

## Curriculum Vitae

**Vicki H. Grassian**  
**University of California San Diego**  
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**Research Summary:** Current research in the Grassian group focuses on the surface chemistry of environmental interfaces including indoor surfaces, heterogeneous and multiphase atmospheric chemistry, climate impact of atmospheric aerosols, environmental and health aspects of nanoscience and nanotechnology.

### **1. Education**

1987, Ph.D.                    University of California, Berkeley CA  
1982, M.S.                    Rensselaer Polytechnic Institute, Troy NY  
1981, B.S.                    State University of New York, Albany NY

### **2. Professional and Academic Positions**

2016 to present            Associate Dean – Division of Physical Sciences, UC San Diego  
2016 to present            Distinguished Professor, UC San Diego, Departments of Chemistry & Biochemistry, Nanoengineering and Scripps Institution of Oceanography  
2016 to present            Distinguished Chair of Physical Chemistry, UC San Diego  
2016 to present            Adjunct Professor, University of Iowa, Departments of Chemistry and Chemical & Biochemical Engineering  
2013 to present            Co-Director, Center for Aerosol Impacts on Climate and the Environment - NSF Center for Chemical Innovation  
2010 to 2015                F. Wendell Miller Professor, University of Iowa  
2010 to 2012                Dean's Administrative Fellow, College of Liberal Arts and Sciences, University of Iowa  
2008 to 2015                Director, Nanotoxicology Research Core, Environmental Health Sciences Research Center  
2006 to 2016                Director, Nanoscience and Nanotechnology Institute at UI  
2002 to 2016                Full Professor in the Department of Chemistry, College of Liberal Arts and Sciences with secondary appointments in the Departments of Chemical and Biochemical Engineering and Occupational and Environmental Health

University of Iowa

- 2007-2010 Collegiate Fellow, College of Liberal Arts and Sciences
- 2007 to 2012 Associate Director and Key Function Co-Director, Institute for Clinical and Translational Sciences
- 1998 Visiting Professor, Department of Chemistry and Biochemistry, University of Colorado
- 1996-2002 Associate Professor, Department of Chemistry, University of Iowa
- 1990-1996 Assistant Professor, Department of Chemistry, University of Iowa
- 1988-1989 Research Associate, UC Berkeley
- 1987-1988 Postdoctoral Fellow, Colorado State University, Ft. Collins CO.
- 1983-1987 Research Assistant, UC Berkeley, Berkeley CA.

### **3. Honors and Awards**

- 2017 Friedlander Lecturer – American Association for Aerosol Research
- 2015 Chartered Chemist – Royal Society of Chemistry
- 2014 Midwest American Chemical Society Award
- 2014 Royal Society of Chemistry John Jeyes Award
- 2014 UI Scholar of the Year Award, Office of VP for Research & Economic Development
- 2012 American Chemical Society National Award for Creative Advances in Environmental Science and Technology
- 2011 Fellow, American Chemical Society
- 2010 Fellow, Royal Society of Chemistry
- 2010 Fellow, AVS – a Society for the Science and Technology of Materials, Interfaces and Processing
- 2008 Graduate College Outstanding Mentor Award
- 2007 Collegiate Fellow – College of Liberal Arts and Sciences
- 2006 Regents Award for Faculty Excellence
- 2006 CIC Academic Leadership Program Fellow

- 2005 Fellow, American Association of the Advancement of Science (AAAS)
- 2004 James Van Allen Natural Sciences Faculty Fellowship
- 2003 NSF Creativity Extension Award
- 2002 Elected to the National Council of Iota Sigma Pi, Director of Student Awards
- 2002 Project PROGRESS of the ACS “Be Visible” Speaker at the University of Kansas
- 2002 University of Iowa Distinguished Achievement Award
- 1999-2001 Faculty Scholar Award, University of Iowa
- 1998-2000 Camille and Henry Dreyfus Environmental Chemistry Award: Postdoctoral Program
- 1999 Obermann Center for Advanced Studies Scholar
- 1995, 1996 E. I. duPont de Nemours & Company Educational Award
- 1993 Career Advancement Award - National Science Foundation
- 1992 GE Foundation Faculty Fellowship
- 1992 Iowa Career Development Award in Laser Chemistry
- 1987 Office of Naval Research Postdoctoral Fellowship (declined)
- 1986 Association for Women in Science-Educational Award

#### **4. Memberships in Societies**

American Chemical Society, Fellow  
 Royal Society of Chemistry, CChem Fellow  
 American Association for the Advancement of Science, Fellow  
 American Vacuum Society, Fellow  
 American Association of Aerosol Research, Member  
 American Geophysical Union, Member  
 American Physical Society, Member  
 Iota Sigma Pi, Member  
 Sigma Xi, Member

#### **5. Memberships and Appointments in Editorial Review Boards, Executive Committees of National/International Societies, Advisory Boards and Steering Committees**

- 2016 – 2019 Elected to a three-year term as a member of the American Physical Society Panel on Public Affairs (POPA)

- 2015 – 2020 Science Advisory Board Member - Brown University's NIEHS-funded Superfund Research Program: *Toxicant Exposures in Rhode Island: Past, Present and Future*
- 2015 - 2017 Re-Appointed to the Editorial Advisory Board of the *Journal of Physical Chemistry (A, B, C and Letters)*, published by the American Chemical Society
- 2013 - Editor-in-Chief, *Environmental Science: Nano* – A newly inaugurated journal from the Royal Society of Chemistry (RSC) Publishing. The journal is focused on sustainable nanotechnology including the interactions of nanomaterials with the environment and biological systems.
- 2013 - Editor, *Surface Science Reports* - *Surface Science Reports* is a high impact review journal published by Elsevier and contains invited review papers on experimental and theoretical studies in the physics, chemistry and pioneering applications of surfaces, interfaces and nanostructures.
- 2013 - Editorial Advisory Board, *Encyclopedia of Surface and Colloid Science*, Taylor & Francis Publishing Group
- 2013 - 2015 Board of Directors, NanoVox – a regional hub for connecting scientists working in nanotechnology with businesses.
- 2013 Science Advisory Board, NSF CCI Phase I Center – Sustainable Nanotechnology
- 2012-2015 External Advisory Board – Kansas EPSCoR Nanotechnology for Renewable Energy (NRE) project
- 2012-2014 Re-Appointed to the Editorial Advisory Board of the *Journal of Physical Chemistry (A, B, C and Letters)*, published by the American Chemical Society
- 2012-2013 Steering Committee, 2013 Gordon Research Conference on Environmental Nanotechnology
- 2012 Organizing Committee, 2012 NSF Nanoscale Science and Engineering Grantees Conference: Focus on Environment
- 2012 Chair of the Division of Colloid and Surface Chemistry of the American Chemical Society
- 2011 Scientific Committee, 1<sup>st</sup> International Workshop on the Long-Range Transport and Impacts of African Dust on the Americas, Puerto Rico, USA
- 2011 International Advisory Committee, 1<sup>st</sup> International Conference on Clean Energy, Dalian, China
- 2011 Scientific Advisor for the Nanoscience Research Center at the University of Sri Jayawardenepura in Nugegoda, Sri Lanka

- 2011 Chair-Elect of the American Chemical Society Division of Colloid and Surface Chemistry
- 2010 Scientific Program Committee for the Symposium on Asian Dust/Aerosol and its Impact on Global Climate Change, Fudan University, Shanghai China
- 2009-2012 Appointed to the Editorial Advisory Board of the *Journal of Physical Chemistry (A, B and C)*, published by the American Chemical Society
- 2009-2012 Appointed as Chair of the *Interfacial Chemistry and the Environment* Continuing Symposium for the Division of Colloid and Surface Chemistry of the American Chemical Society
- 2008-2013 Appointed to the Editorial Board of *Energy and Environment Science*, a new journal linking all aspects of the chemical sciences relating to energy conversion and storage, alternative fuel technologies and environmental science, published by the Royal Society of Chemistry.
- 2008-2013 Appointed and then re-appointed to the Editorial Advisory Board of *Surface Science*, top journal in the field of surface science which deals exclusively with fundamental experimental and theoretical studies in the physics and chemistry of surfaces, published by Elsevier.
- 2008-2013 Appointed to the Editorial Advisory Board of *Atmospheric Environment*, a high-quality journal in air pollution research and its applications, air quality and its effects, dispersion and transport, deposition, biospheric- atmospheric exchange, atmospheric chemistry and induced changes in radiation and climate, published by Elsevier.
- 2008-2013 Appointed to the Editorial Advisory Board of *Aerosol Science and Technology*, the official journal of the American Association for Aerosol Research. The journal covers theoretical and experimental investigations of aerosol and closely related phenomena. It presents high quality papers on fundamental and applied topics in this important and rapidly expanding field, published by Taylor and Francis.
- 2008-2011 Appointed to the Editorial Advisory Board of *Advances in Physical Chemistry*, a new peer-reviewed open access journal that publishes state-of-the-art reviews and original research papers in all areas of physical chemistry, published by Hindawi Publishing Corporation.
- 2008-2011 Elected to the Executive Committee of the Physical Chemistry Division of the American Chemical Society
- 2008-2010 External Advisory Board Member to the NanoCenter at the University of South Carolina
- 2007-2012 Science Advisory Consultant to Northern Nanotechnologies, Inc., Toronto CA

- 2007-2009 Appointed to the American Association of Aerosol Research, Publications Committee, provides oversight of the journal *Aerosol Science and Technology* for AAAR
- 2007-2012 Pacific Northwest National Laboratory, Environmental Molecular Sciences Laboratory User Advisory Committee.
- 2006-2009 Executive Committee of the Surface Science Division of the AVS, an international society focused on science and technology of materials, interfaces, and processing.
- 2005-2008 Editorial Advisory Board of the *Journal of Physical Chemistry (A, B and C)*, published by the American Chemical Society
- 2004-2008 Science Advisory Board for NanoScale Materials, Inc., Manhattan Kansas
- 2003-2006 Editorial Review Board of *The Chemist*, published by the American Institute of Chemists

#### **6. External Committees, Workshops and Panels (Invited Participation)**

- 2016 Sloan Foundation Sponsored Workshop on Indoor Chemistry Models in Washington DC, USA
- 2016 Committee of Visitors – Review of Department of Energy Office of Workforce Development for Teachers and Scientists within the Office of Science
- 2016 Sloan Foundation and the National Science Foundation Sponsored Workshop on Indoor Surface Chemistry in Ghent, Belgium
- 2014 Co-Chair, National Science Foundation Workshop – NanoEHS: Fundamental Science Needs (with Amanda Haes)
- 2014 Molecular Science Challenges Workshop to Develop a Strategic Plan for the Department of Energy, Office of Biological and Environmental Research, Session Lead
- 2012 Re-appointed ACS AWARDS Action Team, co-chair with ACS Board of Director Val Kluk
- 2011 Appointed Visiting Associate for the American Chemical Society (ACS) Committee on Professional Training (CPT) in support of the ACS degree approval program
- 2011 Co-Chair, National Science Foundation Workshop – Nanomaterials in the Environment: The Chemistry and Materials Perspective (with RJ Hamers, University of Wisconsin). Co-edited workshop report, the report can be found at <http://nsfenv-nano.chem.wisc.edu/>

