

Amanda J. Haes
Curriculum Vitae as of July 2019

Campus Address: Chemistry, 204 IATL, University of Iowa
Phone: (319) 384-3695
E-mail: amanda-haes@uiowa.edu

EDUCATION AND PROFESSIONAL HISTORY

Post Graduate Education

2004 - 2006 **Postdoctoral Fellow**, Chemistry Division, Chemical Dynamics and Diagnostics Branch, U.S. Naval Research Laboratory
Mentor(s): Collins, Greg E

Higher Education

2004 **PhD**, Chemistry (Advisor: Richard P. Van Duyne), Northwestern University
2001 **MS**, Chemistry, Northwestern University
1999 **BA**, Chemistry and Physics, Summa Cum Laude, Wartburg College
Supporting Areas / Minor: Mathematics

Professional and Academic Positions

2019 - Present **Professor**, Department of Chemistry, University of Iowa
2019-2021 **Collegiate Scholar**, College of Liberal Arts and Sciences, University of Iowa
2018 - Present **Co-Director**, NSF Funded REU Program on Nanoscience & Nanotechnology, University of Iowa

2016 - Present **Member**, Nanotoxicology Research Group, Environmental Health Sciences Research Center, University of Iowa

2013 - Present **Director**, Nanoscience and Nanotechnology Institute, University of Iowa
2013 - 2019 **Associate Professor**, Department of Chemistry, University of Iowa
2006 - Present **Member**, Nanoscience and Nanotechnology Institute, University of Iowa
2017 - 2021 **Standing/Permanent Member**, National Institutes of Health Study Section (Instrumentation and Systems Development, ISD)

2006 - 2018 **Member**, Optical Sciences and Technology Center, University of Iowa
2006 - 2013 **Assistant Professor**, Department of Chemistry, University of Iowa
2004 - 2006 **National Research Council (NRC) Research Associate**, Chemistry Division, Chemical Dynamics and Diagnostics Branch, U.S. Naval Research Laboratory

Select Honors and Awards

2019-2021 **Collegiate Scholar**, University of Iowa
2017 **"Must See" Presenter**, Fall American Chemical Society National Meeting
2014 **Career Development Award**, University of Iowa
2011 **Nominated as an Advisor who Contributes Outstanding Work to Honors Education**, University of Iowa Honor's Program
2011 **The Analyst themed issue on "Emerging Investigators"**
2011 **Top 5% of Cited Authors for Journals in Chemistry from 2000-2010**, Thomson Reuters
2010 **Chemical Communications themed issue on "Emerging Investigators"**
2008 - 2009 **Highlighted as a New Investigator**, FACSS Conference
2008 **U.S. Delegate**, Transatlantic Frontiers on Chemistry Conference
2007 **NRC/ASEE Postdoctoral Research Publication Award**, Naval Research Laboratory
2007 **Office of Naval Research Young Investigator Award**
2007 **Victor K. LaMer Award**, ACS Division of Colloid & Surface Chemistry
2006 **Dreyfus New Faculty Scholar**
2004 - 2006 **National Research Council Research Associateship Award**

Blue numbers refer to an annotation listed at the end of this document.

2004	Excellence in Graduate Research (Outstanding Thesis) Award , Northwestern University, Department of Chemistry
2004	Kirkbright Bursary Award , Association of British Spectroscopists
2004	Outstanding Research Award , Nanoscale Science and Engineering Center (Northwestern University)
2003 - 2004	Research Fellow , American Chemical Society Division of Analytical Chemistry and Dupont
2003	Materials Research Society Graduate Student Gold Award
2001 - 2003	Nanoscale Science and Engineering Center Graduate Fellow , Northwestern University
2001 - 2003	University Fellow , Northwestern University
2002	Eastman Chemical Summer Research Fellow , American Chemical Society Division of Analytical Chemistry
1999	National Science Foundation Graduate Fellowship Honorable Mention

TEACHING

Student Mentoring (* indicates chair of the committee)

