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Education:

- 1978 Ph. D. Stanford University, *Synthetic Analogs of Myoglobin and Hemoglobin*.
1974 B. S. California Institute of Technology (with Honors).

Academic Research and Professional Positions:

- 2018 – 19 George Eastman Visiting Professor, University of Oxford, and Fellow of Balliol College.
2014 – *Marvin T. Schmidt* Research Professor, University of Illinois at Urbana-Champaign.
2004 – 14 *Marvin T. Schmidt* Professor of Chemistry, University of Illinois at Urbana-Champaign.
1988 – 14 Professor of Chemistry, University of Illinois at Urbana-Champaign.
1993 – 14 Professor of Materials Science and Engineering, University of Illinois at Urbana-Champaign.
2010 – 14 Professor, Beckman Institute for Advanced Science and Technology, UIUC.
1997 – 04 *William H. & Janet Lycan* Professor of Chemistry, University of Illinois at Urbana-Champaign.
1995 – 97 *Alumni Research Scholar* Professor of Chemistry, University of Illinois at Urbana-Champaign.
1989 – 92 Professor, Beckman Institute for Advanced Science and Technology, UIUC.
1986 Visiting Fellow, Balliol College and Inorganic Chemistry Laboratory, Oxford University.
1984 – 88 Associate Professor, University of Illinois at Urbana-Champaign.
1978 – 84 Assistant Professor, University of Illinois at Urbana-Champaign.
1974 – 78 Research and Teaching Assistant, Stanford University.
1974 – 75 Chemist, Lawrence Livermore Laboratory, O-Group, Physics Division; Laser Isotope Separation.
1971 – 74 Research and Teaching Assistant, California Institute of Technology.
1972 AEC Research Trainee, University of California, Berkeley.

Executive and Administrative Positions:

- 2009 Acting Director, School of Chemical Sciences, University of Illinois at Urbana-Champaign.
2008 Founding CEO, iSense Systems LLC, Champaign, IL.
2007 President, ChemSensing Inc., Champaign, IL.
2001 – 05 Board of Directors, ChemSensing Inc., Champaign, IL.
1996 – Board of Directors, European Society of Sonochemistry.
1993 – 98 Board of Directors, Ney Ultrasonics Inc., Bloomfield, CT.
1994 – 98 Scientific Advisory Board, VivoRx Inc., Santa Monica, CA.
2012 – 14 Executive Advisory Committee, UIUC Department of Chemistry; also 1994-95, 2002-04.
2012 – 14 Budget & Operations, UIUC Department of Chemistry, Inorganic Chem. Division; also 1989-92, 1996-97.
2007 – 09 Executive Committee, UIUC College of Liberal Arts and Sciences.
2007 – 10 Executive Committee, UIUC College of Engineering Materials Research Laboratory.
2006 – 08 Advisory Board of Directors, University of Illinois Office of Technology Management.
2005 – 09 Budget & Operations, UIUC Department of Chemistry, Materials Chemistry Division.
1984 – 88 Budget & Operations, UIUC Department of Chemistry, Core Laboratories.

Entrepreneurial Experiences:

- 2008 – Co-Founder; iSense Systems LLC, and its subsidiaries, Specific Diagnostics Inc. & Metabolomx Inc., Mountain View. Successor to ChemSensing; biomedical applications of the optoelectronic nose.
2001 – 07 Co-Founder; ChemSensing Inc., Champaign. Commercialization of colorimetric sensor arrays for applications to artificial olfaction and chemical sensing of toxic gases. \$12 million in funding.
1991 – 99 Founding Consultant, VivoRx Pharmaceuticals, Santa Monica. Part of the team that invented and commercialized Abraxane™, albumin microspheres with a paclitaxel core, which is the predominant delivery system for taxol chemotherapy for breast cancer. VivoRx became Abraxis Bioscience, which was acquired by Celgene for \$2.9 billion.
1987 – 90 Founding Consultant, Molecular Biosystems Inc., San Diego. Part of the team that commercialized the first echo contrast agent for medical sonography, Albunex™, which became Optison™ by GE Healthcare.

Honors and Awards:

- 2018– 19 76th George Eastman Visiting Professorship, University of Oxford, and Fellow, Balliol College.
2018 Helmholtz-Rayleigh Interdisciplinary Silver Medal, Acoustical Society of America.
2018 Chemical Pioneer Award, American Institute of Chemists.
2018 Excellence in Research Award (inaugural), European Sonochemistry Society.
2017 Schulich Visiting Professor Lectureship, Technion-Israel Institute of Technology.
2017 Crano Memorial Lectureship, Akron ACS Section.
2016 Fellow, National Academy of Inventors.
2016 Centenary Prize, Royal Society of Chemistry.
2015 Dreyfus Foundation Senior Mentor Award.
2015 Fellow, American Physical Society.
2015 Innovation Transfer Award, Economic Development Corporation.
2014 Invited Fellow, Royal Society of Chemistry.
2013 Wilsmore Fellow, University of Melbourne.
2011 – 12 Fellow, Guggenheim Memorial Foundation.
2011 – 12 Associate, Center for Advanced Study, UIUC.
2010 Fellow, American Chemical Society.
2010 3^{ème} Cycle Lectureship, Switzerland.
2009 – Fellow, Materials Research Society (limited to 0.2% of MRS membership).
2009 Acoustical Society of America Mentorship Award.
2008 Sir George Stokes Medal, Royal Society of Chemistry.
2008 Charles William Murtiashaw III Lectureship, University of South Carolina, Columbia.
2006 Harold S. Johnston Lectureship in Physical Chemistry, University of California, Berkeley.
2004 American Chemical Society Senior Cope Scholar Award.
2003 J.T. Donald Lectureship, McGill University, Montreal.
2002 – 03 Associate, Center for Advanced Study, UIUC.
2001 Wolfgang Göpel Award, International Society for Olfaction & Chemical Sensing.
2000 1st Place, Illinois Technology Center Inventorship Competition.
1997 University of Melbourne Special Public Lectureship.
1997 W. Heinlen Hall Lectureship, Bowling Green State University.
1994 American Chemical Society Nobel Laureate Signature Award for Graduate Education.
1994 Materials Research Society Medal for Exceptional Recent Achievements in Materials Research.
1992 – Fellow, American Association for the Advancement of Science.
1994 – Fellow, Acoustical Society of America.
1994 Robert A. Welch Foundation Lecturer.
1994 Senior University Scholar, University of Illinois.
1992 – 94 NSF Special Creativity Extension Award.
1993, 1985 Excellence in Teaching Award, UIUC School of Chemical Sciences.
1991 – 92 Beckman Associate, UIUC Center for Advanced Study.
1985 – 87 Alfred P. Sloan Foundation Research Fellow.
1985 – 90 NIH Research Career Development Award.
1979 – 80 DuPont Young Faculty Fellow.
1974 – 78 Silver Medal and Fellow, Royal Society for the Arts, Manufactures, and Commerce (London).
1974 – 78 Hertz Foundation Predoctoral Fellowship.
1973 American Chemical Society Undergraduate Award in Analytical Chemistry.

Publication Summary with Selected Papers: (see p. 18 for complete list of publications)

H-Index and Citations: 403 scientific papers, 4 books edited, and 49 patents and patents pending.

h-index = 114 (i.e., 114 publications each with 114 or more citations); 109 avg. citations/publication.

Total citations: >49,700. i10-index = 326 (# papers with ≥ 10 citations). Google Scholar, 10 Jul 2018.

