURSOR, J. P. Wilcoxon and D. W. Schaefer (1152), and J. Aubert, Polymer Physics Gordon Research Conference, Proctor Academy, Andover, NH, 7/14-18/86.
96. STRUCTURE AND GROWTH OF VAPOR PHASE AGGREGATES, D. W. Schaefer, AT&T Research and Engineering Lab, Princeton, NJ, 5/12/86. (invited)
97. RANDOM GROWTH AND STRUCTURE IN MATERIALS SCIENCE, D. W. Schaefer, 6-hr. Lecture Series at Virginia Polytechnic Institute, Blacksburg, VA, 4/23- 25/86. (invited)
98. FRACTAL ASPECTS OF CERAMIC SYNTHESIS, D. W. Schaefer, 1986 Materials Research Society Symposium, Palo Alto, CA, 4/15-18/86. (invited)
99. FRACTAL CONCEPTS IN MATERIAL SCIENCE, D. W. Schaefer, Los Alamos National Laboratory, Los Alamos, NM, 4/10/86. (invited)
100. STRUCTURE OF DISORDERED MATERIALS, D. W. Schaefer, American Physical Society Meeting, Las Vegas, Nevada, 3/31-4/4/86. (invited)
101. AGGREGATION OF COLLOIDAL SILICA, J. E. Martin, and D. W. Schaefer, Second University of California Conference on Statistical Mechanics, Davis, CA, 3/26-29/86. (invited)
102. FRACTAL ASPECTS OF MATERIALS, D. W. Schaefer, Department of Physics, University of New Mexico, Albuquerque, NM, 3/12/86. (invited)
103. STRUCTURE AND GROWTH OF COLLOIDAL AGGREGATES, D. W. Schaefer, Stanford University, Department Seminar, Department of Chemical Engineering, San Jose, CA, 3/5/86. (invited)
104. DYNAMICS OF PHASE SEPARATION IN SOLUTIONS OF NONIONIC SURFACTANTS, J. P. Wilcoxon, D. W. Schaefer, Gordon Research Conference Frontiers of Science, Macromolecular and Polyelectrolyte Solutions, Santa Barbara, CA, 2/17-21/86. (invited)
105. LIGHT SCATTERING FROM GOLD COLLOIDS AND AGGREGATES, J. P. Wilcoxon, J. R. Martin, and D. W. Schaefer, Materials Research Society Mtg., Boston, MA, 12/2-7/85.
106. TUTORIAL ON FRACTALS FOR THE BEGINNER, D. W. Schaefer, Materials Research Society Mtg., Boston, MA, 12/2-4/85. (invited)
107. STRUCTURE OF DISORDERED MATERIALS, D. W. Schaefer, Boston Univ., Department of Physics, Boston, MA, 12/4/85. (invited)
108. STRUCTURE OF COLLOIDAL AGGREGATES, A. J. Hurd, D. W. Schaefer, and J. E. Martin, Materials Research Society Mtg., Boston, MA, 12/2-7/85.
109. STRUCTURE OF RANDOM POROUS MATERIALS, D. W. Schaefer, Chemistry Department, Univ. of NM, Albuquerque, NM, 9/3/85. (invited)
110. STRUCTURE OF COLLOIDAL AGGREGATES, A. J. Hurd, D. W. Schaefer, and J. E. Martin, American Crystallographic Assoc. Annual Mtg., Palo Alto, CA, 8/19-24/85.
111. STRUCTURE OF RANDOM POROUS MATERIALS, D. W. Schaefer, Kodak Research Labs., Rochester, NY, 7/29/85. (invited)
112. STRUCTURE OF RANDOM MATERIALS: POLYMERS, GELS AND POROUS SOLIDS, Gordon Research Conference, Plymouth, NH, 7/23-8/2/85. (invited)
113. ORIGIN OF FRACTAL STRUCTURES IN AMORPHOUS MATERIALS, D. W. Schaefer, Gordon Research Conference on Chemistry and Physics of Surfaces, Kimball Union Academy, 7/22-26/85. (invited)
114. STRUCTURE OF RANDOM POROUS MATERIALS, D. W. Schaefer, International Center for Theoretical Physics, Trieste, Italy, 7/8-12/85. (invited)
115. DYNAMIC LIGHT SCATTERING FROM FRACTAL COLLOIDAL AGGREGATES, D. W. Schaefer, Institut de Etudes Scientifique, Cargese, France, 6/29-7/5/85. (invited)
116. DIFFUSION-LIMITED AGGREGATION OF SILICA MICROSPHERES, A. J. Hurd and D. W. Schaefer, International Symposium on Physics of Complex and Supermolecular Fluids, Annandale, NJ, 6/17-21/85.