PHD

Advisor

2018 – Present	*Pagel, Katrina; <i>In Process</i>
2018 - Present	*Wang, Junnan; <i>In Process</i>
2017 - Present	*Kumarage, Sajeewani; <i>In Process</i>
2014 - Present	*Phan, Hoa; <i>In Process</i>
2013 - Present	*Xi, Wenjing; <i>Completed, Research Scientist, FDA</i>
2012 - 2017	*Lu, Entzu (Grace); <i>Completed, Post-doctoral Associate, West Virginia University</i>
2012 - 2015	*Wijenayaka, Lahiru; <i>Completed, Post-doctoral Associate, Sri Lanka Institute of Nanotechnology</i>
2009 - 2015	*Shrestha, Binaya; <i>Completed, Instructional Services Manager, University of Iowa</i>
2008 - 2014	*Volkert, Anna; <i>Completed, Visiting Assistant Professor, Gustavus Adolphus University</i>
2008 - 2013	*Pierre, Marie Carmelle; <i>Completed, Adjunct Professor, Kean College</i>
2008 - 2011	*Ivanov, Michael; <i>Completed, Associate Director of Digital Content at McGraw Hill and Adjunct Professor at NICC</i>

Internship Advisor

2008	Ryu, Kyungtag; <i>Completed, deceased</i>
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MS

Advisor

2015 - 2017	*Neupane, Binita; <i>Completed, Process Engineer, Intel</i>
2014 - 2016	*Keratithamkul, Khomson; <i>Completed, Graduate Student, University of Minnesota, Department of Education</i>
2012 - 2014	*Butzke, Megan; <i>Completed, P.A. Student, Rosalind Franklin University of Medicine and Science</i>
2006 - 2009	*Walker, Brandon; <i>Completed, Research Instrumentation Position, Albany State University</i>
2006 - 2008	*Bednar, Heidi; <i>Completed, Graduate Student, UCLA</i>
2006 - 2008	*Friday, Tyson; <i>Completed, Chemist, Frontier Natural Products Co-op</i>

Professional Student Mentoring**Postdoctoral Research Supervision**

2009 - 2010	Nath, Sudip <i>Chemist, Nanotech</i>
2008 - 2010	Subramaniam, Varuni <i>Chemist, Iowa Department of Agriculture and Land Stewardship</i>
2007 - 2009	Roca, Maryuri <i>Visiting Assistant Professor, Skidmore College</i>

SCHOLARSHIP**20 Most Recent Publications (out of 63)**

CLAS * System * = Senior Author, Major Contribution, ** = Secondary Contribution *** = Equal Contribution, **** = Minor Contribution