Sonoluminescence, Cavitation, and the Origins of Sonochemistry

- Suslick, K. S.; Flint, E. B. "Sonoluminescence of Non-Aqueous Liquids" *Nature* **1987**, *330*, 553-555.
- Suslick, K. S. "Sonochemistry" *Science* **1990**, *247*, 1439-1445.
- Doktycz, S.J.; Suslick, K. S. "Inter-Particle Collisions Driven by Ultrasound" *Science* **1990**, *247*, 1067-1069.
- Flint, E. B.; Suslick, K. S. "The Temperature of Cavitation" *Science* **1991**, *253*, 1397-1399.
- McNamara III, W. B.; Didenko, Y.; Suslick, K. S. "Sonoluminescence Temperatures during Multibubble Cavitation" *Nature* **1999**, *401*, 772-775.
- Didenko, Y.; McNamara III, W. B.; Suslick, K. S. "Molecular Emission from Single Bubble Sonoluminescence" *Nature* **2000**, *407*, 877-879.
- Didenko, Y.; Suslick, K. S. "Energy Efficiency of Formation of Photons, Radicals and Ions during Single-Bubble Cavitation" *Nature* **2002**, *418*, 394-397.
- Prozorov, T.; Prozorov, R.; Suslick, K. S. "High Velocity Inter-Particle Collisions Driven by Ultrasound" *J. Am. Chem. Soc.* **2004**, *126*, 13890-13891.
- Flannigan, D. J.; Suslick, K. S. "Plasma Formation & Temperature during Single-Bubble Cavitation" *Nature* **2005**, *434*, 52-55.
- Eddingsaas, N. C.; Suslick, K. S. "Mechanoluminescence: Light from Sonication of Crystal Slurries" *Nature* **2006**, *444*, 163.
- Suslick, K. S.; Flannigan, D. J. "Sonoluminescence" *Annu. Rev. Phys. Chem.* **2008**, *59*, 659-683.
- Flannigan, D. J.; Suslick, K. S. "Inertially-Confined Plasma in an Imploding Bubble" *Nature Physics* **2010**, *6*, 598-601.
- Xu, H. X.; Glumac, N. G.; Suslick, K. S. "Temperature Inhomogeneity during Multibubble Sonoluminescence" *Angew. Chem. Intl. Ed.* **2010**, *48*, 1079-1082.
- You, S.; Chen, M.-W.; Dlott, D. D.; Suslick, K. S. "Ultrasonic hammer produces hot spots in solids" *Nature Commun.* **2015**, *6*, 6581.
- Suslick, K. S.; Eddingsaas, N. C.; Flannigan, D. J.; Hopkins, S. D.; Xu, H. "The Chemical History of a Bubble" *Accts. Chem. Res.* **2018**, *51*, in press. <https://doi.org/10.1021/acs.accounts.8b00088>

Synthetic, Organometallic, and Materials Applications of Sonochemistry

- Suslick, K. S.; Schubert, P.F.; Goodale, J. "Sonochemistry & Sonocatalysis of Iron Carbonyls" *J. Am. Chem. Soc.* **1981**, *103*, 7342-4.
- Suslick, K. S.; Choe, S.B.; Cichowlas, A.; Grinstaff, M.W. "Sonochemical Synthesis of Amorphous Iron" *Nature* **1991**, *353*, 414-6.
- Skrabalak, S. E.; Suslick, K. S. "Porous MoS₂ Synthesized by Ultrasonic Spray Pyrolysis" *J. Am. Chem. Soc.* **2005**, *127*, 9990-9991.
- Didenko, Y.T.; Suslick, K. S. "Chemical Aerosol Flow Synthesis of Semiconductor Nanoparticles" *J. Am. Chem. Soc.* **2005**, *127*, 12196-7.
- Xu, H. X.; Suslick, K. S. "Sonochemical Synthesis of Highly Fluorescent Ag Nanoclusters" *ACS Nano* **2010**, *4*, 3209-14.
- Xu, H. X.; Suslick, K. S. "Sonochemical Preparation of Functionalized Graphenes" *J. Am. Chem. Soc.* **2011**, *133*, 9148-51.
- Xu, H.; Zeiger, B. W.; Suslick, K. S. "Sonochemical synthesis of nanomaterials" *Chem. Soc. Rev.* **2013**, *42*, 2555-2567.
- Hinman, J. J.; Suslick, K. S. "Nanostructured Materials Synthesis Using Ultrasound" *Top. Curr. Chem.* **2017**, *375*, 1-36.

(continued)

Mechanochemistry and Shockwave Energy Dissipation

- Zeiger, B. W.; Suslick, K. S. "Sonofragmentation of Molecular Crystals" *J. Am. Chem. Soc.* **2011**, *133*, 14530-14533.
- Suslick, K. S. "Mechanochemistry and Sonochemistry: Concluding Remarks" *Faraday Discuss.* **2014**, *170*, 411-422.
- Su, Z.; Miao, Y.-R.; Mao, S.-M.; Zhang, G.-H.; Dillon, S.; Miller, J. T.; Suslick, K. S. "Compression-Induced Deformation of Individual MOF Micro-crystals" *J. Am. Chem. Soc.* **2015**, *137*, 1750-1753.
- Su, Z.; Shaw, W. L.; Miao, Y.-R.; You, S.; Dlott, D. D.; Suslick, K. S. "Shock Wave Chemistry in a Metal–Organic Framework" *J. Am. Chem. Soc.* **2017**, *139*, 4619–4622.
- Ren, Y.; Banishev, A. A.; Suslick, K. S.; Moore, J. S.; Dlott, D. D. "Ultrafast Proton Transfer in Polymer Blends Triggered by Shock Waves" *J. Am. Chem. Soc.* **2017**, *139*, 3974–3977.
- Miao, Y.-R.; Su, Z.; Suslick, K. S. "Energy Storage during Compression of Metal–Organic Frameworks" *J. Am. Chem. Soc.* **2017**, *139*, 4667–4670.
- Kim, H. N.; Suslick, K. S. "Sonofragmentation of Ionic Crystals" *Chem. Eur. J.* **2017**, *23*, 2778-2782.
- Miao, Y.-R.; Suslick, K. S. "Mechanochemical Reactions of MOFs" *Adv. Inorg. Chem.* **2018**, *71*, 403-434.

Protein Microspheres as Medical Imaging Contrast Agents and Theranostics

- Suslick, K. S.; Grinstaff, M. W. "Protein Microencapsulation of Nonaqueous Liquids" *J. Am. Chem. Soc.* **1990**, *112*, 7807-09.
- Grinstaff, M. W.; Suslick, K. S. "Proteinaceous Microbubbles: Synthesis of an Echo Contrast Agent" *PNAS* **1991**, *88*, 7708-7710.
- Desai, N. P.; Soon-Shiong, P.; Sandford, P. A.; Grinstaff, M. W.; Suslick, K. S.; "Methods for *In Vivo* Delivery of Substantially Water Insoluble Pharmacologically Active Agents" *U. S. Patent 5,439,686*; Aug. 8, 1995.
- Toublan, F. J.-J.; Boppart, S.; Suslick, K. S. "Tumor Targeting by Surface Modified Protein Microspheres" *J. Am. Chem. Soc.* **2006**, *128*, 3472-3473.
- Mahmoudi, M.; Lohse, S. E.; Murphy, C. J.; Fathizadeh, A.; Montazeri, A.; Suslick, K. S. "Variation of Protein Corona Composition of Gold Nanoparticles Following Plasmonic Heating." *Nano Lett.* **2014**, *14*, 6-12.
- Rankin, J. M.; Neelakantan, N. K.; Lundberg, K. E.; Grzincic, E. M.; Murphy, C. J.; Suslick, K. S. "Magnetic, Fluorescent and Copolymeric Silicone Microspheres" *Advanced Science* **2015**, *2*, 1500114-1-5.

Chemical Sensing, Sensor Arrays, Olfaction, and Molecular Recognition

- Cook, B. R.; Reinert, T. J.; Suslick, K. S. "Shape Selective Alkane Hydroxylation by Metalloporphyrin Catalysts" *J. Am. Chem. Soc.* **1986**, *108*, 7281-7286.
- Bhyrappa, P.; Vajjayanthimala, G.; Suslick, K. S. "Shape-Selective Ligation to Dendrimer-Metalloporphyrins" *J. Am. Chem. Soc.* **1999**, *121*, 262-263.
- Rakow, N. A.; Suslick, K. S. "A Colorimetric Sensor Array for Odor Visualization" *Nature* **2000**, *406*, 710-714.
- Zimmerman, S. C.; Wendland, M. S.; Rakow, N. A.; Zharov, I.; Suslick, K. S. "Synthetic Hosts by Monomolecular Imprinting Inside Dendrimers" *Nature* **2002**, *418*, 399-403.
- Wang, J.; Luthey-Schulten, Z.A.; Suslick, K. S. "Is the Olfactory Receptor a Metalloprotein?" *Proc. Natl. Acad. Sci. USA* **2003**, *100*, 3035-9.
- Suslick, K. S.; Bhyrappa, P.; Chou, J. H.; Kosal, M. E.; Nakagaki, S.; Smithenry, D. W.; Wilson, S. R. "Microporous Porphyrin Solids" *Acc. Chem. Res.* **2005**, *38*, 283-291.
- Lim, S. H.; Feng, L.; Kemling, J. W.; Musto, C. J.; Suslick, K. S. "An Optoelectronic Nose for Detection of Toxic Gases" *Nature Chemistry* **2009**, *1*, 562-567.
- Lin, H.; Suslick, K. S. "A Colorimetric Sensor Array for Triacetone Triperoxide" *J. Am. Chem. Soc.* **2010**, *132*, 15519-21.
- Feng, L.; Musto, C. J.; Kemling, J. W.; Lim, S.H.; Suslick, K. S. "A Colorimetric Sensor Array for Identification of Toxic Gases below Permissible Exposure Limits" *Chem. Commun.* **2010**, *46*, 2037-2039.
- Askim, J. R.; Mahmoudi, M.; Suslick, K. S. "Optical sensor arrays for chemical sensing: the optoelectronic nose" *Chem. Soc. Rev.* **2013**, *42*, 8649-82.
- Askim, J. R.; Suslick, K. S. "Hand-Held Reader for Colorimetric Sensor Arrays" *Anal. Chem.* **2015**, *87*, 7810–7816.
- Askim, J. R.; Li, Z.; LaGasse, M. K.; Rankin, J. M.; Suslick, K. S. "An optoelectronic nose for identification of explosives" *Chem. Sci.* **2016**, *7*, 199-206.
- Mahmoudi, M.; Lohse, S. E.; Murphy, C. J.; Suslick, K. S. "Identification of Nanoparticles with a Colorimetric Sensor Array" *ACS Sensors* **2016**, *1(1)*, 17-21.