- 2011 Re-appointed ACS AWARDS Action Team, co-chair with ACS Board of Director Val Kluk
- 2010 AWARDS Action Team, co-chair with ACS Board of Director Eric Bigham, Charged by American Chemical Society to implement the recommendations of the AWIS AWARDS workshop to promote greater recognition and award nominations of women and minorities in the chemical sciences.
- 2010 ACS Representative to the Second Chemical Sciences and Society Symposia (CS3) hosted by the Royal Society of Chemistry. This meeting convened researchers from the United States, Germany, Japan, China and the United Kingdom chemical science societies. CS3 delegations from each of the five countries will include six scientists plus one funding agency official and one chemical society representative to discuss “Sustainable Materials” and to produce a workshop report.
- 2010 National Science Foundation Panel Review: Joint Chemistry and Materials Research Divisions
- 2009 National Nanotechnology Initiative Workshop: Nanomaterials and Human Health & Instrumentation, Metrology, and Analytical Method (Co-Chair, Breakout Session)
- 2009 National Science Foundation Workshop – Chemistry and Materials Research
- 2009 Army Research Office Workshop – Dynamics and Chemistry of Surfaces and Interfaces Basic Research Workshop
- 2009 National Science Foundation Workshop – Environmental Chemical Sciences (participated in writing workshop report)
- 2008 National Science Foundation Workshop – Environmental Nanoparticles: Science, Ethics and Policy (Invited Participant and Keynote Speaker)
- 2008 National Science Foundation Workshop – Reversing Global Warming: Chemical Recycling and Utilization of CO<sub>2</sub> (Invited Participant)
- 2008 National Science Foundation Major Research Instrumentation Panel
- 2006 National Science Foundation-Chemistry Division, appointed co-chair of a Workshop on Chemistry and Sustainability. A workshop report entitled “Chemistry for a Sustainable Future” was written and is hosted on the UI Department of Chemistry website (<http://www.chem.uiowa.edu/research/sustainability/index.html>).
- 2004 National Science Foundation Collaborative Research in Chemistry Review Panel
- 2003 Workshop Grand Challenges in the Environment – Nanotechnology/Nanoscale Science (Hosted by NSF, EPA and several other groups)

- 2003 EPA Science Forum 2003: Partnering to Protect Human Health and the Environment – Panel Member
- 2003-2006 American Chemical Society, Division of Colloids and Surface Chemistry Student Awards Committee
- 2003 International Advisory Committee Member for the Third San Luis Symposium on Surfaces, Interfaces and Catalysis, A Pan-American Advanced Studies Institute, Mérida, Venezuela
- 2001 STAR Review Panel- Environmental Protection Agency
- 2000 NSF Educational and Engineering Centers Division - Workshop
- 2000 CIC/Procter and Gamble Fellowship Program Selection Committee
- 1999 STAR Review Panel- Environmental Protection Agency
- 1998 National Science Foundation Instrumentation Proposal Review Committee
- 1997,1998 Iota Sigma Pi - National Honor Society for Women in Chemistry, Scholarship Comm.
- 1995 Appointed by American Chemical Society to Serve as Mentor to ACS Minority Fellow
- 1994 Appointed by American Chemical Society President to Serve on Canvassing Committee
- 1994 National Science Foundation REU Proposal Review Committee
- 1993 Department of Energy Panel Review Committee of Surface Physics Program

## **6. Recent Press and Public Interest**

- 2017** Cochrane *et al.* Chem: NPR radio, Science Friday: Le Monde News Article; AAAS Science Update; Discovery News Seaker

## **Teaching**

### **Current Teaching – University of California San Diego**

#### **Environmental Chemistry 1 – CHEM 171 (Winter 2017, Fall 2017)**

An introduction to chemical concerns in nature with emphases on atmospheric issues like air pollution, chlorofluorocarbons and the ozone hole, greenhouse effects and climate change, impacts of radioactive waste, sustainable resource usage, and risks and benefits of energy sources.

#### **Environmental Nanotechnology, Sustainable Nanotechnology & Nanotoxicology– NANO 267 (Spring 2017)**

This course explores the potential impacts of nanoscience and nanotechnology on environmental processes and human health as well as the sustainable design, development, and use of nanotechnologies. The course addresses questions and issues arising from the expected increases



in the development of nanotechnology-based consumer products and their potential effects on the environment.

### **Past Teaching – University of Iowa**

#### **Summary of Courses Taught: University of Iowa**

**Chemistry Courses:** 4:007 – General Chemistry I; 4:14 - Principles of Chemistry II, 4:16 - Principles of Chemistry Laboratory, 4:131 - Physical Chemistry I, 4:132 - Physical Chemistry II, 4:238 - Surface Chemistry and Heterogeneous Processes, 4:242 - Statistical Mechanics; 4:191 Graduate Chemistry Orientation

**Chemical and Biochemical Engineering Courses:** 52:195 Contemporary Topics: Chem & Biochem Engr taken by graduate students in engineering.

**Environmental Sciences Courses:** 159:010/100 – Environmental Sciences Seminar (taken by undergraduate environmental sciences B.S. majors).

### **3. Students Supervised**

#### **Ph.D. Students**

##### **Current:**

##### **UC San Diego**

Jonathan Trueblood (2013 – present) Ph.D. candidate (Dept. of Chemistry & Biochemistry)

Yuan Fang (2013 – present) Ph.D. candidate (Dept. of Chemistry & Biochemistry)

Zhenzu Xu (2013 – present) Ph.D. candidate (Dept. of Chemistry & Biochemistry)

Ellen Coddens (2014– present) Ph.D. candidate (Dept. of Chemistry & Biochemistry)

Haiben Wu (2016- present) Ph.D. goal (Department of Chemistry & Biochemistry)

Victor Or (2016-present) Ph.D. goal (Department of Chemistry & Biochemistry)

Irem Ustunol (2016-present) Ph.D. goal (Department of Nanoengineering)

Man Luo (2016-present) Ph.D. goal (Department of Chemistry & Biochemistry)

Liora Mael (2016-present) Ph.D. goal (Department of Chemistry & Biochemistry)

Izaak Sits (2017-present) Ph.D. goal (Department of Nanoengineering)

##### **University of Iowa**

Hayder Alalwan (2012 – present) Ph.D. candidate (Dept. of Chem & Biochem Eng, UI;  
co-advisor David Cwiertyny)

Alaa Al Minshid (2012 – present) Ph.D. candidate (Dept. of Chemistry, UI;  
co-advisor Sarah Larsen)

Sanjaya Dilantha (2014– present) Ph.D. candidate (Dept. of Chemistry, UI;  
co-advisor Sarah Larsen)

Deokhyeon Kwon (2014– present) Ph.D. candidate (Dept. of Chemistry, UI;  
co-advisor Mark Young)

**Past:**

Dr. Aruni Gankanda (2010 – 2016) Postdoctoral Associate, University of Arkansas

Dr. Olga Laskina (2010 – 2015) Application Scientist, rap ID, Philadelphia, PA

Dr. Charith Nanayakkara (2008 – 2014) Senior Scientist, EMD Performance Materials

Dr. Imali Mudunkotuwa (2008 – 2013) Cabot Microelectronics Inc (*\*Note: Dr. Mudunkotuwa was departmental nominee for the D.C. Priestersbach Dissertation Prize in 2014*)

Dr. Haihan Chen (2008 – 2012) Postdoctoral Associate University of California-Irvine

Dr. Kelly Gierlus (2005 – 2011) Associate Professor St. Ambrose University

Dr. Gayan Rubasinghege (2007 – 2011) Assistant Professor New Mexico Technical University (*\*Note: Dr. Rubasinghege was departmental nominee for the D.C. Priestersbach Dissertation Prize in 2012*)

Dr. Pragati Galhotra (2006 – 2010) Ph.D. – Analytical Chemist Intern at Parker Hannifin

Dr. Sherrie Elzey (2005 – 2010) Ph.D. – Applications Specialist, TSI Inc

Dr. John Pettibone (2004 – 2009) Ph.D. – Research Scientist, NIST

Dr. Jennifer Schuttlefield (2003 - 2008) Ph.D. – Associate Professor University of Wisconsin-Oshkosh

Dr. Jonas Baltrusaitis (2003 - 2007) Ph.D. –Assistant Professor Lehigh University  
(*Dr. Baltrusaitis was awarded the Graduate Deans' Dissertation Prize in 2008*)

Dr. Praveen Mogili (2002 – 2007) Ph.D. –Employed as a consultant Chem Eng in Houston, TX

Dr. Elizabeth Gibson (2002 - 2007) Ph.D. –Research Scientist at A&S Analytical Services

Dr. Hashim Al-Hosney (2000 - 2005) Ph.D.– Associate Professor at Arkansas State University

Dr. Gonghu Li (2000 - 2005) Ph.D. (w/ Sarah Larsen) –Associate Professor at the University of New Hampshire

Dr. Brenda Krueger (1999 - 2005) status unknown

Dr. Hind Al-Abadleh (1999 - 2003) Ph.D. – Associate Professor Wilfrid Laurier University, Waterloo CA (*\*Note: Dr. Al-Abadleh was awarded the Graduate College D.C. Priestersbach Dissertation Prize in 2004*)

Dr. Courtney Usher (1999 - 2003) Ph.D. – Research Scientist Hercules Research Center, Inc.

Dr. Angela Goodman (1996 - 2000) Ph.D. – Research Scientist at DOE- Natl. Energy Techn. Lab

Dr. Steven Carlo(1994 -1999) Ph.D. – Research Scientist at Naval Research Labs

Dr. Todd Miller (1993 -1998) Ph.D. – Lecturer, Augustana College

Dr. Michelle Driessen (1992 -1997) Ph.D. – Full Professor Lecturer, University of Minnesota

Dr. Katherine McGee (1990 -1996) Ph.D.– Associate Professor at the U. Mercy - Detroit

Dr. Kari Myli (1990 -1995) Ph.D. 1995 – Employed in a small technology company in Madison Wisconsin

### **Masters Students**

#### **Current:**

Tae Hoon Kang (Nanoengineering)

#### **Past:**

#### **University of Iowa**

Brittany Givens 2017 M.S. w/thesis Dept. of Chemical and Biochemical Eng

Joshua Grandquist 2015 M.S. w/thesis Dept. of Chemical and Biochemical Eng.

Whitney Larish 2014 M.S. w/thesis. Department of Chemistry

Matthew Burian 2014 M.S. Dept. of Chemical and Biochemical Eng.

Wondwossen Anbessie 2014 M.S.

Induni Siriwardane 2012 M.S.w/thesis, researcher Nanoscience Center, Sri Lanka

Lahiru Wijenayaka 2011 M.S w/thesis, Ph.D. student University of Iowa.

Thilini Rupasinghe, 2011 M.S. w/thesis, Ph.D. student University of Iowa.

Gordy Hunter M.S. 2009 employed in Minnesota.

Shannon Stout M.S. w/thesis 2005 status unknown.

Sofia Carlos-Cuellar M.S. 2005 –instructor at the University of Wisconsin-Eau Claire

Xiaohong Shen M.S. 2004 w/thesis – graduate student in Pharmacy.

Hassan Mohamed M. S. 2003 – returned to Kenya to work.

Abdulmajeed Shawami M.S. 2002 – returned to Saudi Arabia to work.

Lon Anderson M. S. w/thesis 1996 – student at the Univ. of Colorado – Comp. Sci.

Emmanual Scigliano (1994-1996) M.S. 1996 – employed as a lab technician in Connecticut

Charles Fox (1991-1995) M.S. 1995 – lecturer at Ambrose College

### **c. Postdoctoral Associates, Research and Visiting Scientists**

#### **Current:**

Dr. Muhammad Alta (2017 – present) Ph.D. Penn State University

Dr. Natalia Gonzalez Pech (2016- present) Ph.D. Rice University

Dr. Mona Shrestha (2016 – present) Ph.D. Northwestern University

Dr. Armando Estillore (2014- present) Ph.D. Wayne State University

#### **Past:**

Dr. Yaping Zhang (2016- 2017) Ph.D. Washington University in St. Louis, returned to China

Dr. Mingjin Tang (2015 – 2016) Ph.D. Max Planck Institute of Chemistry joint with Mark Young,  
Assistant Professor Guangzhou Institute for Geochemistry, Chinese Academy of Sciences

Dr. Imali Mudunkotuwa (2014 – present) Ph.D. University of Iowa, Cabot Microelectronics Inc.