Refereed Articles

1. *Phan, H.T., Haes, A.J. (2019) What does nanoparticle stability mean? *Journal of Physical Chemistry*, 123 (27), 16495-16507.
2. *Xi, W. Haes, A.J. (2019). Elucidation of HEPES Affinity to and Structure on Gold Nanostars. *Journal of the American Chemical Society*, 141(9), 4034-4042.
3. * Xi, W., Volkert, A.A., Boller, M.C., Haes, A.J. (2018). Vibrational Frequency Shifts for Monitoring Non-Covalent Interactions between Molecular Imprinted Polymers and Analgesics. *Journal of Physical Chemistry C*, 122(40), 23068-23077.
4. **** Lu, G., Haes, A. J., Forbes, T. Z. (2018). Detection and identification of solids, surfaces, and solutions of uranium using vibrational spectroscopy. *Coordination Chemistry Reviews*, 374, 314-344.
5. * Xi, W., Phan, H. T., Haes, A. J. (2018). How to accurately predict solution-phase gold nanostar stability. *Analytical and Bioanalytical Chemistry*, 122, 14846-14856.
6. * Phan, H. T., Haes, A. J. (2018). Impacts of pH and intermolecular interactions on surface-enhanced Raman scattering chemical enhancements. *Journal of Physical Chemistry C*, 122(26), 14846-14856.
7. * Lu, G., Johns, A., Neupane, B., Phan, H. T., Cwiertny, D. M., Forbes, T. Z., Haes, A. J. (2018). Matrix-independent surface-enhanced Raman scattering detection of uranyl using electrospun amidoximated polyacrylonitrile mats and gold nanostars. *Analytical Chemistry*, 90, 6766-6772.
8. * Xi, W., Shrestha, B. K., Haes, A. J. (2018). Promoting intra- and intermolecular interactions in surface-enhanced Raman scattering. *Analytical Chemistry*, 90(1), 128-143.
9. * Owais, A. I., Lu, G., Keratithamkul, K., Kanellis, M. J., Haes, A. J. (2018). Silver diamine fluoride chemical mechanisms of action as a caries arresting and preventing agent. *Journal of the California Dental Association*, 46(2), 113-120.
10. * Lu, G., Forbes, T. Z., Haes, A. J. (2016). Evaluating best practices in Raman spectral analysis for uranium speciation and relative abundance in aqueous solutions. *Analytical Chemistry*, 88(1), 773-80.
11. * Lu, G., Shrestha, B. K., Haes, A. J. (2016). Importance of tilt angles of adsorbed aromatic molecules on nanoparticle rattle SERS substrates. *Journal of Physical Chemistry C*, 120, 20759-20767.
12. **** Grassian, V. H., Haes, A. J., Mudunkotuwa, I. A., Demokritou, P., Kane, A. B., Murphy, C. J., Hutchison, J. E., Isaacs, J. A., Jun, Y.-S., Karn, B., Khondaker, S. I., Larsen, S. C., Lau, B. L. T., Pettibone, J. M., Sadik, O. A., Saleh, N. B., Teague, C. (2016). NanoEHS - defining fundamental science needs: no easy feat when the simple itself is complex. *Environmental Science: Nano*, 3(1), 15-27.
13. * Lu, G., Forbes, T. Z., Haes, A. J. (2016). SERS detection of uranyl using functionalized gold nanostars promoted by nanoparticle shape and size. *Analytist*, 141, 5137-5143.
14. * Volkert, A. A., Pierre, M. C. S., Shrestha, B., Haes, A. J. (2015). Implications of sample aging on the formation of internally etched silica coated gold nanoparticles. *RSC Advances*, 5(5), 3774-3780.
15. * Wijenayaka, L. A., Ivanov, M. R., Cheatum, C. M., Haes, A. J. (2015). Improved parametrization for extended Derjaguin, Landau, Verwey, and Overbeek predictions of functionalized gold nanosphere stability. *Journal of Physical Chemistry C*, 119(18), 10064-10075.
16. * Shrestha, B. K., Haes, A. J. (2015). Improving surface enhanced Raman signal reproducibility using gold-coated silver nanospheres encapsulated in silica membranes. *Journal of Optics*, 17(11), 114017.
17. * Lu, G., Goodman, A. M., Ayres, B., Builta, Z., Haes, A. J. (2015). Near real-time determination of metabolic parameters for unquenched 6-mercaptopurine and xanthine oxidase samples using capillary electrophoresis. *Journal of Pharmaceutical and Biomedical Analysis*, 111, 51-56.
18. * Volkert, A. A., Haes, A. J. (2014). Advancements in nanosensors using plastic antibodies. *Analytist*, 139(1), 21-31.

19. * Ivanov, M. R., Haes, A. J. (2012). Anionic functionalized gold nanoparticle continuous full filling separations: Importance of sample concentration. *Analytical Chemistry*, 84(3), 1320-1326.
20. * Pierre, M. C. S., Haes, A. J. (2012). Purification implications on SERS activity of silica coated gold nanospheres. *Analytical Chemistry*, 84(18), 7906-7911.

Recent Grants and Contracts

Current

- January 2019-Present *Tungstate Speciation Evaluation using Raman Spectroscopy*
Contract with Iowa Corn Board Association.
Investigator/s: Amanda J. Haes (Principal Investigators)
- Mar 2018 - Dec 2021 *REU Site: Undergraduate Research in Nanoscience & Nanotechnology*
Funded by National Science Foundation. Award amount: (\$360,000.00).
Investigator/s C Allan Guymon (Co-Investigator), Amanda J Haes (Principal Investigator).
- Feb 2017 - Jan 2021 *Rapid Uranium Sensors to Minimize Health Impacts in the Navajo Nation IR01ES027145*
Funded by National Institutes of Health. Award amount: (\$1,869,495.00).
Investigator/s Amanda J Haes (Principal Investigator/Project Director), Tori Z Forbes, David M Cwiertyny, Jose Cerrato.
- Jul 2017 - Jun 2020 *Overcoming Adsorption Limitations for Surface Enhanced Spectroscopy Measurements*
Funded by National Science Foundation. Award amount: (\$330,000.00).
Investigator/s Amanda J Haes (Principal Investigator).
- Jul 2016 - Jun 2019 *Smart Release Antimicrobial Coatings for Dental Implants*
Funded by National Institutes of Health. Award amount: (\$417,125.00).
Investigator/s Amanda J Haes (Co-I), Isabelle Denry (Principal Investigator).