Major Recent Research Funding:

- 2015 – 18 AFOSR, Basic Research Challenge Program; PIs: D. D. Dlott; K. S. Suslick; R. Kalia; P. Vashinshta. “Real-time dynamics of hot spots in microstructured energetic materials” \$892,786 / 3 yr.
- 2012 – 18 ONR, MURI “Shock Wave Energy Dissipation (SWED) by Mechanochemically-Active Materials” co-PIs with D. D. Dlott, K. S. Suslick, J. S. Moore, N. Sottos, T. J. Martínez, and A. Strachan, \$7,500,000 / 5 yr.
- 2017 – 18 Procter & Gamble Corp, “Colorimetric Sensor Applications”, \$157,106 / 1 yr.
- 2012 – 16 NSF-DMR; “New Synthetic Methodologies for Nanostructured Materials Using Ultrasound” \$508,903 / 4 yr.
- 2012 – 15 NSF-CHE; “An Optoelectronic Nose for Artwork Monitoring” Co-PI w/ M. Schilling, Getty Conserv. Inst., \$467,293 / 3 yr.
- 2011 – 15 DOD, ONR, Basic Research Challenge Program; co-PI with D. D. Dlott; “Spontaneous energy concentration in energetic molecules, interfaces and composites: response to ultrasound and THz radiation” \$1,200,000 / 4 yr.
- 2012 – 14 DOD, TSWG/JIEDDO; “N41756-12-R-4767 “Optoelectronic Nose for Detection of Improvised Explosives” \$1,450,000 / 2 yrs.
- 2010 – 14 NSF; “Chemical Effects of High Intensity Ultrasound: Sonoluminescence” \$521,845 / 3 yr.
- 2010 – 12 Energy Biosciences Institute; “Ultrasound for Lignocellulosic Biofuel Production” \$241,861 / 2 yr.
- 2010 – 12 NSF; “New Synthetic Methodologies for Nanostructured Materials Using Ultrasound” \$340,000 / 2 yr.
- 2007 – 12 NIH; “A VOC Dosimeter Based On A Colorimetric Sensor Array” \$2,460,000 / 5 yrs.
- 2006 – 11 DOE; UIUC Materials Res. Lab, "Nanoparticle Oxides for Photochemical Water Splitting," \$120,000 / yr.
- 2010 – 11 DOD, DARPA/Army; “Probing the Limits of Cavitation, Sonoluminescence & Mechanoluminescence” \$213,000/yr.
- 1999 – 08 NSF-CHE; “Chemical Effects of High Intensity Ultrasound” \$562,500 / 7 yrs.
- 2006 – 08 DOD, TSWG; “Colorimetric Sensor Array for Detection of Toxic Industrial Chemicals” \$535,388 / 2 yrs.
- 2004 – 07 HSARPA; "Ultra-Portable Chemical Sensors based on Chemoresponsive Dye Arrays” \$327,120 / yr.
- 2005 – 07 NSF-BES; “SENSORS: Colorimetric MicroArrays" \$168,000 / 2 yrs.
- 2000 – 05 DOD, DARPA; "Chemical Control of Single Bubble Cavitation" \$737,121 / 5 yrs.
- 2000 – 05 NIH 5R01-HL25934 “Heme Proteins, Microspheres, and Their Synthetic Analogs” \$1,365,000 / 4 yrs.
- 1990 – 06 DOE; UIUC Materials Res. Lab, "Field Responsive Materials," \$120,000 / yr.

Recent Special and Invited Lectures:

2018

Chemical Pioneer Award Lecture, American Institute of Chemists, Philadelphia.
Plenary Lecturer, European Sonochemistry Society, Besançon, France.
Invited Speaker, Gordon Research Conference on Inorganic Chemistry, Univ. New England, Maine.
Invited Speaker, Symposium on 3rd World Analytical Diagnostics, ACS Natl. Mtg., New Orleans

2017

Schulich Lecturer, Faculty of Chemistry, Technion, Haifa, Israel.
Keynote Lecturer, 5th International Symposium on Sensor Science, Barcelona.
Presenter, Board on Chemical Sci. & Tech., Natl. Academies of Sciences, Engineering, and Medicine, Airlie House, VA.
Distinguished Speaker, Student Council, Dept. of Chemistry, Northwestern University.
Akron ACS Crano Memorial Lecturer.

2016

Plenary Lecturer, International Conference on Nanostructures, Kish Island, Iran.
Plenary Lecturer, 15th European Sonochemistry Society Meeting, Istanbul.
Invited Speaker, Res. &Tech. Symp., American Institute of Conservation AIC/CAC Joint Meeting, Montreal.
Invited Speaker, Symp. on Res. at Chemistry and Art/Archeology Interface, ACS National Meeting, San Diego.
Institute Colloquium Speaker, Institute of Science & Technology Austria, Klosterneuburg (Vienna).
Centenary Prize Lecturer: University of Edinburgh; Trinity University, Dublin; Bangor University; Cambridge University.

2015

Invited Speaker, ISOEN Conference, Dijon, France.
Invited Speaker, Baekeland Award Symposium, Rutgers University, New Jersey.
Invited Speaker, Symp. on Application of Ultrasound to Nanoscience, Pacificchem 2015, Honolulu.
Invited Speaker, Symp. on Chemical Reactions by Innovative Technologies, Pacificchem 2015, Honolulu.
Invited Speaker, Frontiers in Ultra-Sensitive Detection Meeting, ECE, UIUC, 2015.

2014

Plenary Lecturer, Ultrasonics 2014, Lisbon.
Plenary Lecturer, 14th European Sonochemistry Society Meeting, Avignon.
Summary Lecturer, Faraday Discussion Symposium on Mechanochemistry, Montreal.
Invited Speaker, DoD Workshop on Colorimetric Sensors, Edgewood, MD.
Invited Speaker, Intl. Workshop on Superhydrophobicity, Bubble Stability & Heterogeneous Nucleation", Rome.
Invited Speaker, Advanced Technology for National Security Symposium, DOD MIT Lincoln Laboratory, Lexington.
Invited Speaker, Pure Chemistry Award Symposium, ACS National Meeting, Dallas.

2013

Plenary Lecturer, 1st Asia-Oceania Sonochemical Society Meeting, Melbourne.
Invited Speaker, 2013 Trace Explosives Detection Workshop, Philadelphia.
Invited Speaker, 21st Intl. Congress on Acoustics, Montreal.
Invited Speaker, Symp. on Synth. Solid State Materials: Beyond Heat & Beat, 246th ACS National Meeting, Indianapolis.
Plenary Lecturer, 19th International Conference on Advanced Oxidation Technologies, San Diego.

2012

Keynote Speaker, 8th Intl. Symposium on Cavitation, Singapore.
Plenary Lecturer, 19th International Symposium on Nonlinear Acoustics, Tokyo.
Invited Speaker, Acoustics 2012, Hong Kong.
Invited Speaker, Eurotrode IX, Barcelona.