Dr. Richard Cochran (2015 – 2016) Ph.D. University of North Dakota joint with Betsy Stone, UCSD  
and CAICE Research Scientist – Mass Spec Lab

Dr. Tao Yang (2015 – present) Visitor from Hebei University, China

Dr. Gayan Rubasinghege, (2011-2013) Ph.D. University of Iowa is now a faculty member at New  
Mexico Technical University

Dr. Andrew Ault, (2012- 2013) Ph.D. University of California-San Diego is now a faculty member at the University of Michigan

Dr. Haihan Chen, (2011-2013) Ph.D. University of Iowa now a postdoctoral associate at the University of California-Irvine

Dr. Jonas Baltrusaitis, (2007- 2012) Ph.D. University of Iowa now an Assistant Professor at Leigh University

Dr. Larissa Stebounova (2008-2011), Ph. D. University of Pittsburgh, Research Associate UIowa

Dr. Shaowai Bian, (2009-2010) Ph.D. Institute of Chemistry, Chinese Academy of Sciences now a research scientist in Singapore

Dr. Hongbo Fu, (2008-2009) Faculty at Fudan University, Beijing China

Dr. Julie Parks, (2008-2009) Ph.D. University of Iowa now a postdoctoral associate at Marquette University

Dr. Pradeep Jayaweera, (2008-2009) Faculty at University of Sri Jayewardenepura, Sri Lanka

Dr. Juan Navea, (2006-2009) Ph.D. Baylor University (w/Mark Young and Charles Stanier) now an Assistant Professor at Skidmore College in Schenectady NY.

Dr. James Zahardis (2008) Ph. D. University of Vermont now a research scientist in Vermont

Dr. Courtney Hatch (2006-2008) Ph.D. University of Colorado-Boulder (w/Greg Carmichael) now an Assistant Professor at Hendrix College in Arkansas

Dr. Mohamed El-Maazawi (Summer 2007 and 2008, Ph.D. Pennsylvania State University) visiting faculty from Truman State University

Dr. Maryuri Roca (2007), Ph.D. Baylor University now a lecturer at Lawrence University in Appleton, Wisconsin

Dr. David Cwiertny (2005-2007), Ph.D. Johns Hopkins University (w/Michelle Scherer) now an Assistant Professor at UC Riverside

Dr. Daniel Curtis (2005-2007), Ph.D. University of Colorado-Boulder (w/Paul Kleiber and Mark Young) now an Assistant Professor at California State University at Northridge

Dr. Paula Hudson (2005-2007), Ph.D. University of Colorado-Boulder now an Assistant Professor at California State University at Fullerton

Dr. Courtney Usher (2005-2007), Ph.D. University of Iowa, now at Henkel Corp.

Dr. Kevin Knagge (2001- 2003), Ph.D. Purdue University (w/Sarah Larsen) now at Brucker

Dr. Weiguo Song (2001- 2003), Ph.D. University of Southern California (w/ Sarah Larsen), now a faculty member at the Institute of Chemistry Chinese Academy of Sciences

Dr. Amy Michel –(2001- 2003) Ph.D. University of Colorado-Boulder) Lecturer, University of Iowa

Dr. Minna Xu (6 mo visitor in 2000/2001) – Research Scientist at University of Petroleum-China

Dr. Ping Li (1998 – 2000 Ph.D. Cleveland State University)- former postdoc now a research scientist at Philip Morris

Dr. Grant Underwood (1998 – 2000, Ph.D. University of Texas-Austin) - former postdoc now a research scientist at Intel

Dr. Mohamed El-Maazawi (Summers 1997, 1998 and 1999, Ph.D. Pennsylvania State University) visiting faculty from the UAE University, United Arab Emirates

Dr. Alexander Panov (1998 – 1999, Ph.D. University of Wisconsin-Milwaukee), former postdoc now a research scientist at Pacific Northwest National Laboratory

Dr. Yan Xiang (1997-1998, Ph.D. University of New Brunswick), former postdoc left to become an Assist. Professor of Chemistry/Env. Science at the University of Wisconsin-Green Bay

Dr. Shoshanna R. Coon (1993-1995, Ph.D. University of Texas-Austin), former postdoc now an Associate Professor at U Northern Iowa

Dr. Mauro Briceno (Academic Year 1995) visiting faculty from the University of the Andes

#### **d. Undergraduate Students**

##### **Current:**

Cynthia Wong (2016 – current)

Danielle Naiman (2017 – current)

Dylan Power (2017 – current)

Brian Kenney (2017 – current)

James Ge (Summer 2017)

Neyen Romano (Summer 2017)

Sarah Schwab (Summer 2017)

##### **Past (University of California San Diego):**

Luke Kisaich (2016 – 2017); Victor Rangel (2016); Quang Nguyen (2016); Mike Alves (Summer 2016); Meagan Marciano (Summer 2016)

**Past (University of Iowa):**

Zhen Qin (2013-2015); Nina Diklich (Summer 2015); Jackie Dowling (2014); Vishakha Raghuram (2013-2014); James Dillon (Summer 2013); Saralyn Ogden (Summer 2012); Jacob Lyons (Summer 2012); Nikolas LaPelusa (Spring 2012); Caitlyn McGuire (Summer 2011); Patrick Kyei (2010-2011); Rebecca Lindquest (Summer 2010); Jose Rivera Negron (Summer 2010); Tricia Abernathy (2009-2010); Ethan Guio (2008-2009); Robert Lentz (Summer 2009); Jennifer Knapp (Summer 2009); Olga Laskina (Summer 2009); Richard Dombroski (Fall 2008); Claire Doskey (Summer 2008); Jason Bone (Summer 2007); Christina Edwards (2006); Jaclyn Schwarz (2006); David Cox (Summer 2006); Joanna Sciegienka (2003 – 2005), Ann Zachariah (2003 – 2005), Matthew Johnson (Summer 2005); Elizabeth Zeitler (Summer 2005); Anne Schwarkopf (2002– 2004); Adam Christensen (2000-2003); Jennifer Wade (1999-2003); Rachna Chaudhari (2001); Christine Burrichter (summer 2000); Timothy Hunt (summer 2000); Kirk Perreau (1998 - 2000 junior chemistry major - Honors research); Elizabeth Bernard (1999-2000) junior chemical engineering major - Honors research; Eric Balster (1997 -1999); Melissa Heskett (1999); Elizabeth Covington (1997-1998); Alison Nair (Summer 1998) ; Everett Nixon (Summer 1998); Saleem Farooqui (1997-1998); Lawrence Huene (1997-1998); Anne Finken (Summer 1997); Gillian Zaharias (Summer 1996); Justin Paul (1995); Chip Hallett (1994-1995); James Manusco (Summer 1993); Adam Capitano (1992-1993); Deanna Angst (Summer 1991); Paula Cardinhal (Summer 1990); William Turney (1990-1991); Susan James (1990 - 1991)

**e. Student Committees – UC San Diego**

**Chemistry & Biochemistry:** David Crocker, Katherine Mayer, Yingmin Li

**Nanoengineering:** Darwin Zwissler, Morgan Miller,

**Scripps Institution of Oceanography:** Alyssa Finlay

**Scholarship**

**1. Published Works**

**a. Refereed Articles and Book Chapters**

1. Brady, G.W.; Fein, D.B.; Lambertson, H.; **Grassian, V.H.**; Foos, D. and Benham, C.J., "X-Ray Scattering from the Superhelix in Circular DNA" *Proceedings of the Nat. Acad. of Sciences, USA* **1983**, *80*, 741-744.
2. **Grassian, V.H.**; Brady, G.W. and Benham, C.J., "X-Ray Conformational Study of DNA Duplex in Solution" *Biopolymers* **1983**, *22*, 1523-1544.
3. Gentle, T.M.; **Grassian, V.H.**; Klarup, D.G. and Muetterties, E.L., "Catalytic Chemistry of Palladium Surfaces under Ultra High Vacuum" *Journal of the American Chemical Society* **1983**, *105*, 6766-6767.
4. **Grassian, V.H.** and Muetterties, E.L., "Electron Energy Loss and Thermal Desorption Spectroscopy of Pyridine Adsorbed on Pt(111)" *Journal of Physical Chemistry* **1986**, *90*, 5900-5907.

5. **Grassian, V.H.** and Muetterties, E.L., "A Vibrational Electron Energy Loss Spectroscopic Study of Benzene, Toluene and Pyridine Adsorbed on Pt(111) at 180K" *Journal of Physical Chemistry* **1987**, *91*, 389-396.
6. **Grassian, V.H.** and Pimentel, G.C., "The Structures of Cis and Trans Dichloroethene Adsorbed on Pt(111)" *Journal of Chemical Physics* **1988**, *88*, 4478-4483.
7. **Grassian, V.H.** and Pimentel, G.C., "Photochemical Reactions of Cis and Trans Dichloroethene Adsorbed on Pd(111) and Pt(111)" *Journal of Chemical Physics* **1988**, *88*, 4484-4491.
8. Seeman, J.I.; **Grassian, V.H.** and Bernstein, E.R., "Observation and Geometry Assignment of Conformations of Styrenes in the Ground and First Excited Singlet State" *Journal of the American Chemical Society* **1988**, *110*, 8542-8543.
9. **Grassian, V.H.**; Warren, J.A.; Bernstein, E.R. and Secor, H.V., "Conformational Changes upon S<sub>1</sub>-S<sub>0</sub> Excitation in 4-Dimethylaminobenzonitrile and some of its Chemical Analogs" *Journal of Chemical Physics* **1989**, *90*, 3994-3999.
10. **Grassian, V.H.**; Seeman, J.I. and Bernstein, E.R., "A Conformational Study of Jet-Cooled Styrene Derivatives: Demonstration of the Planarity of Non-Sterically Hindered Styrenes" *Journal of Physical Chemistry*. **1989**, *93*, 3470-3474.
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#### **b. Manuscripts Submitted for Publication**

294. Lee, H.D.; Estillore, A. D.; Morris, H.S.; Alejandrol, A.; Grassian, V. H. and Tivanski, A. V. “ Direct Surface Tension Measurements of Individual Submicrometer Particles using Atomic Force Microscopy” *Journal of Physical Chemistry A* **2017**.
295. McCluskey, C. S.; Hill, C. J. T.; Sultana, C. M.; Laskina, O.; Trueblood, J. V.; Santander, M. V.; Beall, C. M.; Michaund, J. M.; Prather, K. A.; Grassian, V. H.; DeMott, P. J. "A Mesocosm Double Feature: Insights into the Chemical Make-Up of Marine Ice Nucleating Particles" *Journal of the Atmospheric Sciences* **2017**.
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#### **d. Book Chapters**

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2. Panov, A. G.; Myli, K. B.; Xiang, Y.; **Grassian, V. H.** and Larsen, S. C. "Photooxidation of Toluene in Cation-Exchanged Zeolites" a Chapter in Green Chemistry: Recent Advances in Chemical Processing, Ed., Paul Anastasa, Lauren Bartlett and Tracy Williamson, Published by the American Chemical Society, **2000**. (Invited)
3. **Grassian, V. H.** and Larsen, S.C. “Photooxidation of Hydrocarbons in Cation-Exchanged Zeolites” A chapter in Handbook of Photochemistry and Photobiology Volume 3 451-494, **2003** Ed. H.S. Nalwa, American Scientific Publishers (Invited Review Article).
4. Larsen, S. C. and **Grassian, V. H.** “Environmental Catalysts based on Nanocrystalline Zeolites” a book chapter in the Encyclopedia of Nanoscience and Nanotechnology, Eds. J. A.