Recently Completed

- Feb 2012 - Jan 2017 *SERS-Active Chromatographic Gold Nanorods*
Funded by National Science Foundation. Award amount: (\$315,982.00).
Investigator/s Amanda J Haes (Principal Investigator).
- Feb 2015 - Jan 2016 *Development of Real-Time Sensitive and Selective Radiological Sensors*
Funded by Office of the Vice President for Research and Economic Development.
Award amount: (\$49,904.00). Investigator/s Amanda J Haes (Principal Investigator), Tori Z Forbes (Co-Investigator), David M Cwiertyny (Co-Investigator).

Selected Invited Lectures and Conference Presentations (2014 – Present)

UNIVERSITIES

- 2019 *Impacts of Nanoparticles in the Environment and Biological Systems*, College of St. Benedict/St. John's University, Saint Joseph, Minnesota
- 2019 *Impacts of Nanoparticles in the Environment and Biological Systems*, University of Dubuque, Dubuque, Iowa
- 2019 *Nanoparticles and SERS - To Stability and Beyond!*, Baylor University, Waco, Texas
- 2019 *Nanoparticles and SERS - To Stability and Beyond!*, Texas A & M, College Station, Texas
- 2019 *Nanoparticles and SERS - To Stability and Beyond!*, University of California, Irvine, Irvine, California
- 2019 *Nanoparticles and SERS - To Stability and Beyond!*, University of Houston, Houston, Texas
- 2019 *Nanoparticles and SERS - To Stability and Beyond!*, University of Illinois, Chicago, Chicago, Illinois
- 2018 *Determining Heavy Metal Speciation*, University of Iowa, Human Toxicology Program, Iowa City, Iowa
- 2018 *Engineering Plasmonic Nanoparticles*, University of Iowa, Department of Chemical and Biochemical Engineering, Iowa City, Iowa
- 2018 *Nanoparticles and SERS - To Stability and Beyond!*, Georgia Tech, Department of

- Materials Science and Engineering, Atlanta, Georgia
- 2018 *Nanoparticles and SERS - To Stability and Beyond!*, University of Iowa, Department of Chemistry, Iowa City, Iowa
- 2018 *Promoting Adsorption of Non-thiolated Molecules to Gold Nanostars – Fundamentals and Applications*, Iowa State University, Department of Chemistry, Ames, Iowa
- 2017 *Gold Nanostars as Optical Sensors – Successes and Practical Challenges*, University of California, Riverside, Riverside, California
- 2017 *The Many “Colors” of Gold Nanoparticles*, Drake University, Des Moines, Iowa
- 2017 *Gold Nanostar Stability and Use in Complex Matrices*, University of Washington, Seattle, Washington
- 2017 *Gold Nanostar Stability and Use in Complex Matrices*, Rice University, Houston, Texas
- 2017 *How does metal nanoparticle stability impact quantitative detection using plasmonic sensors?*, University of West Virginia, Materials Science & Engineering, Morgantown, West Virginia
- 2017 *Toward the Development of a Practical Nanosensor for Uranium*, Gustavus Adolphus, St. Peter, Minnesota
- 2017 *Toward the Development of a Practical Nanosensor for Uranium*, University of West Virginia, Chemistry, Morgantown, West Virginia
- 2017 NNI@UI REU Program Seminar, *The Many “Colors” of Gold Nanoparticles*, Iowa City, Iowa
- 2016 *The Many Colors of Gold Nanoparticles*, NNI@UI REU Program Seminar, Iowa City, Iowa
- 2016 *Artificial Receptors for Plasmonic Sensor Development*, University of Colorado, Boulder, Colorado
- 2016 *Plasmonic Nanomaterial Stability*, University of Colorado, Boulder, Colorado
- 2015 *Quantitative Detection Hurdles for Biological and Environmental using Metal Nanoparticles*, Michigan State University, East Lansing, Michigan, United States
- 2015 NNI@UI Symposium, *Fundamental Science Needs in NanoEHS*, Iowa City, Iowa
- 2015 *The Many Colors of Gold Nanoparticles*, REU Program, University of Iowa, Iowa City, Iowa
- 2015 *Improving Medical and Environmental Diagnostics with Nanomaterials*, University of Minnesota, Morris, Morris, Minnesota
- 2015 *What do we really know about nanoparticle stability?*, University of Iowa, Analytical Chemistry Seminar, Iowa City, Iowa
- 2014 *Quantitative Bio-Detection Using SERS*, Washington University, Army Workshop, St. Louis, Missouri, United States
- 2014 *Improving Medical Diagnostics with Nanomaterials*, Missouri State University, Springfield, Missouri, United States