2011

Invited Speaker and symposium organizer, Intl. Symp. on Olfaction & Electronic Noses (ISOEN-2011), NYC.
Invited Speaker, Nonlinear Acoustics Symposium, Acoustical Society of America National Meeting, Seattle.
Invited Speaker, Gordon Research Conference on Detecting Illicit Substances, Lucca, Italy.
Invited Speaker, Materials & Molecular Design & Discovery Initiative, Argonne National Laboratory.
Provost's Visiting Scholars and Artists Program, Western Michigan University.

2010

Invited Speaker, Sonochemistry Symposium, Pacificchem 2010, Honolulu.
Invited Speaker, Targeting Chem. & Biol. Warfare Agents Symposium, Pacificchem 2010, Honolulu.
3ème Cycle Lectures: Universities of Fribourg, Neuchatel, Geneva, and Bern.
Schwinger Foundation Symposium on Spontaneous Energy Focusing Phenomena, NTU, Singapore.
Invited Speaker, 2010 Association for Crystallization Technology Meeting, New Brunswick, NJ.

Plenary Lecturer, 12th Meeting of the European Sonochemistry Society, Chania, Crete.
Invited Speaker, 6th Intl. Conference on Porphyrins & Phthalocyanines, Albuquerque.

2009

Invited Speaker, Symposium on New Sensors for Environmental Monitoring, Pittsburgh Conference (PittCon), Chicago.
Invited Speaker, Workshop on New Sensor Technology, Solvay Corp., Brussels, Belgium.
Plenary Lecturer, Beijing Conference & Exhibition on Instrumental Analysis (BCEIA '09), Beijing.
Invited Speaker, Department of Chemistry, Peking University, Beijing.
Invited Speaker, Department of Chemistry, Tsinghua University, Beijing.

2008

Invited Speaker, Acoustics '08 (Acoust. Soc. Am./Euro. Acoust. Assoc.), Paris.
Keynote Lecturer, Ultrasonics Industry Association Meeting, Washington, D.C.
Murthiashaw Lecture, University of South Carolina, Columbia.
Colloquium Speaker, Department of Chemistry, University of Arkansas, Fayetteville.
Invited Speaker, Pittsburgh Conference (PittCon), New Orleans.
Awards Speaker, Royal Society of Chemistry Meeting, Dublin.
Invited Speaker, Acoustics '08 (155th ASA Mtg., 2nd Jt. ASA-EAA Joint Conf., 60th SFA Mtg.), Paris.
Invited Speaker, 12th Intl. Meeting on Chemical Sensors, Columbus.

2007

Keynote Lecturer, International Workshop on Applied Sonochemistry, Melbourne.
Plenary Lecturer, Japanese Sonochemistry Society Meeting, Kyoto.
Invited Speaker, Symposium on Sensors and Sensor Networks, 234th ACS National Meeting, Boston.
Invited Speaker, Symposium on Photocatalysis and Solar Energy Conversion, 234th ACS National Meeting, Boston.
Invited Speaker, Annual Conference of the International Association of Culinary Professionals, Chicago.
Invited Speaker, Joint US-Japan Symposium on the Chemistry of Coordination Space, Northwestern University.

2006

Invited Speaker, Pittsburgh Conference (PittCon), Orlando.
Invited Speaker, Eastern Analytical Symposium, Somerset, NJ.
Invited Speaker, Symposium on Chemistry under Extreme Conditions, 232nd ACS National Meeting, San Francisco.
Invited Speaker, Symp. on Bioinorganic and Organometallic Catalysis, 232nd ACS National Mtg., San Francisco.
Invited Speaker, MRS National Meeting, Sensor Symposium, San Francisco.
Harold S. Johnston Lectureship in Physical Chemistry, University of California, Berkeley.
Invited Speaker, 4th International Conference on Porphyrins and Phthalocyanines, Rome.
Invited Speaker, Gordon Research Conference on Tribology, Colby, ME.
Plenary Lecturer, Sociedade Brasileira de Química, 29th National Meeting, Águas de Lindóia, Brazil.
Invited Speaker, Symp. on Chemical & Biological Countermeasure Technologies, Dept of Homeland Security, Boulder.
Invited Speaker, Biennial Symposium, Combating Terrorism Technology Support Office (CTTSO), Washington, DC.

2005

Invited Speaker, Bioeffects of Ultrasound Symposium, Acoustic Soc. Amer. National Meeting, Vancouver, BC.
Invited Speaker, Symp. on Sensor Integration, Materials Research Society National Meeting, San Francisco.
Invited Speaker, Symp. on Nanotechnology for Bioanalysis and Biomedical Applications, Pacificchem 2005, Honolulu.
Invited Speaker, Symp. on Chemical Effects of Ultrasound, Pacificchem 2005, Honolulu.

2004

Plenary Lecturer, European Sonochemistry Society, Badajoz, Spain.
Plenary Lecturer, ISOME-04 (Intl. Symp. Organic Molecular Electronics), Kyoto, Japan.
Invited Speaker, Gordon Research Conference on Water and Aqueous Systems, Holderness, NH.
Award Speaker, Cope Scholar Symposium, ACS National Meeting, Philadelphia.
Invited Speaker, Delwart Foundation Symposium on Chemical Sensing, Communication, and Ecology.
Plenary Lecturer, Intl. Symposim on Molecular Sensing, National Taiwan University, Taipei, Taiwan.
Visiting Lecturer, Taiwan National Science Council.
Cherry Emerson Lecturer, Georgia Institute of Technology.
Invited Speaker, 3rd International Conference on Porphyrins and Phthalocyanines, Dijon.

2003

J.T. Donald Lecturer, McGill University, Montreal.
Invited Speaker, World Congress on Ultrasonics, Paris.
Five College Lecturer (Amherst, Mount Holyoke, Smith, Hampshire and U. Mass. Amherst).
Invited Speaker, Gordon Research Conference on Chemical Sensors.
Invited Speaker, Symposium on Sonoluminescence, Acoustic Society of America Mtg., Nashville.
Frontiers of Chemistry Lecturer, Wayne State University.

Expert Witness and Other Legal Consulting:

- 2016 – 2017** Sienna Biopharmaceuticals v. William Marsh Rice University, case IPR2017-0045/46; Irell & Manella LLP (L.A., Newport Beach). Plaintiff Expert Witness; patent infringement; biomedical nanoparticles.
- 2015** Arisdyn Systems v. Cavitation Technologies, case IPR2015-00977; Pearne & Gordon LLP (Cleveland). Plaintiff Expert Witness; patent infringement; hydrodynamic cavitators.
- 2010 – 2011** Regenersys, Inc. v. Klamath Falls et al.; CAM, Santiago, Chile; case 1077-09; King & Spalding, LLP (Atlanta & DC). Plaintiff Expert Witness; patent infringement; ultrasonic oil well extraction.
- 2004 – 2005** Crow's Nest Synfuel, L.P. vs. U.S. Internal Revenue Service. Hunton & Williams, LLP (Richmond); Plaintiff Expert Witness; IRS regulation interpretation, Sect. 29; ultrasonic coal beneficiation and synfuel production.
- 1999** Mentor v. MDA et al. U.S. District Court, case 99-1532. Quinn, Emmanuel, Urquhart & Sullivan, LLP (L.A., N.Y.); Plaintiff Expert Witness; patent infringement; ultrasonic liposuction.
- 1998 – 1999** Mentor v. MDA et al. U.S. District Court (Central District of California), case 99-1532; Federal Court Appointed (Rule 706) Expert Witness; patent infringement; ultrasonic liposuction.
- 1996 – 1997** Alcon Laboratories v. Storz Instruments Co. U.S. District Court, case 4:96-cv-00254. Finnegan, Henderson, Farabow, Garrett (DC); Defense Expert Witness; patent infringement; phacoemulsification; cataract surgery.
- 1990 – 1991** Keller v. Feinstein; Virginia State Courts. Thompson & McMullan (Richmond); Plaintiff Expert Witness; patent ownership; sonographic echo contrast imaging agents.

Industrial Consulting Positions with Confidentiality Agreements:

2017 and Ongoing

iSense LLC, Mountain View, CA.
Macrosound Technologies, San Francisco, CA.

2016 Arisdyn Systems, Cleveland, OH.
WavePharma, LLC, Austin, TX.

2015

iSense LLC, Mountain View, CA.
Kellogg Co, Battle Creek, MI.
Exxon-Mobil Research & Engineering, Clinton, NJ.
RASP Technologies, Asheville, NC.

2014

iSense LLC, Mountain View, CA
Kellogg Co, Battle Creek, MI.
Exxon-Mobil Research & Engineering, Clinton, NJ.
iP2Biz, Atlanta, GA.