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5. Johnson, E. R. and **Grassian, V. H.** “Environmental Catalysis of the Earth’s Atmosphere: Heterogeneous Reactions on Mineral Dust Aerosol” Environmental Catalysis, Ed. Vicki H. Grassian, CRC Publishing, Boca Raton, FL, **2005**.
  6. Alwy, H., Li, G.; **Grassian, V. H.** and Larsen, S.C. “Development of Nanocrystalline Zeolites as Environmental Catalysts”, invited chapter in Nanotechnology and the Environment, (Ed. B. Karn) ACS Symposium Series 890, American Chemical Society, Washington DC, **2005**, p. 277-283 .
  7. Pettibone, J. M.; Baltrusaitis, J. and **Grassian, V. H.**, “Chemical Properties of Oxide Nanoparticles: Surface Adsorption Studies from Gas and Liquid Phase Environments” invited chapter in Synthesis, Properties and Applications of Oxide Nanomaterials, Eds. J. A. Rodriguez and M. Fernandez-Garcia, John Wiley and Sons **2007**, 335-351.
  8. Pettibone J.M.; Elzey, S.; **Grassian, V. H.** “An Integrated Approach Toward Understanding the Environmental Fate, Transport, Toxicity and Health Hazards of Nanomaterials” a book chapter in Nanoscience and Nanotechnology: Environmental and Health Impacts, Ed. Vicki H. Grassian **2008**, 43-68.
  9. **Grassian, V. H.** and Larsen, S.C. “Applications of Nanocrystalline Zeolites to CWA Decontamination” V.H. Grassian, and S.C. Larsen book chapter in Nanoscience and Nanotechnology for Chemical and Biological Defense, Eds. R. Nagarajan, W. Zukas, T. A. Hatton, S. Lee, ACS Symposium Series Book (2009).
  10. **Grassian, V. H.** and Larsen, S.C. “Synthesis, Characterization and Environmental Applications of Nanocrystalline Zeolites” in The Oxford Handbook of Nanoscience and Nanotechnology Volume 2, University of Oxford Press, Oxford, UK **2009**, 659-684.
  11. Elzey, S.; Howe, C.; Larsen, R.G.; **Grassian, V. H.** “Nanoscience and Nanotechnology: Environmental and Health Impacts” in Nanoscale Materials in Chemistry, 2<sup>nd</sup> Ed., Editors K.J. Klabunde and R. M. Richards, John Wiley and Sons, **2009**, 676-721.
  12. Peters, T.M.; **Grassian, V.H.** “Engineered Nanomaterials” a book chapter in Patty's Industrial Hygiene, Sixth Edition, Eds. Vernon Rose and Barbara Cohressen, John Wiley and Sons, **2010**.
  13. **Grassian, V. H.** “Size-dependent properties and surface chemistry of oxide-based nanomaterials in environmental processes” a book chapter in Nanoscale Materials in Chemistry: Environmental Applications, Eds. L.E. Erickson, R. T. Koodali, R. M. Richards, ACS Symposium Series **2010**.
  14. Hudson, P. K.; Young, M. A.; Kleiber, P.D. and **Grassian, V.H.** “Infrared Extinction and Size Distribution Measurements of Mineral Dust Aerosol” in Fundamentals and Applications of Aerosol Spectroscopy Eds J.P. Reid and R. Signorell, CRC Press **2011**.

15. Adamcakova-Dodd, A.; Thorne, P.S.; **Grassian, V.H.** "In Vivo Toxicity Studies of Metal and Metal Oxide Nanoparticles" Handbook of Systems Toxicology, John Wiley and Sons **2011**, 803 – 833.
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17. Navea, J. G. and **Grassian, V. H.** "Photochemistry of Atmospheric Particles" Encyclopedia of Interfacial Chemistry: Surface Science and Electrochemistry Ed. K. Wandelt, Elsevier Publishing **2017**.
18. Gonzalez-Pech, N. I. and **Grassian, V. H.** "Surface Chemical Functionalities of Environmental Nanomaterials" Encyclopedia of Interfacial Chemistry: Surface Science and Electrochemistry Ed. K. Wandelt, Elsevier Publishing **2017**.

#### **e. Edited Books and Journals**

1. Experiments in Chemistry, **V. H. Grassian**, W. E. Bennett, L. Cannon and E.D. Cater, Eds., Stipes Publishing Co., Champaign, IL **1993**.
2. Environmental Catalysis, Ed. **V. H. Grassian** CRC Press, Boca Raton, Florida **2005**.
3. Nanoscience and Nanotechnology: Environmental and Health Impacts, Ed. **V. H. Grassian**, John Wiley and Sons, New York **2008**.
4. Guest editor of a mini-issue of the *Journal of Physical Chemistry* entitled "Physical Chemistry of Environmental Interfaces" (with Howard Fairbrother, Johns Hopkins University, Franz Geiger Northwestern University, John Hemminger, University of California-Irvine) February **2009**.

#### **f. Textbooks**

1. Atmospheric and Environmental Chemistry, M. A. Young and **V. H. Grassian** in preparation
2. Introduction to the Environmental Implications of Nanomaterials, N. Saleh and **V. H. Grassian** in preparation

#### **g. Other Publications**

1. **Grassian, V. H.** "Review of The Chemistry of Metal CVD". *Journal of the American Chemical Society*. **1995**, *117*, 3316. (Book Review)
2. Selective Photooxidation of Hydrocarbons in Zeolites Using Visible Light, K.B. Myli, S.C. Larsen and **V.H. Grassian**, Green Chemistry and Engineering Conference Proceedings, June 23-25, **1997**.

3. Thermal and Photochemical Oxidation of Cyclohexane in BaY, R. G. Larsen, A. R. Leone, **V. H. Grassian** and S. C. Larsen, Fourth Annual Green Chemistry and Engineering Conference Proceedings, June 27 -29, 2000 pp. 88 - 91.
4. Heterogeneous Uptake of Nitrogen Oxides and Volatile Organics on Atmospheric Particles Including Oxides, Carbonates and Mineral Dust **V. H. Grassian**, Abstracts of the European Aerosol Conference, *Journal of Aerosol Science*, 32S, 91-92 , 2001.
5. Grassian, V.H. and Stair, P.C. Preface to **Environmental Catalysis**, Ed. Vicki H. Grassian, CRC Press, 2005, v-ix.
6. Mogili, P. K.; Kleiber, P.D.; Young, M.A.; Grassian, V.H., N<sub>2</sub>O<sub>5</sub> Hydrolysis on Components of Mineral Dust and Sea Salt Aerosol: Comparison Studies in an Environmental Chamber in the Proceedings of the 7th International Aerosol Conference **2006**, 1086-1087.
7. Gibson, E. R.; Hudson, P. K.; Grassian, V.H., Laboratory Measurements of the Hygroscopic Growth, IR Extinction, and CCN Activity of Chemically Processed Mineral Dust Aerosol in the Proceedings of the 7th International Aerosol Conference **2006**, 1009.
8. Hudson, P. K.; Gibson, E. R.; Young, M.; Kleiber, P. and Grassian, V. H., Laboratory Infrared Extinction Measurements of the Carbonate, Sulfate, Oxide and Clay Components of Mineral Dust Aerosol in the Proceedings of the 7th International Aerosol Conference **2006**,1004.
9. Mogili, P. K.; Yang, K.-H., Kleiber, P.D., Young, M.; Grassian, V. H. Extinction Measurements of Components of Mineral Dust Aerosol: Environmental Aerosol Chamber Studies in the Proceedings of the 7th International Aerosol Conference **2006**, 602-603.
10. Curtis, D.B.; Aycibin, M.; Munsterman, N.L.; Young, M.A.; Grassian, V.H.; Kleiber, P.D., Laboratory Measurements of the Scattering Properties of Atmospheric Mineral Dust Components in the Visible Wavelength Region in the Proceedings of the 7th International Aerosol Conference **2006**, 597-598.
11. **Grassian, V.**; O'Shaughnessy, P.; Pettibone, J.; Adamcakova-Dodd, A. and Thorne, P.; Inhalation Exposure Study of Titanium Dioxide Nanoparticles with a Primary Particle Size of 2-5nm. in the Proceedings of the 7th International Aerosol Conference **2006**, 138.
12. Baltrusaitis, J., Usher, C. and **Grassian, V. H.** "Reactivity of Formic Acid on Calcium Carbonate Single Particle and Single Crystal Surfaces: Effect of Adsorbed Water". *Microscopy and Microanalysis* **2006**, 12(Suppl 2): 796-797. CD Cambridge University Press.
13. Grassian, V.H. An Integrated Approach Toward Understanding the Environmental Fate, Transport, Toxicity and Occupational Health Hazards of Metal and Metal Oxide Nanomaterials in the Proceedings of the International Environmental Nanotechnology Conference, Chicago IL **2008**.

14. Grassian, V. H.; Larsen, S.C. “Studies of the Fate and Decomposition of Organo-Phosphorous and Sulfur Compounds on Engineered and Environmental Interfaces” Chemical and Biological Defense Physical Science and Technology Conference, New Orleans **2008**.
15. Grassian, V. H. Preface to **Nanoscience and Nanotechnology: Environmental and Health Impacts**, Ed. Vicki H. Grassian, John Wiley and Sons, 2008, xvii-xx.
16. Fairbrother, D.H.; Geiger, F.; Grassian, V.H.; Hemminger, J.C. preface to the mini-issue of the *Journal of Physical Chemistry* entitled “Physical Chemistry of Environmental Interfaces” February **2009**.
17. Bigham, E.; Grassian, V. “Achieving Recognition Equity” *Chemical & Engineering News* **2010**, 88, 34.
18. Kluk, V; Grassian, V. “ACS Awards: A Call for Action” *Chemical & Engineering News* **2012**, 90, 69.
19. Grassian, V. H. “Environmental Science Nano: A Journal is Born” Subtitle: A New Journal with a Large Scope that Focuses on Small Materials, *Environmental Science: Nano* **2014**, 1, 1–3.
20. Grassian, V. H. “Environmental Science: Nano – The First Year a Successful Launch”, *Environmental Science: Nano* **2015**, 1, 1–2.
21. Grassian, V. H.; Stone, E.A. “Chemistry's contributions to our understanding of atmospheric science and climate” *Journal of Chemical Education* **2015**, 92, 595–597. (Invited Editorial)
22. Grassian, V. H. “Particle Chemistry in the Environment: Challenges and Opportunities” *Journal of Physical Chemistry Letters* **2015**, 6, 3880–3881. (Invited Guest Commentary)
23. Grassian, V. H. “Environmental Science: Nano – Immediacy Index and More”, *Environmental Science: Nano* **2016**, 3, 234 – 235.
24. Grassian, V. H. “Environmental Science: Nano – Editors’ Symposium, Revised Scope and First Impact Factor”, *Environmental Science: Nano* **2016**, 3, 695.
25. Santander, M. V.; Cox, J. L.; Riccobono, N.; Schaap, B.; Xiong, W.; Grassian, V. H.; Prather, K. A. “ATR-FT-IR Investigation of the Ocean Surface” *Spectroscopy* **2017**, S18.

## **2. Patents**

1. Synthesis and Use of Nanocrystalline Zeolites, US patent no. 7,585,490 B2, Granted Sept. 8, 2009 (Sarah Larsen, Vicki Grassian, Weiguo Song, Gonghu Li) Application no. 11/379,015 filed April 6, 2007.