CONFERENCES

- 2019 International Conference on Advanced Vibrational Spectroscopy, *Competing Role of Surface Chemistry on Nanostar Stability and SERS Activity*, Auckland, New Zealand
- 2019 *How Raman spectroscopy can be used to assess selective drug detection using molecular imprinted polymers*, SciX, Palm Springs, California
- 2019 *The Many “Colors” of Gold Nanoparticles*, NNI@UI REU Program, Iowa City, Iowa
- 2019 International Conference on Metamaterials, Photonic Crystals, and Plasmonics, *Hybrid Plasmonic Nanomaterials for Uranyl Detection*, Lisbon, Portugal
- 2019 AIChE Annual Meeting, *Hybrid Plasmonic Nanomaterials for Uranyl Sensing*, Orlando, Florida
- 2019 SciX, *The Plasmonic Stability of Gold Nanostars Synthesized using Good’s Buffers*, Palm Springs, California
- 2019 American Chemical Society National Meeting, *Positive and Negative Implications of Nanoparticle Stability*, Orlando, Florida
- 2019 35th International Symposium on Microscale Separations and Bioanalysis, *Separations at the Surface of Nanoparticles*, Corvallis, Oregon
- 2018 Extreme Biosensors, *Battling Matrices for Plasmonic Sensing*, Lihue, Hawaii
- 2018 Electrochemical Society Meeting (AiMES), *Detection of Uranium using Plasmonic and*

- SERS Sensors*, Cancun, Mexico
- 2018 SciX Conference, *Implications of Ions on the Plasmonics and Stability of Gold Nanostars*, Atlanta, Georgia
- 2018 International Conference on Raman Spectroscopy, *SERS and Intermolecular Interactions - What Matters?*, Jeju, South Korea
- 2017 International Conference on Surface-Enhanced Raman Scattering, *Promoting Adsorption of Non-thiolated Molecules to Gold Nanostars*, Xiamen, China
- 2017 Eastern Analytical Symposium, *Translating SERS into a Robust Detection Platform for Uranium in Complex Matrices*, Princeton, New Jersey
- 2017 SciX Conference, *Gold Nanostars for Promoting Molecular Adsorption of Non-thiolated Molecules*, Reno, Nevada
- 2017 Midwest Regional ACS Meeting, *Harnessing the Optical Properties of Metal Nanoparticles for Targeted Action*, Lawrence, Kansas
- 2017 Midwest Regional ACS Meeting, *Promoting Adsorption of Non-thiolated Molecules to Gold Nanostars*, Lawrence, Kansas
- 2017 American Chemical Society National Meeting, *How do shape and size matter in the stability of nanoparticles?*, Washington, District of Columbia
- 2017 American Chemical Society National Meeting, *Improving the robustness of plasmonic nanoparticles for sensing in complex media*, Washington, District of Columbia
- 2017 American Chemical Society National Meeting, *When are nanomaterials safe?*, Washington, District of Columbia
- 2017 International Conference on Advanced Vibrational Spectroscopy, *Gold Nanostar Stability and Use in Complex Matrices*, Victoria, Canada
- 2017 Materials Research Society Conference, *Designing Nanomaterial Rattles for Plasmonics and SERS*, Phoenix, Arizona
- 2017 American Chemical Society National Meeting, *Metal Nanoparticle Fate and Stability*, San Francisco, California
- 2017 American Chemical Society National Meeting, *SERS Sensors for Direct Detection of Environmental Contaminants*, San Francisco, California
- 2016 SciX Conference, *How to Make Surface Chemistry on Gold Nanostars Promote Reproducible Small Molecule Detection*, Minneapolis, Minnesota
- 2016 Symposium Celebrating Richard Van Duyne's 70th Birthday, *SERS-Compatible Molecular Recognition Agents*, Minneapolis, Minnesota
- 2016 American Chemical Society National Meeting, *Designer Nanoparticle Rattles for SERS Detection*, Philadelphia, Pennsylvania
- 2016 American Chemical Society National Meeting, *Plastic Antibodies and Plasmonics for Biomolecule Detection*, Philadelphia, Pennsylvania
- 2016 Gordon Research Conference on Noble Metal Nanoparticles, *Designer Nanoparticle Rattles for Plasmonics and SERS (poster)*, South Hadley, Massachusetts
- 2015 Extreme Biosensors, *Approaches to Promote Small Molecule Detection in SERS Assays*, Makena, Hawaii
- 2015 PacifiChem International Conference, *Plasmonic Enhancement and Artificial Receptor Recognition for the Detection of Drugs*, Honolulu, Hawaii
- 2015 SciX Conference, *Identifying Uranium Speciation in Environmental Samples using Raman and SERS*, Providence, Rhode Island
- 2015 SciX Conference, *Plastic Antibodies and SERS Detection*, Providence, Rhode Island
- 2015 American Chemical Society National Conference, *Identifying Uranium Speciation in Environmental Samples using Raman and SERS*, Boston, Massachusetts
- 2015 American Chemical Society National Conference, *Molecular Imprinted Polymers for Plasmonic Sensing*, Denver, Colorado
- 2015 Pittcon Conference, *Perm-Selective SERS Substrates for Direct Drug Metabolite Detection*, New Orleans, Louisiana
- 2014 *Quantitative Detection using Solution-Phase SERS Substrates*, SciX Conference, Reno, Nevada
- 2014 Surface Enhanced Spectroscopy Conference, *Quantitative Detection Hurdles and SERS*, Chemnitz, Germany