117. SCATTERING STUDIES OF RANDOM MATERIALS, D. W. Schaefer, Low-Q Diffractometer (LQD) Workshop, Los Alamos National Laboratory, Los Alamos, NM, 5/30-31/85. (invited)
118. FRACTAL STRUCTURES IN RANDOM MATERIALS, D. W. Schaefer, Electrochemical Society Mtg., Toronto, Canada, 5/12-17/85. (invited)
119. FRACTAL PROPERTIES AND KINETICS OF COLLOIDAL AGGREGATES, D. S. Cannell (UCSB), P. Wiltzius (AT&T), D. W. Schaefer and J. E. Martin, American Physical Society March Meeting, Baltimore, MD, 3/25-29/85. (invited)
120. COLLOID AGGREGATION IN TWO DIMENSIONS, A. J. Hurd and D. W. Schaefer, Poster Session at the Conference on Physics of Finely Divided Matter, Les Houches, France, 3/25-4/5/85. (invited)
121. STRUCTURE OF RANDOM MATERIALS, D. W. Schaefer, Conference on Physics of Finely Divided Matter, Les Houches, France, 3/25-4/5/85. (invited)
122. STRUCTURE OF SILICA AEROGELS AND MICROPOROUS FOAMS, D. W. Schaefer, K. D. Keefer, J. H. Aubert and P. B. Rand, Second International Conference on Ultrastructure Processing of Ceramics, Glasses, Compositions, St. Augustine, FL, 2/25-29/85. (invited)
123. SELF-DIFFUSION IN POLYMER SOLUTIONS, D. W. Schaefer, 1984 International Chemical Congress of Pacific Basin Societies, Honolulu, HI, 12/16-21/84. (invited)
124. STRUCTURE OF RANDOM MATERIALS: FOAMS, GELS AND COLLOIDAL AGGREGATES, D. W. Schaefer, Department of Polymer Science & Engineering, Univ. of Massachusetts, Boston, MA, 11/30/84. (invited)
125. DYNAMIC LIGHT SCATTERING FROM FRACTAL COLLOIDAL AGGREGATES, J. E. Martin and D. W. Schaefer, Materials Research Society Annual Meeting, Boston, MA, 11/25-12/1/84. (invited)
126. ORIGIN OF FRACTAL STRUCTURES IN AMORPHOUS MATERIALS, D. W. Schaefer and K. D. Keefer, Materials Research Society Annual Meeting, Boston, MA, 11/25-12/1/84. (invited)
127. COLLOID AGGREGATION IN TWO DIMENSIONS, A. J. Hurd and D. W. Schaefer, Poster, Materials Research Society Mtg., Boston, MA, 11/25-12/1/84. (invited)
128. STRUCTURE OF RANDOM POROUS MATERIALS, D. W. Schaefer, Department of Physics, Boston Univ., Boston, MA, 11/9/84. (invited)
129. FRACTAL ASPECTS OF MATERIALS, D. W. Schaefer, Sandia Seminar, Sandia National Laboratories, Livermore, CA, 7/23/84. (invited)
130. EFFECT OF ENTANGLEMENT ON POLYMER DYNAMICS, D. W. Schaefer, The Gordon Research Conference on Polymer Physics, Andover, NH, 7/16-20/84. (invited)
131. STRUCTURE AND DYNAMICS OF POLYMERS IN SOLUTION, D. W. Schaefer, Seminar, Exxon, Clinton, NJ, 4/23/84. (invited)
132. AGGREGATION OF COLLOIDAL SILICA, D. W. Schaefer, Conference on Kinetics of Aggregation and Gelation, Athens, GA, 4/16/84. (invited)
133. FRACTAL STRUCTURE OF SOLUBLE SILICATES, D. W. Schaefer, NSF CNRS Conference on Gelation, Valbonne, France, 4/16-19/84. (invited)
134. FRACTAL STRUCTURE OF MACROMOLECULES, D. W. Schaefer, Seminar, Bell Laboratories, Murray Hill, NJ, 4/24/84. (invited)
135. FRACTAL GEOMETRY OF POLYMERS AND COLLOIDAL AGGREGATES, D. W. Schaefer, Seminar, University of Missouri, Physics Department, 4/25/84. (invited)
136. FRACTAL GEOMETRY OF POLYMERS AND COLLOIDAL AGGREGATES, D. W. Schaefer, Seminar, University of New York at Stonybrook, Chemistry Department, 4/6/84. (invited)