2013

ORC Guideline (Teltech), Princeton; 1985 – 2013
iSense LLC, Mountain View.

2012

Exxon-Mobile Research & Engineering, Clinton, NJ.
3M, Minneapolis, MN.
Eastman Chemicals, Clinton, NJ.

2010-2011

iSense LLC, Mountain View.
RegEnersys, London.
John Deere & Co., Peoria.

2009

iSense LLC, Mountain View.
Lumigen, Beckman Coulter, Southfield, MI.

2008

iSense LLC, Mountain View.
Traditional Industries Intellectual Property Ltd., Israel.

2007

Merck Pharmaceuticals, Rahway, NJ.

2006

ChemSensing Inc., Champaign.

2005

Procter & Gamble, U.K.
ChemSensing Inc., Champaign.

2004

Colgate Palmolive.
ChemSensing Inc., Champaign.

2003

ChemSensing Inc., Champaign.
Dispersed Systems, Oceanside, CA.

2002

ChemSensing Inc., Champaign.
Dispersed Systems, Oceanside, CA.
Aramco Inc., Houston.
PDVSA, Caracas, Venezuela.

2001

ChemSensing Inc., Champaign.
PG Research Foundation.
UOP Corp. Research, Chicago.
Aramco (Saudi Arabian Oil Co.), Dharan.
Eveready Corp., Cincinnati.

2000

PG Research Foundation.
Exxon ERDL, Baton Rouge.
Vitroseal, Inc., Evanston, IL.
Sonus Pharmaceuticals, Seattle.

1999

PG Research Foundation.
VivoRx Pharmaceuticals, Santa Monica.; 1991 – 99.
Exxon ERDL, Baton Rouge.
CQ Inc., Homer City, PA.

1998

Exxon ERDL, Baton Rouge.
Abbot Pharmaceuticals, North Chicago.
MacroSonix Corp., Richmond, VA.

1976 – 1997

3M Corporate Research, Minneapolis; 1992, 1995.
AMOCO Chemicals, Naperville, Illinois; 1987-88.
BP Chemicals, London; 1991.
Catalytica Associates, Mountain View; 1978, 1991-93.
Chem Systems, Houston; 1991.
Ciba-Geigy Ltd., Basel, Switzerland; 1986.
Dean Technology, Hanover, Connecticut; 1990-92.
Digital Engineering, Thunder Bay, Canada; 1982.
Dow Chemicals, Midland and Freeport; 1989.
Dow-Elanco, Indianapolis; 1994.
duPont Chemicals Corporation, Wilmington, DE; 1990.
duPont Imaging, Glasgow; 1993.
duPont-Merck Pharmaceuticals, Bellirica, NY; 1991.
Eli Lilly Co., Indianapolis, 1987.
Exxon Corp. Res., Annandale; 1984-86, 1990-91, 1994-96.
Exxon ERDL, Baton Rouge; 1988, 1992-93.
Foster-Wheeler Corporation, Livingston, NJ; 1993.
Gas Research Institute / Alfred Univ.; 1992-93.
Harper and Row, Hugheey's *Inorg. Chem.*; 1981-82.
Hoechst-Celanese, Providence; 1990-1991.
Imperial Chemicals Industry, Runcorn, UK; 1986.
Institute for Gas Technology, Chicago; 1987-89.
Kimberly-Clark Corp., Neenah, WI; 1995.
M & T Chemicals, New Jersey; 1986-87.
Mobil Research & Development, Paulsboro, 1987.
Molecular Biosystems, Inc., San Diego; 1987-90.
National Starch and Chemical Corp., Plainfield, NJ; 1996.
Ney Ultrasonics, Bloomfield, CT, 1994-1997.
Orentreich Institute, Cold Spring, NY; 1993.
Shell Chemicals, Amsterdam; 1986.
Storz Instrument Co., St. Louis; 1997.
Sun Oil Research & Dev. Lab., Marcus Hook, NJ; 1988.
U.S. Army Construction Eng. Res. Lab; 1996-97.
Union Carbide Corporation, Bound Brook, NJ; 1990.
Vulcan Chemicals, Wichita, KS; 1988.

Other Invited Lectures and Presentations (>575 in total)