- 2014 American Chemical Society National Conference, *Towards the Prediction of Solution-Phase Gold Nanoparticle Stability*, San Francisco, California
- 2014 Pittcon Conference, *Quantitative Biodetection using SERS*, Chicago, Illinois
- 2014 Pre-Sustainable Nanotechnology Organization Conference Workshop, *Nanomaterials are Not Just Small - Fate from Biological, Chemical, and Physical Stability Perspectives*, Boston, Massachusetts
- 2014 Gordon Research Conference on Noble Metal Nanoparticles, *Towards Predicting Solution-Phase Gold Nanoparticle Stability (poster)*, South Hadley, Massachusetts

COMMUNITY SPEAKER

- 2019 *What does a Chemist and College Professor?*, SSTP Program, University of Iowa, Iowa City, Iowa
- 2019 *What does a Chemist and College Professor?*, Bowman Woods Elementary School, Cedar Rapids, Iowa
- 2018 *What does a Chemist and College Professor?*, Bowman Woods Elementary School, Cedar Rapids, Iowa
- 2017 *What does a Chemist and College Professor?*, Bowman Woods Elementary School, Cedar Rapids, Iowa

SERVICE**Profession**

- 2019 35th International Symposium on Microscale Separations and Bioanalysis, Session Chair and Organizer
- 2018 - Present Benton Community School District, Third-Sixth Grade, Host and Field Trip Organizer for Chemistry Lab Experiences at UI
- 2018 International Conference on Raman Spectroscopy, Discussion Leader
- 2018 - Present NASA: Reviewer, Grant Proposals
- 2016 - Present National Institute of Justice, Review Panel Member
- 2014 - Present Bowman Woods Elementary School, Third Grade, Annual Career Days and Demonstrations, Outreach
- 2013 - Present American Chemical Society, LaMer Award Selection Committee
- 2013 - Present Linn Mar School District, Fifth Grade, Learning Enrichment Opportunities (LEO) Students, Annual Host and Field Trip Organizer for Chemistry Lab Experiences (1200+ students hosted at UI)
- 2012 - Present National Institutes of Health: Reviewer, Grant Proposals
- 2012 - Present SciX Conference, Symposium Discussion Leader
- 2007 - Present National Science Foundation, Review Panel Member
- 2017 - 2021 NIH Study Section (Instrumentation and Systems Development, ISD), Standing/Permanent Member
- 2018 Gordon Research Conference on Noble Metal Nanoparticles, Discussion Leader
- 2018 Graduate Women in Science: Reviewer, Grant Proposals
- 2018 SciX Conference Symposium (co)Organizer Symposia on (1) Anisotropic Nanoparticle Plasmonics and (2) Plasmonic Nanobiosensors
- 2015 - 2018 National Institute of Justice, Standing Advisory Panel, Member
- 2014 - 2018 Co-organizer, NNI@UI Annual Symposium
- 2017 American Chemical Society, Colloidal Metal and Semiconductor Nanostructures: Theory, Synthesis, and Application Symposium Co-organizer at National Meeting
- 2017 SciX Conference Symposium Organizer, Plasmonic Nanoparticles - Beyond Spheres
- 2015 - 2017 National Institutes of Health, Ad-hoc Study Section Member (ISD)
- 2014 - 2017 American Chemical Society, Analytical Chemistry Features Panel, Member
- 2012 - 2017 American Chemical Society, Division of Colloid and Surface Science, Discussion Leader
