NATHAN I. HAMMER, Margaret McLean Coulter Professor of Chemistry & Biochemistry

CONTACT INFORMATION

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EDUCATION

Ph. D.	Physical Chemistry	2003	University of Tennessee	"Dipole-Bound Anions"
	Advisor: Prof. Robert N. Compton (rcompton@utk.edu)			
B. S.	Honors ACS Chemistry	1998	University of Tennessee	Summa Cum Laude

APPOINTMENTS

2020 - 2026	Margaret McLean Coulter Professor of Chemistry & Biochemistry
2019 - present	Professor of Chemistry, University of Mississippi
2017 - 2024	Faculty Research Development Fellow (UM Office of Research & Sponsored Programs)
2013 - 2019	Associate Professor of Chemistry, University of Mississippi
2007 - 2013	Assistant Professor of Chemistry, University of Mississippi
2005 - 2007	Intelligence Community Postdoctoral Research Fellow, Departments of Chemistry and Polymer Science & Engineering, University of Massachusetts, Amherst Advisors: Prof. Mike D. Barnes (mdbarnes@chem.umass.edu) and Prof. Todd S. Emrick (tsemrick@mail.pse.umass.edu)
2003 - 2005	Postdoctoral Research Associate, Department of Chemistry, Yale University Advisor: Prof. Mark A. Johnson (mark.johnson@yale.edu)
1998 - 2003	Teaching and Research Assistant, Department of Chemistry, University of Tennessee
1998	Research Assistant, Departments of Chemistry, University of Tennessee and Radiology and Radiological Sciences, Vanderbilt University

RESEARCH INTERESTS

Electronic, infrared, and Raman spectroscopy of single molecules, nanoparticles, and small clusters of molecules and ions to study the effects of noncovalent interactions on their evolving electronic and structural properties. Chemical education in the physical sciences to integrate theory with experiment.

TEACHING EXPERTISE

Chemistry 1050: General Chemistry I (Honors), Chemistry 1060: General Chemistry II (including Honors)
Chemistry 2515/3515/4515: Undergraduate Individual Research (Honors)
Chemistry 3310/3320/3340: Physical Chemistry I, II, Biophysical Chemistry, Chemistry 3321: PCHEM Lab
Chemistry 4635, Honors 4010/4020: Senior Undergraduate Research
Chemistry 5810: Advanced Physical Chemistry: Quantum Mechanics (Graduate)
Chemistry 5820: Advanced Physical Chemistry: Thermodynamics (Graduate)
Chemistry 5860: Advanced Physical Chemistry: Reaction Dynamics (Graduate)
Chemistry 6620/7620: Theory of Molecular Structure (Molecular Spectroscopy) (Graduate)

SELECTED SERVICE

Member: American Chemical Society (ACS), American Physical Society (APS), Sigma Xi, American Association for the Advancement of Science (AAAS)
ChemPhysChem Editorial Advisory Board (2022 – present)
Ole Miss Physical Chemistry Summer Research Program and NSF REU Director (2009 – present)
Ole Miss Local Section of the American Chemical Society Chair-Elect ('10 '14 '17 '20 '24), Chair ('11 '15 '18 '21 '25)
Session Co-Organizer, 257th (Orlando, 2019), 255th (New Orleans, 2018), and 253rd (San Francisco, 2017) National Meetings of the American Chemical Society
Conference Co-Organizer, 52nd (Tuscaloosa, AL, 2020), 51st (Martin, TN, 2019), and 50th (Oxford, MS, 2018) Annual Southeastern Undergraduate Research Conference (SURC)
Session Co-Organizer, "Non-Covalent Interactions: Theory, Experiment, and Applications" SERMACS 2026, Memphis, TN (2026) and "Recent Advances in Chemical Physics" 67th SERMACS, Memphis, TN (2015)
UM Bachelor of Science in Chemistry (ACS Certified) Program Coordinator (2014 – present)
UM Department of Chemistry and Biochemistry Coordinator of Undergraduate Research (2015 – present)
UM STEM Faculty Recruitment, Retention, and Development Working Group (2012)
UM STEM Student Recruitment, Retention, and Career Placement Working Group (2012)
UM Department of Chemistry and Biochemistry Awards Committee Chair (2011 – present)
UM Undergraduate External Fellowship Committee (2011 – 2017)
UM Department of Chemistry and Biochemistry Seminar Coordinator (2009 – 2013)
Founding Member of Ole Miss Climate Change Study Group (2008) & MS Biophysical Consortium (2007)
Member of Graduate Recruitment, General Chemistry, Undergraduate Recruitment Committees
Analytical, Biochemistry (chair), Inorganic, Organic (three times, once chaired), Physical (twice chaired) & Instructional Departmental Search Committee Member or Chair
University of Tennessee Graduate Student Vice President (2000 – 2001) and President (2001 – 2002)