137. STRUCTURE OF SOLUBLE SILICATES, D. W. Schaefer, Materials Research Society 1984 Mtg., Albuquerque, NM, 2/22-24/84. (invited)
138. STRUCTURE OF POLYMERIC AND COLLOIDAL SILICA, D. W. Schaefer, Workshop on Colloidal Crystals, Les Houches, France, 2/14/84. (invited)
139. STRUCTURE AND DYNAMICS OF SEMIDILUTE POLYMER SOLUTIONS, D. W. Schaefer, Gordon Conference on Dynamics of Macromolecular and Polyelectrolyte Solutions, Oxnard, CA, 1/16-20/84. (invited)
140. STRUCTURE OF POLYMERS IN SOLUTION, D. W. Schaefer, Joint Chemistry and Physics Seminar, Dartmouth College, Hanover, NH, 10/21/83. (invited)
141. SCALING CONCEPTS IN POLYMER SOLUTIONS, D. W. Schaefer, Theoretical Chemistry Seminar, Department of Chemistry, MIT, Cambridge, MA, 10/19/83. (invited)
142. SCATTERING IN POLYMER PHYSICS, Frontiers of Condensed Matter Physics, D. W. Schaefer, Los Alamos, NM, 9/16-17/83. (invited)
143. STRUCTURE OF SILICA CONDENSATION POLYMERS, American Chemical Society Mtg., Washington, DC, 8/28-9/2/83. (invited)
144. APPLICATION OF SMALL ANGLE SCATTERING TO AMORPHOUS POLYMERS AND POLYMER SOLUTIONS, American Chemical Society Mtg., Washington, DC, 8/28-9/2/83. (invited)
145. SOL-GEL TRANSITION IN SIMPLE SILICATES II, C. J. Brinker, K. D. Keefer and D. W. Schaefer, 2nd Intl. Workshop on Glasses and Glass Ceramics from Gels, Wurzburg, West Germany, 6/30-7/2/83. (invited)
146. THE SOL-GEL: MATERIALS SCIENCE FROM A PHYSICAL CHEMISTRY VIEWPOINT, Seminar, California Polytechnic, San Luis Obispo, CA, 12/3/82. (invited)
147. STRUCTURE OF SOLUBLE SILICATES NEAR THE SOL-GEL TRANSITION, Seminar, Univ. of California, Santa Barbara, CA, 11/19/82. (invited)
148. REPTATION IN POLYMER SOLUTIONS, Macromolecules Seminar, Univ. of California, Santa Barbara, CA, 11/3/82. (invited)
149. SOL TO GEL TO GLASS, C. J. Brinker, K. D. Keefer, D. W. Schaefer, and G. W. Scherer, Annual Mtg. of the Materials Research Society, Boston, MA, 11/1-4/82
150. THE STRUCTURE OF SILICA NEAR THE SOL-GEL TRANSITION, Seminar, Boston Univ., Boston, MA, 10/25/82. (invited)
151. A UNIFIED MODEL FOR THE STRUCTURE OF POLYMERS IN SOLUTION, Seminar, MIT, Cambridge, MA, 10/27/82; Bell Labs., Murray Hill, NJ, 10/29/82. (invited)
152. DYNAMICS OF POLYMERS IN MARGINAL SOLVENTS, Gordon Conference on Polymer Physics, Andover, NH, 7/19-23/82. (invited)
153. CHARACTERIZATION OF POLYMERS AND GELS BY INTERMEDIATE-ANGLE X-RAY SCATTERING, D. W. Schaefer, K. D. Keefer, and C. J. Brinker, Intl. Union of Pure and Applied Chemists MACRO '82, Amherst, MA, 7/12-16/82. (invited)
154. PROGRAM COMMITTEE REPORT, User's Group Meeting of the National Center for Small Angle Scattering, Oak Ridge, TN, 11/17/81. (invited)
155. STRUCTURE OF POLYMERS AND GELS FROM INTERMEDIATE ANGLE X-RAY SCATTERING, Seminar, Boston Univ., Boston, MA, 10/30/81. (invited)
156. SOL-GEL TRANSITION IN SIMPLE SILICATES, C. J. Brinker, K. D. Keeper, D. W. Schaefer and C. S. Ashley, Intl. Workshop - Glasses and Glass Ceramics from Gels, Universita de Padova, Padova, Italy, 10/8-9/81. (invited)
157. UPDATE ON SANDIA CORROSION STUDIES, Waste Package Research and Design Interface Meeting, Albuquerque, NM, 2/18-19/81
158. SANDIA OVERPACK CORROSION RESEARCH PROGRAM, NWTS Waste Package Design and Barrier Materials Information Exchange Meeting, Denver, CO, 11/11- 13/80(invited)