2. Synthesis and Use of Nanocrystalline Zeolites, U.S. Patent No. 7,858,062, granted on December 28, 2010. (Sarah Larsen, Vicki Grassian, Weiguo Song, Gonghu Li) Application no. 12/512,776 filed July 28, 2009

### **3. External Grant Funding**

#### **Present External Support**

- \$482,391 (2017-2020) National Science Foundation “A Laboratory Study to Investigate Inorganic and Organic Sulfate Formation in Multiphase Processes Involving Mineral Dust and Other Metal-Containing Aerosols” **(PI: Vicki H. Grassian)**
- \$749,760 (2017-2020) Sloan Foundation “Chemistry of Indoor Surfaces: Roles of Relative Humidity and Light” **(PI: Vicki H. Grassian)**
- \$450,000 (2016-2019) National Science Foundation “Molecular-Based Studies of Metal, Metal Oxide and Metal Sulfide Nanoparticle Transformations in the Environment” **(PI: Vicki H. Grassian)**
- \$20,000,000 (2013-2018) National Science Foundation “CCI- Center for Aerosol Impacts on Climate and the Environment” (PI: Kimberly A. Prather, Director; **Key Personnel: Vicki H. Grassian, Co-Director)**
- \$410,997 (2014-2018) National Science Foundation “Spectral Analysis of Brown Carbon Secondary Organic Aerosol from the IR to the UV” (PI: Paul Kleiber, **Co-PIs: Vicki H. Grassian** and Mark A. Young)
- \$299,878 (2015-2018) National Science Foundation “Insights into Chemical Looping Combustion Through a Combined Theory and Experimental Approach” (PI: Sara Mason and **co-PI: Vicki H. Grassian)**
- \$1,250,000 (2013-2017) National Institute of Occupational Safety and Health "A Nanoparticle Respiratory Dose Sampler for Metal-Based Nanoparticles" (PI: Tom Peters; **co-PIs: Vicki H. Grassian** and Renee Anthony)

#### **Prior External Grants**

- \$420,000 (2013-2017) National Science Foundation “Heterogeneous Chemistry and Photochemistry in the Troposphere: Reactions of Mineral Dust and Other Metal-Containing Particle Surfaces at the Gas-Solid and Liquid-Solid Interface ” **(PI: Vicki H. Grassian)**
- \$100,000 (2014-2017) National Science Foundation “EAGER: NanoEHS Critical Needs: Determining surface composition in biological media and the roles of core composition and very small particles” **(PI: Vicki H. Grassian)**

\$13,800,000 (2013-2016) National Institute of Environmental Health Sciences – Environmental Health Sciences Research Center (Peter Thorne, PI; **Key Personnel: Vicki H. Grassian, Director of Nanotoxicology Core**)

\$579,729 (2010-2014) National Science Foundation “Linking Molecular Scale Surface Speciation to Interfacial Fe Redox Chemistry” (PI: Michelle Scherer; **co-PIs: Vicki H. Grassian** and Martin St. Clair)

\$382,391 (2010-2014) National Science Foundation “Spectral Characterization of Atmospheric Dust from the IR to the UV: A Combined Laboratory and Modeling Study of Composition, Size, and Shape Effects on Dust Optical Properties” (PI: Paul Kleiber; co-PIs: **Vicki H. Grassian** and Mark A. Young)

\$389,303 (2009-2014) Environmental Protection Agency “Transformation and Fate of Manufactured Metal Oxide and Metal Nanoparticles in Aqueous Environments” (**PI: Vicki H. Grassian**)

\$540,000 (2010-2014) National Science Foundation “Surface Photochemistry and Redox Chemistry of Adsorbates on Oxide Surfaces at the Adsorbed Water Interface: Fundamental Studies of Atmospheric Significance” (**PI: Vicki H. Grassian**)

\$440,595 (2010-2013) National Science Foundation “MRI: Development of a Single Particle Mass Spectrometer for Field and Laboratory Studies of the Environmental Impact of Atmospheric Aerosols and Engineered Nanoparticles” (PI: Mark Young, **co-PIs Vicki H. Grassian** and Paul Kleiber)

\$1,222,638 (2008-2013) National Institute of Health (NIOSH) “Integrative Approach to Understanding the Toxicity of Inhaled Nanomaterials (**PI: Vicki H. Grassian**; co-PIs: Patrick O’Shaughnessy and Peter Thorne).

\$99,999 (2011-2013) National Science Foundation “NSF Workshop on Nanomaterials and the Environment” (**PI: Vicki H. Grassian**)

\$50,000 (2011-2012) ICTS “Iron Particle Size and Surface Area Will Induce Bacterial Growth and Virulence” (PI: Juan C. Caraballow and **co-PI: Vicki H. Grassian**)

\$33,800,000 (2007-2012) National Institutes of Health “University of Iowa Clinical and Translational Science Program” (PI and Director: Gary Rosenthal; Key Personnel and Associate Directors : Nancy Andreasen; Sarah England; **Vicki H. Grassian**, William Haynes, Jeffrey Murray, Gary Rosenthal and James Torner)



\$30,000 (2010-2011) EHSRC “Transformations of Metal-Containing Aerosols Upon Exposure to Atmospheric Gases and Its Impact on Toxicity” (**PI: Vicki H. Grassian**; co-PIs: Jonas Baltrusaitis and Peter Thorne)

\$200,000 (2011) Carver Trust Foundation “Acquisition of a Multifunctional High Sensitivity X-ray Diffractometer to Enhance Research at the University of Iowa” (PI: Mark Arnold; co-PIs Edward Gillan and **Vicki H. Grassian**)

\$175,000 (2010) Carver Trust Foundation “Acquisition of a Dispersive Raman Spectrophotometer with Confocal Microscope” (PI: Maureen Donovan; co-PIs Jennifer Fiegel, Julie Jessop and **Vicki H. Grassian**)

\$1,400,000 (2005-2010) National Science Foundation “Nanoparticle Fe as a Reactive Component of Air, Water and Soil” (PI: M. Scherer and **co-PIs: Vicki H. Grassian**, T. Coates, C. Johnson and M. St. Clair)

\$612,500 (2005-2010) National Science Foundation “Chemical Reactions of Environmental and Atmospheric Relevance on Carbonate Surfaces” (**PI: Vicki H. Grassian**)

\$450,000 (2006-2010) National Science Foundation “Collaborative Research: Field, Laboratory, and Modeling Investigations of Heterogeneous Processing of Asian Dust”(PI: Kim Prather (UCSD), co-PIs Greg Carmichael and **Vicki H. Grassian**)

\$344,138 (2007-2010) National Science Foundation “Acquisition of a Suite of Particle Sizing and Characterization Instrumentation for Chemistry Research and Education” (PI: David Wiemer; co-PIs: Sarah Larsen and **Vicki Grassian**)

\$221,264 (2006-2009) Dow Corning Corporation “A Laboratory and Modeling Study at the University of Iowa Designed to Better Understand the Atmospheric Fate of D<sub>4</sub> and D<sub>5</sub>” **PI: Vicki H. Grassian** and co-PIs: Charlie Stanier and Mark Young

\$1,000,000 (2008-2009) Roy J. Carver Charitable Trust Foundation “Acquisition of a High Resolution Transmission Electron Microscope to Advance Research and Education at The University of Iowa “ (**PI: Vicki H. Grassian** and Kenneth Moore; co-PIs: Sarah Larsen, Michelle Scherer, Ramaswamy Subramanian and Aliasger Salem)

\$335,000 (2004-2009) Environmental Protection Agency “Impacts of Manufactured Nanomaterials on Human Health and the Environment – A Focus on Nanoparticulate Aerosol and Atmospherically Processed Nanoparticulate Aerosol” (**PI: Vicki H. Grassian**; co-PIs Patrick O’Shaughnessy and Peter Thorne)

\$399,906 (2005-2008) National Institutes of Occupational Safety and Health “Assessment Methods for Nanoparticles in the Work Place” (PI: P. O’Shaughnessy and co-PIs: T. Peters, W. Heitbrink and **Vicki H. Grassian**)

\$488,181 (2004-2008) National Science Foundation  
 “Toward a Greater Understanding of Direct Radiative Forcing: Laboratory Studies of the Impact of Physicochemical Processing on the Optical Properties of Mineral Dust Aerosol” (PI: Paul Kleiber **co-PIs: Vicki H. Grassian** and Mark Young)

\$180,002 (2005-2008) National Science Foundation “Acquisition of a State of the Art Scanning Probe Microscope for Research and Teaching in the Chemical Sciences” (PI: David F. Wiemer and **co-PIs: Vicki H. Grassian** and Ned Bowden)

\$80,000 (2005-2008) American Chemical Society-Petroleum Research fund “In-Situ Atomic Force Microscopy Studies of Surface Reactions Under Ambient Conditions” (**PI: Vicki H. Grassian**)

\$93,517 (2006-2008) National Science Foundation "NSF Chemistry Workshop on Sustainability” (**PI: Vicki H. Grassian**)

\$19,000 (2007-2008) Department of Energy (Batelle), Research at Pacific Northwest National Laboratory (**PI: Vicki H. Grassian**)

\$225,000 (2004-2007) Army Research Office  
 “Development of Nanocrystalline Zeolite Materials for the Decontamination of Chemical Warfare Agents” (**PI: Vicki H. Grassian** and co-PI: Sarah Larsen)

\$560,000 (2003-2007) National Science Foundation “Acquisition of a Multi-User XPS system for Materials and Environmental Chemistry (**PI: Vicki H. Grassian** and co-PIs: Ed Gillan, Ned Bowden and Michelle Scherer

\$59,000 (2005-2007) Department of Energy “Enhanced Activity of Nanocrystalline Zeolites for Selective Catalytic Reduction of NOx” (PIs: Sarah Larsen and **Vicki H. Grassian**)

\$629,000 (2000 - 2005) National Science Foundation - Cosponsored by Surface and Analytical Chemistry and Atmospheric Sciences Divisions "Chemical Reactions of Environmental and Atmospheric Relevance on the Surface of Oxide Particles" (PI: Vicki H. Grassian; note this includes a two-year creativity extension for \$275,000 )

\$350,000 (2002-2005)	Environmental Protection Agency “Development of Nanocrystalline Zeolite Materials as Environmental Catalysts: From Environmentally Benign Synthesis to Emission Abatement” (with Sarah Larsen)
\$640,824 (2001-2005)	Department of Energy - Atmospheric Chemistry Program “The Role of Heterogeneous Chemistry in the Photochemical Oxidant Cycle: A Combined Laboratory and Modeling Study” (with Greg Carmichael)
\$181,000 (2000-2003)	National Science Foundation - Engineering Education Centers "REU Site in Environmental Systems at The University of Iowa's Center for Global and Regional Environmental Research" (with Greg Carmichael)
\$270,670 (2001)	National Science Foundation – Chemistry Division “Acquisition of a Tunable Solid State Laser System for Applications in Atmospheric Chemistry, Aerosol Analysis, Process Monitoring and Reaction Dynamics” (with Mark Young, Mark Arnold, Gregory Carmichael and Paul Kleiber)
\$2000 (2001)	American Chemical Society Petroleum Research Fund “A Symposium of the Fall 2001, National ACS Meeting: Physical Chemistry of Gas Particle Interactions” Sponsored by the Physical Chemistry Division and Co-Sponsored by the Colloid and Surface Chemistry Division PI: Vicki H. Grassian (PI)
\$25,000 (2001)	IUCRC - Industrial/Cooperative Research Center "Characterization of Volatile Components Emitted from UV Cured Coatings" with Julie Jessop
\$30,000 (2001)	Honda Corporation - Real time monitoring of CO (with Mark Arnold, Tom Boggess, Vicki Grassian and Tom Haselberger)
\$275,000 (1996-1999)	National Science Foundation-Surface and Analytical Chemistry Division "Thermal and Photo-Assisted Reactions on Metal Oxide Particles "
\$260,000 (1996-1999)	Environmental Protection Agency "Environmentally Benign Photo-Assisted Catalysis" (with Sarah Larsen)
\$96,000 (1997-1999)	Camille and Henry Dreyfus Postdoctoral Program in Environmental Chemistry “Postdoctoral Opportunities in Laboratory and Modeling Studies of Environmental and Atmospheric Chemistry at the University of Iowa”
\$473,000 (1998-2001)	Department of Energy - Atmospheric Chemistry Program “A Combined Experimental and Computational Study of Troposphere Chemistry on Aerosol Surfaces” (with Gregory R. Carmichael)