- 2016 SciX Conference Symposium Co-organizer, Plasmonic Applications of Bottom-up Synthesized Nanomaterials
- 2015 - 2016 Co-organizer, Richard Van Duyne's 70th Birthday, A Conference Entitled - "To SERS with Love"
- 2014 - 2015 American Chemical Society, PacifiChem Symposium Co-organizer, Plasmonic Materials for

	Chemical Analysis
2014 - 2015	Extreme Biosensors Conference, Conference Co-organizer
2014 - 2015	Nano Days NNI@UI Booth, Des Moines Science Center, Volunteer
2014 - 2015	Pre-Sustainable Nanotechnology Organization Workshop on NanoEHS, Workshop, Co-chair
2014	Association of Environmental Engineering and Science Professors (AEESP) Dissertation Award Committee, External Evaluator
2014	Bowman Woods Elementary School, Second Grade, Weather Warrior Activities, Outreach
2014	National Institutes of Health, Ad-hoc Study Section Member (NANO)
2014	SciX Symposium, Charles Mann Award Session in Honor of Richard Van Duyne, Organizer

Department

2017 - Present	Climate and Diversity Committee, Chair
2017 - 2018	Faculty Review Committee: Chair
2016 - Present	Climate and Diversity Committee, Member
2016 - Present	Colloquium and Named Seminars Committee, Chair
2013 - Present	Executive Committee, Nanoscience and Nanotechnology Institute at the University of Iowa, Member
2013 - Present	Faculty Review Committee: Member
2013 - Present	Nanoscience and Nanotechnology Institute at the University of Iowa, Associate Director
2011 - Present	Colloquium and Named Seminars Committee, Member
2009 - Present	PhD Dissertation Committee, Member
2018 - 2019	Physical Chemistry Faculty Search Committee, Chair
2014 - 2018	Graduate Education Committee, Member
2016 - 2017	Promotion and Tenure Committee, Recorder

College

2014 - Present	Sloan Center for Exemplary Mentoring, Mentor
2018 - 2019	Faculty Search Committee, Department of Chemical and Biochemical Engineering, Member
2016 - 2019	CLAS - Scholarship Committee, Member
2015 - 2018	CLAS - Faculty Assembly, Member
2008 - 2018	BET Committee for IATL, Member
2015 - 2016	Central Microscopy Research Facility HRTEM Committee, CLAS Faculty Representative
2014 - 2016	Central Microscopy Research Facility Equipment Review Committee, Member
2014 - 2015	Faculty Search Committee, Department of Physics, Member

University

2018 - Present	NSF-Funded Research Experience for Undergraduates Program on Nanoscience and Nanotechnology, Director
2018 - Present	PhD Dissertation Committee, College of Dentistry: Member
2009 - Present	Honors Program Students, University of Iowa Honors Program, Mentor
2008 - Present	NNI@UI NSF REU Program, Mentor
2017 - 2020	Research Council, Member
2014 - 2017	Awards and Recognition Committee, Member
2016	CHEEC Seed Grant Program: Reviewer, Grant Proposals
2014 - 2016	Secondary School Training Program, Mentor
2015	Presidential Scholarship Faculty Selection Committee, Member

Professional Development Activities

2018	Training/Development Program, Workshop for PIs of NSF REU Programs
2015	Training/Development Program, Team Science Workshop, Elsevier Global Academic & Research Relations