- 2018**
University of British Columbia
Simon Fraser University
ACS National Meeting, New Orleans
- 2017**
Calvin College, Grand Rapids
University of Akron
- 2016**
University of Edinburgh
Trinity University, Dublin
Bangor University, U.K.
Cambridge University
EPRI, Palo Alto
Shiraz University
- 2015**
Museum of Fine Arts, Boston
Arizona State University, Tempe
Bradley University, Peoria
DTRA CBD Conference, St. Louis
Trace Explosives Detection Conf., Pittsburg
- 2014**
Univ. of Science & Technology of China
Nanjing University
Zhejiang University, Hangzhou
Monell Chemical Senses Institute, Philadelphia
Texas Tech University, Lubbock
University of Wisconsin, Madison
- 2013**
University of California, Berkeley
Boston University
Getty Museum, Getty Conservation Institute
California Institute of Technology
Wilmore Lectures, Univ. of Melbourne
University of Sydney
Portland State University
ACS Natl. Mtg, Indianapolis
DoD TSWG End-Users' Meeting, Arlington, VA
- 2012**
Swarthmore College, Swarthmore, PA
Michigan State University, East Lansing
Exxon Corporate Research, Clinton, NJ
243rd ACS National Meeting, San Diego
- 2011**
Iowa State University (Dept. of Physics), Ames
3M R & D Center, Minneapolis
University of Western Michigan, Kalamazoo
241st ACS National Meeting, Anaheim
- 2010**
University of North Texas, Denton
University of California, Davis
University of Geneva
University of Lausanne
University of Berne
University of Fribourg
University of Neuchâtel
- 2009**
California Institute of Technology
University of California, Riverside
Acoustical Society of America Mtg., San Antonio
MRS National Meeting, San Francisco
NIH ChemSensors Steering Committee
238th ACS National Meeting, Washington, DC
- 2008**
University of Arkansas
University of Missouri, Columbia
University of Utah
12th Intl. Mtg. Chem. Sensors, Columbus
Wright-Patterson AFB (July, 2008)
Bench to Boardroom Symposium, UIUC Center
for Entrepreneurship (Oct., 2008)
235th ACS National Meeting, New Orleans
Colloquium Speaker, Dept. of Chemistry, Univ. of Utah.
Colloqu. Speaker, Dept. of Chem., U. Missouri, Columbia.
- 2007**
Dept. of Physics, Univ. New Brunswick, Fredericton, NB
Truman State University, Kirksville, MO
Bowling Green State University
234th ACS National Meeting, Boston
233rd ACS National Meeting, Chicago
Invited Speaker, DOE User Symposium,
Argonne National Laboratory.
- 2006**
Universidade Federal do Parana, Curitiba, Brazil
Abilit Corp., Osaka, Japan
Hamano Life Sciences Research Foundation, Tokyo
University of Nebraska, Lincoln
Materials Science and Engineering, UIUC
Northern Illinois University, DeKalb, IL
HSARPA Contractors Meeting, Boulder, CO
TSWG DoD Contractors Meeting, Washington DC
232nd ACS Natl. Mtg., San Francisco
Chemical Biological Incident Response Force (CBIRF)
Naval Surface Warfare Center, Indian Head, Md
231st ACS National Meeting, Atlanta
- 2005**
Invited Speaker, Bioeffects of Ultrasound Symposium,
Acoustic Soc. Amer. National Meeting, Vancouver, BC.
Invited Speaker, Symp. on Nanotechnology for Bioanalysis
and Biomedical Applications, Pacificchem 2005, Honolulu.
Invited Speaker, Symp. on Advances In Power Ultrasound,
Intl. Food Safety & Quality Conference, New Orleans
230th ACS National Meeting, Washington DC
MRS National Meeting, San Francisco
Texas A&M University
Boston College
ACS Regional Meeting, Peoria
229th ACS Natl. Meeting, San Diego
- 2004**
3rd Intl. Conf. Porphyrins & Phthalocyanines, Dijon.
Univ. of Texas Southwestern Medical Center at Dallas.
Academia Sinica, Taipei, Taiwan.
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- National Chiayi University, Taiwan.
Georgia Institute of Technology.
228th ACS Natl. Meeting, Philadelphia.
Tech Exchange Presentation, Piscataway, NJ.
Colgate Palmolive Corporate Research, NJ.
- 2003**
225th ACS Meeting, New Orleans
UIUC Dept. of Food Science and Human Nutrition
Ultrasonics Industry Association Technical Symp.
Northwestern University
Colgate Palmolive Corporate Research, NJ
DARPA
University of California, Irvine
- 2002**
Invited Lecturer, 16th Intl. Sym. Nonlinear Acoustics (ISNA-16), Moscow.
Invited Speaker, 9th Intl. Symp. on Olfaction & Electronic Noses (ISOEN-2002), Rome.
Plenary Lecturer, Catalyst Club of Chicago.
Invited Speaker, Symposium Honoring J. I. Brauman' 65th Stanford University
Invited Speaker, Symposium Honoring R. G. Bergman, University of California, Berkeley.
Invited Speaker, Chicago Technology Forum 2002
University of Notre Dame
University of Akron
University of Delaware
Pfizer Pharmaceuticals, Groton, CT
223rd ACS Natl. Mtg., Boston
3M Technology Center, Minneapolis
Abbot Pharmaceuticals, North Chicago
Colgate Corporate Research, Piscataway, NJ
Avery-Dennison, Cincinnati
Argonne National Laboratory, Argonne, IL
International Flavors and Fragrances, NY, NY
- 2001**
Plenary Lecturer, EURODEUR Conference, Paris.
Invited Speaker, 8th ISOEN, Washington, D.C.
Plenary Lecturer, 17th Intl. Congress on Acoustics, Rome.
Plenary Lecturer, World Congress on Ultrasonics/ IEEE Intl. Ultrasonics Symposium, Atlanta, GA
University of Michigan
Massachusetts Institute of Technology
Motorola Adv. Tech. Center, Schaumburg, IL
Federal Bureau of Investigation, Washington, D.C.
Colgate-Palmolive Co., Piscataway, NJ
Procter & Gamble Corp., Cincinnati, OH
University of Illinois at Urbana-Champaign, MATSE
Mayo Clinic, Biomed. Eng., Rochester, MN
221st ACS Natl. Mtg., San Diego
- 2000**
University of California, Santa Barbara
Pacifichem 2000, Honolulu
Illinois Technology Center, Savoy
220th ACS Natl. Mtg., Washington, D.C.
219th ACS Natl. Mtg., San Francisco
University of Wisconsin, Madison
DARPA Symposium on Meta-Materials
- 1999**
Pittsburgh Conference Lectureship, Duquesne University.
Invited Speaker, 82nd Canadian Soc. Chem. Conf., Toronto.
Invited Speaker, 15th Intl Symp Nonline. Acoust, Göttingen.
218th ACS Natl. Mtg., New Orleans
217th ACS Natl. Mtg., Anaheim
University of New Orleans, Adv. Matl. Res. Inst
University of Missouri, St. Louis
MURI Conference, Aberdeen Proving Grounds, MD
University of Colorado
Colorado State University
University of Wyoming
- 1998**
Invited Speaker, DARPA Sonolum Workshop, Arlington.
Invited Lecturer, 6th Mtg. European Sonochem. Soc., Rostock.
Invited Speaker, Acoustic Soc. Amer. Mtg., Seattle.
Director's Colloquium Speaker, Los Alamos Natl. Lab.
Invited Speaker, Gordon Research Conference, Chemistry and Biology of Tetrapyrroles.
Invited Speaker, Acoustic Soc. Amer. Mtg., Seattle
9th Midwest Organic Solid State Chemistry Symposium
216th ACS Natl. Mtg., Boston
Ball State University
DOE EMSP Symposium, Chicago
DOA Dendrimer MURI Symposium, Natick
- 1997**
Plenary Lecturer, COST Intl. Meeting on Chemistry Under Extreme Conditions, Santorini, Greece.
Instructor, NATO Adv. Study Institute on Sonochemistry and Sonoluminescence, Leavenworth, WA.
Plenary Lecturer, IEEE Intl. Ultrasonics Symp., Toronto.
University Special Public Lecturer, U. of Melbourne.
Invited Speaker, 8th Intl. Conf. Bioinorg. Chem, Yokohama.
Invited Speaker, 213rd ACS Natl. Mtg, Las Vegas.
Invited Speaker, Symp. on Sonoluminescence, James Franck Institute, University of Chicago.
Chemical & Life Sciences Laboratory Dedication Speaker, University of Illinois.
Invited Speaker, Science Innovation Symposium, AAAS National Meeting, Seattle.
Indiana University, Bloomington
Indiana University-Purdue University at Indianapolis
ACS Chicago Section Meeting, Plenary Lecturer
Saturday Outreach, Dept. Physics, UIUC
213th ACS Natl. Mtg., Las Vegas
University of Minnesota
Great Lakes Regional ACS Meeting, Chicago
- 1996**
3rd NSF Workshop on Materials Chem., Philadelphia.
Colloquium Lecturer, Franck Institute, U. Chicago.
Acoustical Society of America Meeting, Honolulu.
Plenary Lecturer, 5th Meeting of the European Sonochemistry Society, Cambridge.
4th Intl. Conf. Molecular Reaction Dynamics in Condensed Matter, Newport Beach.
Am. Phys. Soc. Mtg., St. Louis.
University of Northern Iowa
Lawrence Livermore Natl. Labs

Stanford University
Inorg Awards Symp., 212th ACS Natl. Mtg., S.F.
TAM, UIUC
Regional ACS Mtg., ISU
Invited Speaker, Symposium on Hybrid Materials,
211th ACS National Meeting, New Orleans.

1995

Pacifichem '95, Honolulu.
210th ACS Natl. Mtg., Chicago.
Materials Research Society Meeting, Boston.
Keynote Speaker, Ultrasonics Industry Association
Technical Meeting, Columbus.
Ultrasonics in Biophy. Bioeng. Symp., Allerton Park.
ISMAM-95, Quebec.
209th ACS Natl. Mtg., Anaheim.
University of Pennsylvania
Iowa State University, Ames
Grinnell College, Grinnell, Iowa
Kimberley-Clark Corporate Research
Central States Microscopy Soc. Meeting
Ohio State University, Columbus

1994

Naval Research Laboratory, Washington, DC
Society for Biomaterials, Boston
North Carolina State University, Raleigh
Free University of Brussels, Belgium
University of California, Berkeley
Concordia University, Montreal
University of Texas at Austin
IEEE Eng. Med. Biol. Mtg., San Diego
Stanford Colloid Symposium, Stanford
Moderator, Ultrasonics in Biophysics and
Bioengineering Symp., Allerton Park
Soc. Magn. Reson. Medicine, San Francisco
Materials Research Soc. Spring Mtg., S.F.
207th ACS National Meeting, San Diego
Dow-Elanco, Indianapolis

1993

Invited Speaker, 1st NSF Workshop on
Materials Chemistry, Albuquerque.
IEEE Ultrasonics '93 Symposium, Baltimore.
Invited Speaker, 6th ICBIC, San Diego.
Keynote Speaker, Ultrasonics Industry Association
Technical Meeting, Columbus.
Plenary Lecturer, 1st International Conference on
Mechanochemistry, Kosice, Slovakia.
Invited Speaker, 3rd Eur. Sonochem. Soc, Portugal.
Invited Speaker, NSF/EPRI Symposium on Advanced
Oxidation Technologies, San Francisco.
Michigan State University, East Lansing
Washington University, St. Louis
DOE Program Review, Washington, D.C.
IUTAM Symposium, Birmingham, U.K.
Duke University
DuPont Imaging and Medical, Glasgow
Orentreich Institute, New York
205th ACS National Meeting, Denver

1992

Invited Speaker, Gordon Res. Conf., Organomet. Chem.
Invited Speaker, Symp. on Cluster, Surfaces, & Solids,
204th ACS National Mtg., Washington, D.C.
Invited Speaker, Adv. Catal. Tech. Symp., Catalytica.
Colloquium Speaker, Center for Adv. Study, UIUC.
Invited Speaker, Symp. Reactions in Organized Media,
203rd ACS Natl. Mtg., San Francisco.
Northwestern University.
University of California, Santa Barbara
Princeton University
AAAS National Meeting, Chicago
DOE UIUC Corrosion Center Symposium
3rd Rocky Mountain Conf. Analytical Chem.
American Society of Mechanical Engineers,
Winter Natl. Meeting, Boulder