\$290,500 (1993-1996)	National Science Foundation "Laser Photochemistry of Molecules Adsorbed on Supported Metal Catalysts"
\$50,000 (1993-1995)	American Chemical Society-PRF "Surface Photochemistry of Molecules Adsorbed on Metal Particles"
\$131,250(1993-1996)	National Science Foundation "REU Site in Chemistry at the University of Iowa" - Co-PI: Mark Young
\$10,000(1995-1996)	E. I. duPont de Nemours & Company - Educational Award for Nitrous Oxide Studies on Zirconia Based Catalysts
\$140,000 (1995)	Carver Trust Foundation - Development of a Materials Research Laboratory. (with Richard Jordan)
\$2,500 (1994)	E. I. duPont de Nemours & Company "FT-IR Studies of Nitrous Oxide Decomposition"
\$9,500 (1994)	National Institute of Environmental Health Sciences "Thermal and Photochemical Catalytic Destruction of Hazardous Wastes on High Surface Area Oxides"
\$28,000 (1992-1993)	GE Foundation Faculty Fellowship "Surface Photochemistry of Halogenated Hydrocarbons Adsorbed on Supported Metal Catalysts"
\$55,000 (1993-1995)	National Science Foundation "Dynamical Studies of Surface Photoreactions"
\$20,500 (1990 – 1992)	American Chemical Society-PRF "Photochemical Reactions of Adsorbates on Metallic Surfaces"
\$21,500 (1991-1992)	National Science Foundation "Surface Photochemistry of Molecules Adsorbed on Supported Metal Catalysts"

#### **4. Invited Lectures, Presentations and Panelist Participation**

**From 2015-1990**

**2017**      **Universities, Colleges, National Laboratories, National Academies, Museums, Government Agencies and Industry**

Naval Research Laboratory (Distinguished Lecturer)

University of South Carolina (Invited)

Women's Museum of California (Panelist)

University of California, Riverside – Chemistry (Invited)

University of California, Riverside – College of Engineering (Invited)

**Meetings and Workshops**

64<sup>th</sup> Annual Pacific Conference on Spectroscopy & Dynamics (Invited)

American Meteorological Society (Invited)

National American Chemical Society Meeting San Francisco (Invited)

100<sup>th</sup> Canadian Chemistry Conference and Exhibition (Invited)

Gordon Research Seminar – Environmental Nanotechnology (Panelist)

\*Sloan Workshop – UC Irvine (Invited)

\*National American Chemical Society Meeting Washington DC (Invited)

\*American Association for Aerosol Research (Plenary Lecture)

**\*Upcoming lectures and presentations**

**2016**      **Universities, Colleges, National Laboratories, National Academies, Government Agencies and Industry**

Johns Hopkins University (Invited)

Yale University (Invited)

**Meetings and Workshops**

1<sup>st</sup> National French Workshop on Mineral Dust and Climate (Keynote)

ACS National Meeting, San Diego, CA (Invited)

2016 Colloid and Surface Science Symposium, Harvard University (Keynote)

Indoor Air 2016 Ghent Belgium (Plenary)

Eleventh International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, Golden, CO (Keynote)

ACS National Meeting, Philadelphia (Invited)

Towards a Molecular Level Understanding of Atmospheric Aerosols, Santa Cruz CA (Invited)

Sloan Workshop on Indoor Chemistry Models (Invited)

**2015**      **Universities, Colleges, National Laboratories, National Academies, Government Agencies and Industry**

University of California-San Diego, School of Engineering and SIO (Invited)

University of Colorado- Boulder (Invited)

**Meetings and Workshops**

Gordon Research Conference, Chemical Reactions at Surfaces-Ventura CA (Invited)

ACS National Meeting, Denver (Three Invited Talks)

Gordon Research Conference, Atmospheric Chemistry-Waterville NH (Invited)

International Workshop – Heterogeneous Kinetics Related to Atmospheric Aerosols Beijing, China (Keynote Talk)  
ACS National Meeting, Boston (Invited)  
SACNAS National Conference (Invited)  
Goldschmidt Conference (Silver Anniversary Plenary Lecture)  
PacifiChem, Honolulu, Hawaii (Invited)

2014

**Universities, Colleges, National Laboratories, National Academies, Government Agencies and Industry**

Pennsylvania State University (Invited)  
Truman State University (Invited)  
University of Georgia (Invited)  
University of Montreal (Invited)  
University of California-San Diego (Invited)  
Bristol University – UK (Jeyes Award Address)  
University of Leicester – UK (Jeyes Award Address)  
University of York – UK (Jeyes Award Address)

**Meetings and Workshops**

AirUCI Workshop, Laguna Beach CA (Invited)  
Pittsburgh Conference on Analytical Chemistry & Applied Spectroscopy, Chicago (Invited)  
Goldschmidt Conference, Sacramento, CA (One Keynote and One Invited Talk)  
ACS National Meeting, San Francisco (Four Invited Talks and one talk chosen for taping and posting)  
Ninth International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, Columbia, SC (Invited)  
Midwest ACS Meeting- Columbia, MO (ACS Midwest Award Address)  
Pacific Rim Symposium on Surfaces, Coatings and Interfaces Hawaii (Invited)  
AGU Fall Meeting, San Francisco (Invited)

2013

**Universities, Colleges, National Laboratories, National Academies, Government Agencies and Industry**

Texas Tech University (Invited)  
University at Albany (Invited)  
Argonne National Lab Postdoctoral Research and Career Symposium (Keynote Address)  
University of Nevada – Reno (Invited)  
University of Kentucky (Invited)

**Meetings and Workshops**

CCI on Sustainable Nanotechnology Annual Meeting Chicago, IL (Keynote Speaker)  
American Chemical Society National Meeting – New Orleans (Invited)  
Gordon Research Conference on Chemical Reactions on Surfaces – Switzerland (Invited Discussion Leader)  
First Sino-European School on Atmospheric Chemistry (SESAC), Taicang City, China (Invited Lecturer)  
Gordon Research Conference on Environmental Nanotechnology – Vermont (Invited)  
American Chemical Society National Meeting – Indianapolis, IN (Invited)  
Sustainable Nanotechnology Organization, Santa Barbara CA

2012

**Universities, Colleges, National Laboratories, National Academies, Government Agencies and Industry**

University of Connecticut, Hascoe Distinguished Lecture (Invited)  
University of Delaware (Invited)  
University of Illinois (Invited)  
University of California San Diego (Invited)  
Brown University (Invited)  
Louisiana State University (Invited)  
University of Wisconsin (Invited)  
Ohio State University (Invited)  
University of Colorado-Denver (Invited)  
University of Zurich, Dorothy Crowfoot-Hodgkin Symposium (Keynote Speaker)

**Meetings and Workshops**

American Physical Society (Invited)  
American Association for the Advancement of Science – Vancouver (Invited)  
American Chemical Society National Meeting, San Diego (Award Lecture)  
Award lecture selecting by ACS for taping and posting  
<http://edmc.acs.org/Common/PresentationDetail.aspx/Spring2012/ENVR/ENVR025/24-06-0302>  
American Chemical Society National Meeting, San Diego (Two Invited Talks)  
Kansas NSF-EPSCOR Meeting on Renewable Energy – (Plenary Lecture)  
Annual Symposium on Applied Surface Analysis (Surface Analysis '12) & 23<sup>rd</sup>  
Symposium of the Pacific Northwest AVS Chapter, Richland WA (Invited)  
Gordon Research Conference on Vibrational Spectroscopy – Maine (Invited)  
American Chemical Society National Meeting, Philadelphia (Invited)  
American Vacuum Society International Meeting, Orlando (Invited)  
Society of Environmental Toxicology and Chemistry and EPA (Invited)  
Southeastern ACS Regional Meeting, Raleigh, North Carolina (Keynote Speaker)  
American Geophysical Union Annual Meeting (Two Invited Talks)

2011

**Universities, Colleges, National Laboratories, Government Agencies and Industry**

Iowa State University – Chemistry Department  
University of California Santa Barbara  
University of Delaware  
University of Wooster  
Iowa State University - Toxicology Program

**Meetings and Workshops**

China Institute of Environmental Research Annual Meeting, Nanjing (Keynote Invited  
Lecture, Powerpoint presentation on Grassian group research provided to Dr.  
Weiguo Song who gave the talk in Chinese when VHG could not attend)  
American Chemical Society National Meeting – Anaheim (Invited)  
National Science Foundation Workshop on Nanomaterials and the Environment (Co-chair)  
Gordon Research Conference on Environmental Nanotechnology (Discussion Leader)  
Goldschmidt Conference – Prague, Czech Republic (Keynote Invited)  
American Chemical Society National Meeting – Denver (2 Invited Talks)  
One of the talks was selecting by ACS for taping and posting

<http://www.softconference.com/ACSchem/sessionDetail.asp?SID=266957>

American Association for Aerosol Research (Invited)

First International Workshop on the Long-Range Transport and Impacts of African Dust on the Americas Puerto Rico, USA (Invited)

**2010**

**Universities, Colleges, National Laboratories, Government Agencies and Industry**

University of New Hampshire - The Chemistry and Sustainability Lecture Series

State University of New York-Buffalo

Institute of Chemistry, Chinese Academy of Sciences

University of Illinois-Urbana Champagne

Colorado School of Mines

State University of New York-Albany

University of Iowa, Environmental Health Sciences Research Center

University of Iowa, Water Sustainability

University of Iowa, Department of Pathology

National Academies Chemical Sciences Roundtable Workshop: Challenges in Characterizing Small Particles: Exploring Particles from the Nano to Microscales – Washington, DC (Invited)

**Meetings and Workshops**

US-Egypt NSF-Advanced Studies Institute (ASI) on Nanomaterials and Nanocatalysis for Energy, Petrochemicals and Environmental Applications –Cairo, Egypt (Invited)

American Chemical Society National Meeting – San Francisco (Invited)

American Chemical Society National Meeting – Boston (Invited – two talks)

One of the invited talks selected by ACS for taping and posting

<http://www.softconference.com/ACSchem/player.asp?PVQ=GLHF&fVQ=FFIGLH&hVQ=>

6th International Conference on Interfaces Against Pollution – Beijing, China (Plenary Speaker)

American Chemical Society Summer School in Green Chemistry and Sustainable Energy – Golden, CO (Invited – two talks) Posted on ACS website

[http://portal.acs.org/portal/fileFetch/C/CNBP\\_026035/pdf/CNBP\\_026035.pdf](http://portal.acs.org/portal/fileFetch/C/CNBP_026035/pdf/CNBP_026035.pdf)

[http://portal.acs.org/portal/fileFetch/C/CNBP\\_026009/pdf/CNBP\\_026009.pdf](http://portal.acs.org/portal/fileFetch/C/CNBP_026009/pdf/CNBP_026009.pdf)

Second Chemical Sciences and Society Symposia, London, UK (Invited)

EPA STAR Meeting on Implications of Nanotechnology (Invited)

NOBCChe Regional Meeting– Iowa City, IA(Invited)

Pacificchem – Honolulu, Hawaii (Invited)

**2009**

**Universities, Colleges, National Laboratories, Government Agencies and Industry**

University of Colorado – Boulder (Invited)

University of California-Berkeley/Lawrence Berkeley Laboratory (Invited)

Washington University, St. Louis (Invited)

Duke University (Invited)