159. SMALL ANGLE X-RAY SCATTERING: POLYSTYRENE IN CYCLOPENTANE, Center for Nuclear Energy, Saclay, France, 9/23/80. (invited)
160. STRUCTURE OF POLYMERS IN SEMIDILUTE SOLUTION, D. W. Schaefer, College de France, Paris, France, 9/22/80. (invited)
161. STATIC CORRELATIONS IN SEMIDILUTE SOLUTIONS: MARGINAL SOLVENTS, D. W. Schaefer, R. W. Hendricks and J. S. Lin, U.S.-France Seminar on Small Angle X-Ray and Neutron Scattering from Polymers, National Science Foundation and Centre National de Reserche Scientific (CNRS), Strasbourg, France, 9/16/80. (invited)
162. POLYMER DYNAMICS IN SEMIDILUTE SOLUTION, D. W. Schaefer, Joint NSF-CNRS Conference on Dynamics of Polymer Solutions and Melts, Madison, WI, 6/16- 20/80. (invited)
163. CHAIN STATISTICS NEAR THE THETA POINT, D. W. Schaefer and J. G. Curro, International Symp. on the Statistical Phase Transitions in Polymers, Case Western Reserve University, Cleveland, OH, 6/11-13/80. (invited)
164. POLYMER CHAIN STATISTICS FROM DILUTE SOLUTION TO BULK, D. W. Schaefer, Seminar at Virginia Polytechnical Institute, Blacksburg, VA, 5/23/80. (invited)
165. STATISTICS OF POLYMERS IN SOLUTION, D. W. Schaefer, Seminar at National Bureau of Standards, Gaithersburg, MD, 5/22/80. (invited)
166. STUDIES OF CROSSLINKING IN SULFONATED POLYSTYRENE USING ELECTRON PARAMAGNETIC RESONANCE, L. J. Azevedo, D. W. Schaefer, G. D. Stucky and G. L. Venturini, American Physical Society March Mtg., New York, NY, 3/24-28/80. (invited)
167. SMALL-ANGLE SCATTERING FROM POLYMERS IN SOLUTION, D. W. Schaefer, Workshop on Small-Angle Scattering Methods, ORNL, Oak Ridge, TN, 12/13- 14/79. (invited)
168. POLYMER DISSOLUTION, D. W. Schaefer, Polymer Seminar Series, Massachusetts Institute of Technology, Boston, MA, 11/28/79. (invited)
169. STRUCTURE AND DYNAMICS OF POLYMERS IN SOLUTIONS, D. W. Schaefer, Seminars, UCLA, Los Angeles, CA, 4/25/79; Stanford Univ., Stanford, CA, 4/27/79; Workshop on Polymer Physics, Albuquerque, NM, 8/24/79.. (invited)
170. STATIC CORRELATIONS IN SEMIDILUTE POLYMER SOLUTIONS, D. W. Schaefer and R. W. Hendricks, Joint American and Japanese Chemical Society Mtg., Honolulu, HI, 4/2-6/79.
171. DYNAMICS OF SEMIDILUTE POLYMER SOLUTIONS, D. W. Schaefer, American Chemical Society Mtg., Miami, FL, 9/10-15/78. (invited)
172. DYNAMICS OF SEMIDILUTE POLYMER SOLUTIONS, D. W. Schaefer, Colloquium at IBM, San Jose, CA, 5/18/78. (invited)
173. DYNAMICS OF ENTANGLED POLYMERS, D. W. Schaefer, Seminar, Columbia Univ., New York, NY, 6/26/78. (invited)
174. DYNAMICS OF ENTANGLED POLYMERS, D. W. Schaefer, Gordon Conference on Polymer Physics, New Hampton, NH, 6/19-23/78. (invited)
175. ENTANGLES POLYMERS: POLYSTYRENE IN BUTANONE, D. W. Schaefer, American Chemical Society Symposium on Polymer Chemistry, Anaheim, CA, 3/12- 17/78. (invited)
176. DYNAMICS OF MACROMOLECULES AND MICROORGANISMS, D. W. Schaefer, Dept. of Physics, Univ. of NM, Albuquerque, NM, 1/27/77. (invited)
177. STRUCTURE AND DYNAMICS ON ORDERED SUSPENSIONS OF MACROMOLECULES, D. W. Schaefer, Eastman Kodak Co., Rochester, NY, 9/29/76. (invited)