1991

Invited Speaker, Frontiers of Science Workshop on
Catalysis, Exxon Corporate Research Lab
Plenary Lecturer, 1st Meeting of the European
Sonochemistry Society, Lago Gardo, Italy.
Colloquium Speaker, Department of Chemistry,
University of Chicago
Invited Speaker, Ultrasonics Industry Association Mtg.
Invited Speaker, Symp. on Macromolecular Assemblies,
202nd ACS National Meeting, Atlanta.
Colloquium Speaker, Department of Chemistry,
University of Illinois at Urbana-Champaign.
Invited Speaker, Acoustical Soc. Am. Mtg., Baltimore.
Materials Research Society, Fall Meeting
Eastern Illinois University
Materials Research Society National Meeting
Colloquium Lecturer, Dept. Chem., UIUC
American Physical Society National Meeting
DePauw University
BP Chemicals, London
Hoechst Celanese, Providence
Stanford University
University of California, Berkeley
University of Oregon
Lexington ACS Section

1990

Materials Research Society, Boston
NCPA, U. Miss., Oxford, MS.
199th ACS National Meeting, Boston
Union Carbide, Bound Brook
University of Delaware
University of New Mexico
Central New Mexico ACS Section
University of Illinois, Biophysics
Argonne National Laboratory
Nazerene-Olivetti University, Kankakee
duPont & Co., Wilmington
Hoechst-Celanese, Corpus Christi
Carleton University, Ottawa

- 1989**
Plenary Lecturer, New York Catalysis Society, N. Y.
Academy of Sciences, New York
Pacific Basin Societies Mtg., Honolulu
Beckman Institute for Advanced Science and
Technology, University of Illinois
Invited Speaker and Convener, 4th International
Conf. on Bioinorganic Chemistry, Oxford
Plenary Lecturer, International Symposium on
Photochemistry, Ferrara, Italy
Gas Research Institute, Chicago
University of Maryland, College Park
NSF, Washington, D.C.
External Site Visit, Mat. Res. Lab., UIUC
Storz Instrument Co., St. Louis
University of Maryland
Dow Chemicals, Midland
Los Alamos National Laboratory
Sandia Laboratory, Albuquerque
Dow Chemicals, Freeport
Illinois State University
Case Western Reserve University
North Carolina State University
- 1988**
Plenary Lecturer, 5th Intl. Symp. on Inclusion &
Molecular Recognition, Orange Beach
Porphyrin Symposium, 196th ACS Natl Meeting, L.A.
Plenary Lecturer, Philadelphia Catalysis Club
Tribology Symp., 3rd Chemical Congress of
North America, Toronto
University of New Orleans
Exxon Engineering R. & D., Baton Rouge
Wichita State University
Vulcan Chemicals, Wichita
11th Intl. Symp. on the Reactivity of Solids,
Princeton, New Jersey
Beckman Institute External Review
Committee Meeting
Sun Oil R. & D., Marcus Hook, PA
AMOCO Chemicals, Naperville, IL
Purdue University
- 1987**
Plenary Lecturer, EUCHEM Symposium on Unusual
Methodologies in Organic Synth., France
Invited Speaker, NATO Workshop on Selective
Activation of C-H & C-C Bonds, France
Invited Speaker, NSF Workshop on Organometallic
Chemistry, Asilomar
Molecular Biosystems, San Diego
Mobil R. & D., Paulsboro, NJ
Rensselaer Polytechnic University
State University of New York at Albany
General Electric Corp. Research, Schenectady
194th ACS National Meeting, New Orleans
Eli Lilly Co., Indianapolis
M & T Chemicals, New Jersey
University of Paris V (Rene Descartes)
Biennial Inorganic Chem. Symp., Harvard University
3rd Intl Conf Bioinorganic Chemistry, Netherlands
- Institute for Gas Technology, Chicago
University of Pittsburgh
University of Ill., Dept. of Matl. Sciences
Johns Hopkins University
Ultrasonics in Biophysics and Bioeng. Symp., Allerton
- 1986**
Sonochemistry Symposium, Royal Society of
Chemistry Annual Congress, Warwick
Plenary Lecturer, 4th International Seminar on
Modern Synthetic Methods, Assoc. of Swiss Chemists
Symp. on New Synthetic Approaches, Oxford Univ.
Symposium on High Energy Processes in
Organometallic Chem., 192nd Natl. ACS
Carnegie-Mellon University
M & T Chemicals, New Jersey
Imperial Chemicals, Runcorn, England
University of Edinburgh
University of Stirling, Scotland
Technical University of Darmstadt
Ciba-Geigy, Basel, Switzerland
Shell Chemicals, Amsterdam
Procter & Gamble, Cincinnati
University of Southampton
University of Liverpool
Cambridge University
University of Bristol
University of Nottingham
191st ACS National Meeting, New York
University of Illinois
- 1985**
190th National ACS Meeting, Chicago
Biennial Inorganic Chemical Symp., Toronto
State-of-the-Art Symposium on Bioinorganic
Chemistry, 189th National ACS Meeting
Excited States of Porphyrins Symp., Little Rock
IEEE National Meeting, San Francisco
Exxon Corporate Research, Annandale
Ultrasonics Intl. 85 Conference, London
- 1984**
University of North Carolina, Chapel Hill
University of South Carolina, Charleston
Exxon Corporate Research, Annandale
Amoco Chemicals, Naperville
Intl. Congress of Pacific Basin Chem. Soc.
N.Y. Catalysis Society, N.Y. Acad. Sciences
23rd ICCC, Vancouver
Southeast Regional ACS Meeting
Henkel Corporation, Minneapolis
University of Minnesota, Minneapolis
Midwest Regional ACS Meeting, Kalamazoo
Chemplex Corporation, Rolling Meadows
187th ACS National Meeting, St. Louis
University of Iowa, Iowa City
Engelhard Chemicals, Summit

1983

University of Illinois at Urbana-Champaign
Northwestern University, Evanston
University of California, Riverside
University of California, Santa Barbara
University of California, Irvine
University of California, Los Angeles
University of Southern California, L. A.
California Institute of Technology, Pasadena
University of California, Davis
Lawrence Livermore National Laboratory
Stanford University, Stanford
University of California, Berkeley
University of Oregon, Eugene
University of Wisconsin, Madison
186th ACS Natl. Meeting, Washington, D.C.
Eastman Kodak, Kingsport, Tenn.
Intl. Conference Bioinorg. Chem., Florence
University of Chicago
Celanese Corporate Research, Summit, NJ.
Ohio State University
Princeton University
DuPont Central Research, Wilmington, DE
Massachusetts Institute of Technology
Harvard University
Marquette University
185th ACS National Meeting, Seattle

1982

Shell Development, Westhallow
3rd Intl. Symp. on Homogen. Catal., Milan
Gordon Research Conf., Inorganic Chemistry
Gordon Research Conf., Organometallics
DIC Biennial Symposium, Indiana University
184th ACS National Meeting, Kansas City
University of Illinois, Chicago Circle

1981

Standard Oil of Ohio, Cleveland
28th IUPAC Congress, Vancouver
Ball State University
IEEE Ultrasonics Symposium, Chicago
17th Midwest Regional ACS Meeting
181st ACS National Meeting, Atlanta

1980 - 1977

Gordon Research Conf., Inorganic Chemistry, 1980.
California Institute of Technology, 1979.
Harvard University, 1978.
Bell Laboratories, Murray Hill, 1978.
IBM, Yorktown and San Jose, 1978.
University of California, Berkeley, 1978.
University of California, Los Angeles, 1978.
Stanford University, 1978.
Exxon Corporate Research, Linden, NJ, 1977.
University of Illinois at Urbana-Champaign, 1977.
Pacific Conf. on Chemistry and Spectroscopy, 1977.