Fudan University, Shanghai China (Invited)

Peking University, Beijing China (Invited)

Research Center for Eco-Environmental Sciences Chinese Academy of Sciences Beijing China (Invited)

Atmospheric Institute of Physics, Chinese Academy of Sciences Beijing China (Invited)

University of Iowa, Human Toxicology Program (Invited)



University of Iowa, Environmental Sciences Program (Invited)  
University of Iowa, SK Day Department of Mathematics (Invited)

**Meetings and Workshops**

Gordon Research Conference—Chemical Reactions at Surfaces (Invited)  
American Chemical Society National Meeting – Salt Lake City (Invited)  
American Geophysical Union Joint Assembly – Toronto, CA (Invited)  
Dynamics and Chemistry of Surfaces and Interfaces Basic Research Workshop, Army  
Research Office – Savannah, GA (Invited)  
American Vacuum Society – San Jose, CA (Invited)  
American Association for Aerosol Research – Minneapolis, MN  
EPA Meeting on Implications of Nanotechnology (Invited)  
National Nanotechnology Initiative Workshop: Nanomaterials and Human Health &  
Instrumentation, Metrology, and Analytical Method (Invited)

**2008**

**Universities, Colleges, National Laboratories, Government Agencies and Industry**

University of Delaware Workshop on Environmental Nanoparticles (Invited - Keynote)  
Temple University (Invited)  
University of Vermont – Environmental Pathology, College of Medicine (Invited)  
University of Vermont – Department of Chemistry (Invited)  
Knox College (Invited)  
Sigma Xi Lecture Series, University of Northern Iowa (Invited)

**Meetings and Workshops**

Gordon Research Conference—Isotopes in Biological and Chemical Sciences (Invited)  
American Chemical Society National Meeting, New Orleans (Invited)  
International Environmental Nanotechnology Conference - Applications and Implications,  
Chicago, IL (Invited)  
Sixth Congress of the International Society for Theoretical Chemical Physics, British  
Columbia Canada (Invited – Plenary Speaker)  
Synchrotron Environmental Science IV Conference, San Francisco, CA (Invited – Keynote  
Speaker)

**2007**

**Universities, Colleges, National Laboratories, Government Agencies and Industry**

Stanford University (Invited)  
Louisiana State University (Invited)  
Viterbo University – NSF sponsored “Women in Science” Seminar Series Speaker (Invited)  
University of Iowa, College of Medicine Faculty Retreat (Invited)  
University of Iowa, College of Pharmacy (Invited)  
Pacific Northwest National Laboratory – Atmospheric Chemistry Program (Invited)  
Pacific Northwest National Laboratory – Environmental Interfaces Program (Invited)  
Northern Nanotechnologies Inc. (Invited)

**Meetings and Workshops**

American Association for Aerosol Research (Invited)  
Gordon Research Conference – Chemical Reactions at Surfaces (Invited)  
American Association for the Advancement of Science, San Francisco (Invited)  
Society of Toxicology: Midwest Regional Chapter Annual Meeting (Invited)

EPA Meeting on Nano/Health Implications (Invited)  
AVS National Meeting, Seattle

**2006**

**Universities, Colleges, National Laboratories, Government Agencies and Industry**

University of Toronto (Invited)  
University of Waterloo (Invited)  
Georgia Institute of Technology (Invited)  
University of California San Diego (Invited)  
Grinnell College (Invited)  
Pacific Northwest National Laboratory–EMSL Recapitalization Workshop (Invited)  
Nanoscale Materials, Inc. (Invited)  
EPA Meeting on Nano/Health Implications (Invited)

**Meetings and Workshops**

American Chemical Society National Meeting, Atlanta GA (Invited)  
American Chemical Society National Meeting, San Francisco CA (Invited)  
National Science Foundation Workshop on Chemistry and Sustainability (Co-chair)  
International Aerosol Conference, St. Paul MN  
Southeast Regional American Chemical Society Meeting, Augusta GA (Invited)  
Gordon Research Conference –Vibrational Spectroscopy, Biddeford, ME (Invited)  
Gordon Research Conference –Chemistry at Interfaces, Biddeford, ME (Invited)  
Telluride Conference, Iron Redox Chemistry at Interfaces Telluride, CO (Invited)

**2005**

**Universities, Colleges, National Laboratories, Government Agencies and Industry**

Dow Corning, Midland Michigan (Invited)  
Augustana College (Invited)  
University of Wisconsin – Eau Claire (Invited)  
Environmental Protection Agency (Invited)  
Northwestern University

**Meetings and Workshops**

Pittsburgh Conference, Orlando Florida (Invited)  
American Physical Society Annual Meeting, Los Angeles CA (Invited)  
American Chemical Society National Meeting, San Diego CA (Invited)  
European Geophysical Union, Vienna Austria (Invited)  
American Association of Aerosol Research Annual Meeting, Austin Texas  
Soc. of Environmental Toxicologists and Chemists Annual Mtg, Baltimore MD (Invited)

**2004**

**Universities, Colleges, National Laboratories and Government Agencies**

SUNY College of Environmental Science and Forestry (Invited)  
Syracuse University (Invited)  
University of California-Irvine (Invited – Physical Chemistry Seminar)  
University of California-Irvine (Invited speaker to a NSF-Funded Workshop on Air-Water Interfaces)  
EPA Nanotechnology and the Environment Workshop

**Meetings and Workshops**

The Third San Luis Symp.-Surfaces, Interfaces and Catalysis Merida, Venezuela (Invited)

Amer. Chem. Soc. National Meeting, Anaheim, CA – Geochemistry Div. (Invited)  
Amer. Chem. Soc. National Meeting, Anaheim, CA – Surface and Colloid Div. (Invited)  
51<sup>st</sup> International American Vacuum Society Meeting, Anaheim CA . (Invited)  
Midwest Regional American Chemical Society Meeting, Manhattan Kansas (Invited)  
American Geophysical Fall Meeting, San Francisco

**2003**

**Universities, Colleges, National Laboratories and Government Agencies**

Harvard University (Invited)  
Kansas State University special meeting on Nanomaterials and Homeland Security  
(Plenary Lecturer)  
EPA – Science Forum (Invited)  
Colorado State University (Invited)  
University of Miami, FL (Invited)  
University of Iowa, Department of Chemical and Biochemical Engineering (Invited)

**Meetings and Workshops**

Mesilla Workshop on Environmental Chemistry at Interfaces (Invited)  
Department of Energy: Atmospheric Sciences Program (Invited)  
Amer. Chem. Soc. National Meeting, New Orleans (Invited)  
American Association for Aerosol Research Annual Meeting (Invited)  
ACS Midwest Regional Meeting (Invited)  
Annual Midwest Environmental Chemistry Workshop (Invited Keynote Speaker)

**2002**

**Universities, Colleges and National Laboratories**

University of North Carolina (Invited)  
Carleton College (Invited)  
Kansas State University, (Invited)  
University of Kansas (Invited)  
Northern Illinois University (Invited)  
Summer Institute for Creative Engineering and Inventiveness, University of Iowa,  
College of Engineering (Invited)  
Lawrence Berkeley Laboratories - Environmental Energy Technologies Division(Invited)

**Meetings and Workshops**

Department of Energy: Atmospheric Sciences Program (Invited)  
Amer. Chem. Soc. National Meeting, Orlando, FL(Invited)  
National Meeting of Iota Sigma Pi  
Telluride Aerosol Workshop (Invited)  
American Chemical Society National Meeting in Boston, MA (Invited)  
Annual Meeting of the Iowa Microscopy Society (Invited)

**2001**

**Universities, Colleges and National Laboratories**

Iowa State University (Invited)  
University of Texas –Austin (Invited)  
Ohio State University (Invited)  
Pacific Northwest National Labs (Invited)  
ACS Great Lakes Regional Meeting (Invited)

Amer. Chem. Soc. National Meeting, Chicago (Invited)  
European Aerosol Conference, Leipzig Germany (Invited)  
Midwest Regional American Chemical Society Meeting (Invited)

**Meetings and Workshops**

ACS Great Lakes Regional Meeting (Invited)  
Amer. Chem. Soc. National Meeting, Chicago (Invited)  
European Aerosol Conference, Leipzig Germany – (Invited)  
Midwest Regional American Chemical Society Meeting (Invited)  
American Geophysical Union Fall Meeting, San Francisco

**2000**

**Universities, Colleges and National Laboratories**

University of Nebraska (Invited)  
Johns Hopkins University (Invited).  
Northwestern University (Invited).

**Meetings and Workshops**

American Geophysical Society Meeting, Atmospheric Science Division  
Amer. Chem. Soc. National Meeting, San Francisco (Invited)  
American Association for Aerosol Research Annual Meeting

**1999**

Michigan State University (Invited)  
Department of Energy-Atmospheric Chemistry Program, Annual Meeting (Invited)  
Colorado State University (Invited)  
University of Colorado (Invited)

**1998**

Laser Techniques in Surface Science III Optical Science Symposium of the  
International Society for Optical Engineering (SPIE) San Jose, CA (Invited)  
Department of Energy-Atmospheric Chemistry Program, Annual Meeting (Invited)  
American Geophysical Society Meeting, Atmospheric Science Division

**1997**

Gordon Research Conference, Reactions on Surfaces  
Amer. Chem. Soc. National Meeting, San Francisco CA (Invited)  
Amer. Chem. Soc. National Meeting, Las Vegas,  
American Vacuum Society National Meeting, San Jose, CA.

**1996**

UC Berkeley, Surface Science and Catalysis Seminar (Invited)  
Amer. Chem. Soc. National Meeting, Meeting - New Orleans (Invited)  
University of South Dakota (Invited)  
University of Illinois-Chicago (Invited)  
Southwest Missouri State University (Invited)  
University of Wisconsin - Eau Claire (Invited)

**1995**

Gordon Research Conference, Reactions on Surfaces  
American Chemical Society Meeting, Anaheim, CA  
Optical Science Symposium of the International Society for Optical  
Engineering (SPIE) San Diego, CA (Invited)  
Coe College(Invited)

- 1994** MRS Meeting, Boston  
E. I. du Pont de Nemours and Co. - Experimental Station, Wilmington, DE (Invited)
- 1993** Gordon Research Conference, Reactions on Surfaces  
Amer. Chem. Soc. National Meeting, Denver, CO  
University of Missouri, Columbia, MO (Invited)  
Grinnell College, Grinnel, IA (Invited)  
Gustavus Aldophous (Invited)
- 1992** Amer. Chem. Soc. National Meeting, San Francisco CA.  
Amer. Vacuum Soc. Meeting, Chicago IL  
North Dakota State University Fargo, ND (Invited)  
Concordia College (Invited)
- 1991** Cornell College (Invited)  
Amer. Chem. Soc. National Meeting, Atlanta GA.
- 1990** Solar Energy Research Institute, Golden, Colorado (Invited)

## **SERVICE**

### **University of California, San Diego (All)**

Committees for Limited Submissions in Biomedical Sciences (AY 2016/2017)

Ad Hoc Review Committees (2) – Scripps Institution of Oceanography (AY 2016/2017)

Ad Hoc Review Committees (3) – Nanoengineering (AY 2016/2017)

Transformation Management Team (TMT) – Department of Chemistry & Biochemistry (2016)