178. STRUCTURE AND DYNAMICS ON ORDERED SUSPENSIONS OF MACROMOLECULES, D. W. Schaefer, General Electric Research and Development Center, Schenectady, NY, 9/28/76. (invited)
179. STRUCTURE AND DYNAMICS OF ORDERED SUSPENSIONS OF MACROMOLECULES, D. W. Schaefer, Dept. of Biophysics and Physical Biochemistry, Univ. of Pennsylvania, Philadelphia, PA, 9/27/76. (invited)
180. STRUCTURE AND DYNAMICS ON ORDERED SUSPENSIONS OF MACROMOLECULES, D. W. Schaefer, Physics Dept., Univ. of Virginia, Charlottesville, VA, 9/24/76. (invited)
181. COLLOIDAL SUSPENSIONS: MODEL SOFT CORE LIQUIDS, D. W. Schaefer, March Meeting of the American Physical Society, Atlanta, GA, 3/29-4/1/76. (invited)
182. SOFT CORE LIQUIDS, D. W. Schaefer, Columbia Univ., Dept. of Chemistry, New York, NY, 2/3/76. (invited)
183. DYNAMICS OF CHARGED MACROMOLECULES AND COLLOIDAL CRYSTALS, D. W. Schaefer, Dept. of Physics, Univ. of Colorado, Boulder, CO, 5/1/75 (invited)
184. NUMBER FLUCTUATION SPECTROSCOPY OF E. COLI BACTERIA, D. W. Schaefer, March Meeting of the American Physical Society, Denver, CO, 3/31-4/3/75. (invited)
185. LIGHT SCATTERING FROM CHARGED MACROMOLECULES, D. W. Schaefer, Seminar, Dept. of Physics, Univ. of Guelph, Guelph, Ontario, Canada, 1/14/75. (invited)
186. NUMBER FLUCTUATION SPECTROSCOPY OF MOTILE MICROORGANISMS, D. W. Schaefer and B. J. Berne, International Conference on Light Scattering, Verbier, Switzerland, 12/16-20/74. (invited)
187. LIGHT SCATTERING FROM CHARGED MACROMOLECULES, D. W. Schaefer, Dept. of Chemistry, Univ. of Colorado, Boulder, CO, 12/10/74. (invited)
188. LIGHT SCATTERING STUDIES OF MOTILE MICROORGANISMS, D. W. Schaefer, Cornell Univ., Ithaca, NY, 4/5/74. (invited)
189. BACTERIAL MOTILITY FROM SCATTERED LIGHT INTENSITY FLUCTUATIONS, D. W. Schaefer, Conference on the Spectrum of Light Scattered from Biological Molecules, Massachusetts Institute of Technology, Cambridge, MA, 4/1- 3/74. (invited)
190. DYNAMICS OF CHARGED MACROMOLECULES IN SOLUTION, D. W. Schaefer, Conference on the Spectrum of Light Scattered from Biological Molecules, Massachusetts Institute of Technology, Cambridge, MA, 4/1-3/74. (invited)
191. LIGHT SCATTERING STUDIES OF MOTILE MICROORGANISMS, D. W. Schaefer, National Institute of Health, Bethesda, MD, 3/29/74. (invited)
192. LIGHT SCATTERING STUDIES OF MOTILE MICROORGANISMS, D. W. Schaefer, Johns Hopkins Univ., Baltimore, MD, 3/28/74. (invited)
193. LIGHT SCATTERING STUDIES OF MOTILE MICROORGANISMS, D. W. Schaefer, American Physical Society, Philadelphia, PA, 3/25-28/74. (invited)
194. TEMPERATURE DEPENDENCE OF BACTERIAL MOTILITY, G. Banks, S. S. Alpert, and D. W. Schaefer, American Physical Society, Chicago, IL, 2/4-7/74. (invited)
195. APPLICATIONS OF PHOTON STATISTICS AND PHOTON CORRELATION, D. W. Schaefer, Lecture Series, The Physics of Quantum Electronics, Crystal Mountain, WA, 7/9-20/73. (invited)
196. NUMBER FLUCTUATION SPECTROSCOPY OF MOTILE-ORGANISMS, D. W. Schaefer, Biophysical Society, Columbus, OH, 3/2/73.
197. APPLICATIONS OF PHOTON COUNTING METHODS IN PHYSICS AND BIOLOGY, D. W. Schaefer, Optical Science Dept., Univ. of AZ, Tucson, AZ, 2/12-13/73. (invited)
198. LIGHT SCATTERING FROM MOTILE MICROORGANISMS, D. W. Schaefer, Univ. of NM, Dept. of Physics and Astronomy, Albuquerque, NM, 12/1/72. (invited)