Symposium Organization, Society Directorships, and Other Recent Professional Activities:

- 2018 – 20 Co-organizer, Sonochemistry Symposium, Pacificchem 2020 International Congress, Honolulu.
2013 – 15 Co-organizer, Sonochemistry Symposium, Pacificchem 2015 International Congress, Honolulu.
2013 – Board of Directors, Asia Oceania Sonochemistry Society.
2006 – Scientific Advisory Board, Japanese Sonochemical Society.
1996 – Board of Directors, European Society of Sonochemistry.
1990 – 2010 Hertz Foundation Graduate Fellowship Interviewer.
2009 – 10 Co-organizer, Sonochemistry Symposium, Pacificchem 2010 International Congress, Honolulu.
2005 Symposium Organizer, Spring National Meeting, Materials Research Society.
2004 – 05 Technical Committee, 2005 Intl. Symp. On Olfaction and Electronic Noses (ISOEN2005), Barcelona.
2004 – 05 Co-organizer, Sonochemistry Symposium, Pacificchem 2005 International Congress, Honolulu.
2003 NASA proposal evaluation panel, Scientific Projects in Microgravity.
2003 Symposium Organizer, Ultrasonics Industry Association Annual Technical Symposium.
2000 Organizer, Sonochemistry Symposium, Pacificchem 2000 International Congress, Honolulu.
1997 – 00 Chairman, MRS Medal Awards Subcommittee, Materials Research Society.
1996 – 00 Awards Committee, Materials Research Society.
1998 Sonochemistry & Sonoluminescence Symposium Co-organizer, Joint ASA/EAA Intl. Meeting, Berlin.
1998 Sonochemistry Symposium Co-organizer, Acoustic Society of America Meeting, Seattle.
1997 NSF Career Award Selection Committee.
1996 – 97 Co-Organizer, NATO Advanced Study Institute on Sonochemistry and Sonoluminescence.
1993 – 98 North American Board Member, International Mechanochemistry Association, IUPAC.
1993 – 95 Organizer, Chemical Effects of Ultrasound Symp., Pacificchem '95 Intl. Congress, Honolulu.
1989 – 93 Organizer, Eli Lilly Lectureship on Molecular Recognition; Beckman Institute.
1991 Co-Organizer, Cavitation Symposium, Natl. Meeting, Acoustical Society of America, Baltimore.
1989 Organizer, Molecular Recognition Symposium, 4th Intl. Conf. on Bioinorganic Chemistry.
1989 Co-Organizer, Dow Molecular Recognition Symposium, Beckman Institute.
1988 – 89 Organizer, Sonochemistry Symposium, Pacificchem '89 International Congress, Honolulu.
1987 – 89 Chairman, ACS Local Section, Champaign-Urbana.

Editorships and Editorial Boards:

- 1991 – 2014 *Ultrasonics Sonochemistry*, Elsevier Science Publishers.
Founding Editor, 1991 – 1994; Editorial Board, 1991 – 2014
2006 – 09 Editorial Board, *Journal of the American Chemical Society*.
2005 – 08 Editorial Board, *Accounts of Chemical Research*, American Chemical Society.
1996 – 2011 Founding Editorial Board, *Journal of Porphyrins and Phthalocyanines*, Wiley Publishers.
1997 – 98 Co-editor, *Sonochemistry and Sonoluminescence*, Kluwer Academic Publishers.
1993 – 96 Founding Editorial Board, *Intl. J. of Mechanochemistry & Mech. Alloying*, Cambridge Interscience.
1993 – 96 Founding Editorial Board, *Advanced Oxidation Technologies*, AOT Press.
1993 – 96 Volume Editor, *Comprehensive Supramolecular Chemistry*, Elsevier/Pergamon Press.
1992 – 96 Editorial Board, *Ultrasonics*, Elsevier Science Publishers.
1991 – 93 Editorial Board, *Research on Chemical Intermediates*, Elsevier Science Publishers.
1990 Guest Editor, Special Issue on Sonochemistry, *Ultrasonics*, Butterworth Publishing.
1985 – 87 Editor, *Ultrasound: Its Chemical, Physical, and Biological Effects*, 1st ed.; VCH Publishers.
1986 – 87 Editor, *High Energy Processes in Organometallic Chemistry*, ACS Books

Professional Society Memberships:

- National Academy of Inventors (*Fellow*)
Acoustical Society of America (*Fellow*)
American Association for the Advancement of Science (*Fellow*)
American Chemical Society (*Fellow*)
American Physical Society (*Fellow*)
Materials Research Society (*Fellow*)
Royal Society for the Arts, Manufactures, and Commerce, 1974–82 (*Fellow*)
Royal Society of Chemistry (*Fellow*)
Alpha Chi Sigma (Professional Chemistry Fraternity)
European Sonochemistry Society (Charter Member)
International Mechanochemical Association (IUPAC chartered)

Committee and Administrative Duties:

University of Illinois, Advisory Board, Office of Technology Management, 2006–08.
University of Illinois, Intellectual Property Policy Committee, 2003–08.
University of Illinois at Urbana-Champaign, Center for Microscopy and Imaging Advisory Committee, 1997–2000.
University of Illinois at Urbana-Champaign, Chair, Evaluation Committee of Director of Environmental Council, 1998–99.
University of Illinois at Urbana-Champaign, Search Committee for MacArthur Chaired Professorships, 2003.
University of Illinois at Urbana-Champaign, Search Committee for Director of Materials Research Laboratory, 1999.
University of Illinois at Urbana-Champaign, Senator (elected post), 1986–87.
University of Illinois at Urbana-Champaign, Task Force on the Environment, 1993.

College of Liberal Arts and Sciences, Executive Committee, 2007–09.
College of Liberal Arts and Science, Ad Hoc B.A./B.S. Curriculum Committee, 1985–86.
College of Liberal Arts and Sciences, Chair, Administrative Evaluation of Head of Microbiology, 2010.
College of Liberal Arts and Sciences, Chair, Administrative Evaluation of Director of School of Life Sciences, 1993–94.
College of Liberal Arts and Sciences, Council on General Education (elected post), 1982–84.
College of Liberal Arts and Sciences, School of Chemical Sciences Director Search, 2012.
College of Liberal Arts and Sciences, Search Committee for Director of the School of Chemical Sciences, 1999.

College of Engineering, Materials Research Laboratory Executive Committee, 2007–10.
College of Engineering, Materials Research Laboratory Director Search Committee, 1998–99

Beckman Institute for Advanced Science and Technology, Program Advisory Committee, 1989–91.
Beckman Institute for Advanced Science and Technology, Molecular Recognition Group Leader, 1988–91.

School of Chemical Sciences, Acting Director, 2009.
School of Chemical Sciences, Executive Committee, 2006–09.
School of Chemical Sciences, New Building Committee, 1993–95.
School of Chemical Sciences, Safety Committee, 1979–80.
School of Chemical Sciences, Service Facilities, 1988–89; 2001–05; 2012–14.
School of Chemical Sciences, Supplies and Stockrooms, 1983–86; chair, 1986–92.
School of Chemical Sciences, Teaching Evaluation and Awards, 1982–87.

Dept. of Chemistry, Awards Committee, 2004–16.
Dept. of Chemistry, Budget & Operations, Inorg. or Materials Chem., 1989-92, 1996-97, 2005–07, 2008–09, 2012–17.
Dept. of Chemistry, Budget and Operations, Core Laboratories, 1984–88.
Dept. of Chemistry, Building and Space Allocation, 1981–82, 1993.
Dept. of Chemistry, Courses and Curriculum, 1987–90.
Dept. of Chemistry, Dept. Colloquium Chair, 1987–89.
Dept. of Chemistry, Dept. Reorganization Committee, 1997.
Dept. of Chemistry, Executive Advisory Committee, 1994–95, 2002–04, 2012–14, 2014-2016.
Dept. of Chemistry, General Chemistry, 1981–82; 2006–07.
Dept. of Chemistry, Graduate Student Advising, 1980–85, 2003–05.
Dept. of Chemistry, Graduate Student Fellowships, 1986–87.
Dept. of Chemistry, Graduate Student Recruitment & Appointments, 1978–81, 1996–99, 2004–12; chair, 2000–01, 2005–09.
Dept. of Chemistry, Inorganic/Materials Seminar Chairman, 1978–81, 1996–99, 2004–08.
Dept. of Chemistry, Staff Committee, 1996–2005.

Teaching Responsibilities:

Chem 101 General Chemistry; 1980.
Chem 109 Advanced Placement General Chemistry Laboratory; 1999.
Chem 115 Chemistry of Everyday Phenomena; 1990, 1991, 1992, 1993, 1997. 1998.
Chem 202 Advanced Placement General Chemistry; 2004.
Chem 312 Inorganic Chemistry; 1982, 1991, 1994, 1995, 1999, 2000, 2001, 2009, 2010, 2011, 2012, 2013.
Chem 319 Instrumental Characterization of Chemical Systems Laboratory; 2000.
Chem 383 Dynamics, Structure and Physical Methods Laboratory; 1982, 1983, 1984, 1994.
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Student and Postdoctoral Associates, Past and Present:

75 Ph.D. Graduate Students supervised and theses completed.

46 Past Postdoctoral Research Associates.

11 M.S. Graduate Students supervised and theses completed.

31 Undergraduate Research Assistants supervised.

Personal Data:

b., Chicago, September 1952. Son: Benjamin, b. 1992. Spouse: Patricia Plaut.

Complete Publications List: (chronological by publication type)

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