### **University of Iowa**

#### **Department**

Executive Committee, Associate Chair –Development and Diversity 2010 to 2015

Diversity Committee, Chair 2013 - 2015

Awards Committee 2010 - 2015

Departmental Self Study and Review Response Committee, 2012–2013

Review of Probationary Faculty 3<sup>rd</sup> year review (Chair) 2013

Review of Probationary Faculty 2<sup>nd</sup> year review (Chair) 2012

Review of Probationary Faculty 1<sup>st</sup> year review (Chair) 2011

Search Committee, Member, Chemical Education 2010-2011

Tenure and Promotion Committee, Convener 2010-2011

Sustainability Cluster Hire – Water Chemistry Position, Chair 2009-2010

Environmental Chemical Sciences Advisor – 1999 to 2010

Undergraduate Curriculum Committee – 2004 to 2010

Review of Probationary Faculty 5<sup>th</sup> year review (Chair) 2008

Promotion Committee (Chair) 2008

Physical Chemistry Search Committee, Chair 2006

Department of Chemistry Executive Committee – 1999 to 2006

Faculty Hiring Committee (Chair) – 2004 to 2006

Faculty Search Committee, Chair (advanced analytical chemistry position) – 2003

Faculty Search Committee, (Department of Chem. & Biochem. Eng.) – 2003

Undergraduate Awards Committee - 1995 to 2004

Faculty Search Committee (physical chemistry position)– 2002 to 2003

Honors Advisor - 1996 to 2003

Equipment Committee – 2000 to 2002

Faculty Search Committee, Chair – 2002

External DEO Search Committee – 2000-2001

Undergraduate Brochure Ad Hoc Committee – 1996-2000

Space Committee – 1999 - 20000

Salary Committee - 2000

Internal Equipment Committee - 1997 to 1999

Chemistry Representative to Scholars Day and Hawkeye Visit Day - 1993 to 1999

Associate Chair, Executive Committee - 1997

Ida Beam Visiting Professor Program (Dept. of Chemistry) - 1996 to 1997

Faculty Search Committee, Chair - 1996 - 1997

Hiring Plan Committee- 1993 - 1995

Electronics Shop Committee - 1995

REU/SURF Committee – 199-1993

Two Analytical Faculty Search Committees – 1991-1995

Staff Evaluation Committee - Chair of the Committee to Evaluate Laboratory Coordinator 1994-1996

Undergraduate Chemical Society, Advisor - 1991- 1993

Visiting Faculty Search Committee - Summer 1993

Machine Shop Search Committee - Summer 1991

Textbook Committee for New Freshman Chemistry Text - Spring 1991

Participated in Chemical Careers Day (Sponsored by the Undergraduate Chemical Society) Spring 1991

Represented the Chemistry Department at the Argonne Science Fair - October 1990

Participated in Prospective Graduate Student Open Houses - 1993 - present

### **Selected Collegiate and Divisional Committees**

College of Liberal Arts and Sciences Executive Committee 2011-2014

Member of the Advisory Committee for the Environmental Sciences Degree Program 2002– 2010

Collegiate Promotion and Tenure Committee, CLAS 2006

College of Liberal Arts and Sciences Executive Committee 2003-2006

College of Liberal Arts and Sciences Self-Study Review Committee 2003

Learning Links Committee – 2001– 2004

Committee to Review Faculty-Scholar Proposals for the CLAS 2002

Departmental Representative at Fall Commencement Exercise, 2001, 2002

Committee to Review Faculty-Scholar Proposals for the CLAS 2001

Committee to Review Collegiate Scholar Awards – Spring 2001

Committee to Review the Department of Mathematics – 2001

Committee to Review Faculty-Scholar Proposals for the CLAS 2001

Member of the Executive Committee of the Environmental Sciences Degree Program 1999 – 2002

Assistant Program Director-Honors Program Search Committee 2001

Ad-hoc Committee to Review Developmental Assignments – Spring 2000

College of Liberal Arts Faculty Assembly - Departmental Representative - 1997 to 1999

College of Liberal Arts Faculty Assembly - Departmental Alternate Representative - 1997

### **University and Academic Senate Committees**

Faculty/Postdoc Advisory Group, Graduate College 2013

Ad Hoc Review Committee of the WISE program 2012

External Review Committee of the Crossing Borders program in International Programs 2012



Session co-Chair Building Collaborations among Colleagues and across Disciplines, Departments, and Colleges, 3rd Annual UI Health Sciences & Engineering Women Faculty Development Conference 2011

Strategic Global Initiatives Council, 2011-2012

Honors Scholarship Selection Committee 2010-present

Strategic Initiatives Task Force on Research and Creative Excellence, 2009-2010

EPSCOR Scientific Advisory Committee, 2009-2010

Institute for Clinical and Translational Sciences, Scientific Oversight Committee, 2010-present

Environmental Health Sciences Research Center, Executive Committee, 2009-present

Institute for Clinical and Translational Sciences, Executive Committee, 2006-2010

ADVANCE NSF Initiative, 2009

AGEP Executive Committee, 2008

CLAS Dean Review Committee, 2008

Executive Committee, Center for Global and Regional Environmental Research – 1997- 2015

Honorary Degree Selection Committee, 2006-2009

Life Sciences Task Force Committee, 2007-2008

Committee on Committees, 2005-2008

Research Council, 2005-2008

Faculty Council and Faculty Senate, 2005-2008

Presidential Search Advisory Committee 2006

Interdisciplinary Research and Shared Credit Task Force, Chair 2006

Research Council, Chair AY2005/2006

The University of Iowa Central Microscopy Research Facilities Faculty Advisory Committee – 3 year term 2004 to 2007

Blue Ribbon Task Force to Review Physical and Biological Sciences at UI (ad hoc committee constituted by the Provost and Vice President for Research) 2004

Vice President for Research Search Committee 2004-2005

Provost Search, Panel Participant (Chair) 2003

Nanotech@UI a symposium on Nanoscience and Nanotechnology at UI, Organizing Chair 2003

Environmental Health Science Research Center Investigator, Inst. for Rural and Environmental Health

Women in Science and Engineering Advisor Board, 3 year term appointed in August 2002

University Lecture Committee, faculty vice-chair, 3 year term , appointed in August 2002

Committee on Committees, 3 year term, appointed in August 2002

Executive Committee, Optical Science and Technology Center - 1998 to 2008

The University of Iowa Central Microscopy Research Facilities Faculty Advisory Committee

Ad-hoc Committee to Review Faculty-Scholar Proposals for the Provost's office 2001 and 2002

Honors Program - Ad Hoc Awards Selection Committees – 2000-2010

Faculty Senate, 1999-2002

Faculty Council, three year term elected in 1999-2002

Ad-hoc Committee to Review James Van Allen Faculty Fellowship Proposals 2002

Ad-hoc Task Force Committee to review the Clinical Track - Spring 2000

Research Council, Vice President of Research Office – 1997-2000

Chair, Committee to Review Central Research Facilities - 1998 to 1999

Consultant, Development of Chemical Sciences Laboratory Space - 1998 to 1999

Honors Program - Ad Hoc Awards Selection Committees - 2012

Electron Microscopy Advisory Board - 1993 to 1996

Represented the University of Iowa in the CIC- Women in Science and Engineering Committee 1992

Developed Campus Action Plan with Other CIC-WISE Conference Participants 1993

Scanning Probe Microscopy Group 1993

#### **4. Professional and National Service**

2016 Symposium Co-Organizer Physical Chemistry of Environmental Interfaces for the Division of Physical Chemistry ACS National Meeting in San Diego

2015 Reviewer for Science Foundation of Ireland, Site review team member for University of College Dublin Science Program – Center for NanoBio Interactions

2015 Co-organizer Goldschmidt Conference Session on Transport and Aging of Atmospheric Particles (with Alex Laskin)

2014 Symposium Co-organizer, with Yigal Erel and Raquel Ochoa Gonzalez, Atmospheric emissions, transport, processing, aerosols and deposition of contaminants in Environmental Geochemistry: Geochemistry of Human – Environment Interactions

2014 Symposium Co-organizer, with Kim Prather Advances in Our Understanding of Complex Aerosols at the Individual Particle Level, at PittCon in Chicago, IL

2012 Symposium Co-organizer, with Kim Prather Chemistry in the Clouds: Impacts of Aerosols on Climate Change a session at the AAAS Annual Meeting in Vancouver, CA sponsored by the Chemistry Section of AAAS

2012 Symposium Co-organizer, with Robert Hamers, Murray Johnston, Howard Fairbrother and R. Lee Penn, Nanomaterials and the Environment: The Chemistry and Materials Perspective for the Division of Colloid and Surface Chemistry (co-sponsored with Environmental Chemistry and Geochemistry) ACS National Meeting in San Diego

2011 Chair-Elect Division of the division of Colloid and Surface Chemistry of the American Chemical Society.

2010 Vice Chair of the Division of the Colloid and Surface Chemistry of the American Chemical Society.

2009 Appointed to Chair the Continuing Symposium Series on Interfacial Chemistry and the Environment for the Colloid and Surface Chemistry Division of the American Chemical Society

2008 Symposium Co-Organizer Physical Chemistry of Environmental Interfaces for the Division of Colloid and Surface Chemistry ACS National Meeting in New Orleans

2007-2010 User Advisory Committee- Environmental Molecular Science Laboratory, Pacific Northwest National Laboratory Reappointed through election in 2009

2006 7<sup>th</sup> International Aerosol Conference 2006, Member of Technical Program Committee

2006 – National Science Foundation Workshop on Chemistry Contributions to Sustainability, co-chair

November 2005 – Symposium Co-Organizer (along with David Powell, Dow Corning) for the Society of Environmental Toxicology and Chemistry Meeting in Baltimore – A Special Session entitled “Environmental and Health Impacts of Manufactured Nanoparticles”

2005- co-chair and co-organizer, American Association of Aerosol Research, Aerosol Chemistry Working Group

December 2004 National Science Foundation Panel Review

May 2003 Workshop Grand Challenges in the Environment – Breakout session leader for Nanotechnology Applications for Sustainable Processes (Organized by EPA and sponsored by the National Nanotechnology Coordinating Office)

May 2003 EPA Science Forum 2003: Partnering to Protect Human Health and the Environment, Panel Discussion Participant

2003-2006 American Chemical Society, Division of Colloids and Surface Chemistry Student Awards Committee

March 2003 Member of the International Advisory Committee for the Third San Luis Symposium on Surfaces, Interfaces and Catalysis, A Pan-American Advanced Studies Institute, Mérida, Venezuela

2002-2005, American Chemical Society, Division of Colloids and Surface Chemistry Student Awards Committee

2002 Treasurer Members at Large Chapter, Iota Sigma Pi-National Honors Society for Women Chemists

2002- Symposium Organizer for the Regional ACS Meeting in Minneapolis (2002) – “Surfaces in the Atmosphere” Symposium

September 2001-A member of the EPA STAR Review Panel

December 2001 – Symposium Co-Organizer (along with John Jayne) for the Fall AGU Meeting in San Francisco – A Special Session in the Atmospheric Sciences Division “Current Understanding of Tropospheric Aerosols: Advances in Field and Laboratory Studies”

August 2001 – Symposium Co-Organizer (along with Jeff Roberts) for the National ACS Meeting in Chicago – Physical Chemistry Division “The Physical Chemistry of Gas-Particle Interactions”

April 2000 - NSF Division's Educational and Centers Division - Workshop

April 2000 - CIC/Procter and Gamble Fellowship Program Selection Committee

January 1999 - A Member of the Star Fellowship Review Panel- Environmental Protection Agency

May 1998 - National Science Foundation Instrumentation Proposal Review Committee

March 1997, 1998 Iota Sigma Pi - National Honor Society for Women in Chemistry,  
Scholarship Committee

September 1995 - Appointed by American Chemical Society to Serve as Mentor to ACS  
Minority Fellow

September 1994 - Appointed by American Chemical Society President to Serve on Canvassing  
Committee

October 1994 - National Science Foundation REU Proposal Review Committee

December 1993 - Department of Energy Panel Review Committee of Surface Physics Program

Moderated numerous symposia sessions at national meetings for the Materials Research Society,  
American Chemical Society, American Association for Aerosol Research, American Geophysical  
Union and SPIE.