SELECTED AWARDS AND FELLOWSHIPS

Margaret McLean Coulter Professor of Chemistry & Biochemistry (2020 – 2026)
American Chemical Society Southern Chemist Award (2025)
University of Mississippi Distinguished Research & Creative Achievement Award (2024)
University of Mississippi Faculty Achievement Award (2021)
Lambda Sigma Honors Society Excellence in Teaching Award (2019)
UM College of Liberal Arts Award for Research, Scholarship and Creative Achievement for Senior Faculty (2018)
UM Student Members of the American Chemical Society Faculty Award (2018)
Professionalism and Integrity Program Research Exemplar (U.S. Office of Research Integrity, 2017)
Ole Miss Local Section of the American Chemical Society Service Award (2012)
National Science Foundation Faculty Early Career Development (CAREER) Award (2010)
Alpha Omicron Pi Favorite Professor (2009)
University of Mississippi Faculty Research Fellow (2008)
Intelligence Community (IC) Postdoctoral Research Fellow (2005 – 2007)
Yates Graduate Dissertation Fellow (2002 – 2003), Hilton A. Smith Graduate Fellow (2001 – 2002)
University of Tennessee Citation for Extraordinary Campus Leadership and Service (2002)
John E. Bloor Award in Physical Chemistry (2001), Eugene John Barber Fellowship in Chemistry (2000)
First Year Graduate Student Achievement Award (1999), Research Merit Award (2002)
Tennessee, Ned McWherter, A.D. Melaven-Rhenium, and Calvin A. Buehler Scholar (1994 – 1998)
University of Tennessee Chemistry Department Recognized Graduating Senior (1998)
University of Tennessee Analytical Chemistry Division ACS Undergraduate Award (1996)
Phi Kappa Phi, Sigma Xi, Phi Beta Kappa, Omicron Delta Kappa, Golden Key, Phi Eta Sigma Honors Societies

EXTERNAL FUNDING

"REU Site: Ole Miss Physical Chemistry Summer Research Program" *Principal Investigator*, NSF (**CHE-2447627**) $417,789, '25 – '28
"E-CORE RII: Mississippi Research Alliance" *co-PI and University of Mississippi Principal Investigator*, NSF (**OIA-2433435**), $8,000,000 total, '24 – '28
"Ionic liquid-solvated near infrared dyes for detection of trace blood spatter in textiles under ambient lighting conditions" *Co-PI* (with *Principal Investigator* Prof. Eden Tanner, UM), National Institute of Justice, (**15PNIJ-22-GG-04427-RESS**) $431,907, '22 – '26
"Ionic Liquid-Coated NIR-II Polymer Conjugates as Targeted Brain Theranostics" Senior Personnel (with *Principal Investigator* Prof. Davita Watkins, Ohio State), NIH (**1R01EB034086-01**), '22 – '25
"REU Site: Ole Miss Physical Chemistry Summer Research Program" *Principal Investigator*, NSF (**CHE-2150352**) $351,798, '22 – '25
"Photoinduced Interfacial Charge Transfers with Organic Sensitizers using Low Energy Photons and Fundamental Physical Organic Design Concepts" *Co-PI* (with *Principal Investigator* Prof. Jared Delcamp, UM), NSF (**CHE-1954922**) $585,951, '20 – '23
"REU Site: Ole Miss Physical Chemistry Summer Research Program" *Principal Investigator*, NSF (**CHE-1757888**) $299,682, '18 – '21
"Center for Emergent Molecular Optoelectronics (CEMOs)" *Senior Personnel*, NSF (**OIA-1757220**) $1,877,135 out of $20,000,000 total, '18 – '23
"RII Track-2 FEC: Feeding and Powering the World - Capturing Sunlight to Split Water and Generate Fertilizer and Fuels" *Principal Investigator*, NSF EPSCoR (**OIA-1539035**) $1,058,666 out of $6,000,000 total, '15 – '20
"MRI: Acquisition of a Raman Spectrometer for Research and Training at the University of Mississippi" *Principal Investigator,* NSF (**CHE-1532079**) $201,666, '15 – '18
"REU Site: Ole Miss Physical Chemistry Summer Research Program" *Principal Investigator*, NSF (**CHE-1460568**) $270,000, '15 – '19
"REU Site: Ole Miss Physical Chemistry Summer Research Program" *Principal Investigator*, NSF (**CHE-1256713**) $300,000, '12 – '16
"CAREER: Spectroscopically Tracking the Evolution of Noncovalent Interactions from the Single Molecule Level to the Condensed Phases" *Principal Investigator*, NSF Faculty Early Career Development (CAREER) Program (**CHE-0955550**) $650,000, '10 – '17
"Dynamics of Strand-Crossover Formation in Cadherin" *Co-PI* (with *Principal Investigator* Prof. Susan Pedigo, UM), NSF (**MCB-0950494**) $560,832, '10 – '13
"Modeling and Simulation of Complex Systems" *Senior Personnel*, NSF (**EPS-0903787**) $329,172 out of $20,000,000 total, '09 - '14

"Ole Miss Local Section Student Awards Banquet DEIR Emphasis" *Principal Investigator*, **American Chemical Society** $3,000, '21 – '22
"Ole Miss ACS Scent Club: Home Distillation of Local Fragrances" *Principal Investigator*, **American Chemical Society** $3,500, '21 – '22
"Exploring the Chemistry of Food: Engaging the Ole Miss Local Section and Oxford, MS Community" *Principal Investigator* (with Susan Pedigo), **American Chemical Society** $2,500, '15 – '16
"Ole Miss ACS Chemistry Book Club" *Co-PI* (with Susan Pedigo), **American Chemical Society** $3,000, '13 – '14
"Engaging Younger Chemists to Create a Sustainable Local Section" *Principal Investigator*, **American Chemical Society** $2,500, '11 – '12
"A Leadership Retreat for Undergraduate and Graduate Students" *Co-PI* (in partnership with Prof. Kate Stumpo, University of Tennessee-Martin), **American Chemical Society** $3,000, '11 – '12

PATENTS

J. Delcamp, N., Hammer, and C. Scott, **"**Design, synthesis, and photophysical properties of a novel NIR II dye for biological imaging and optoelectronic devices," US-12173212-B2

DIRECTED DISSERTATIONS AND THESES

Dr. Nicholas Kruse, Ph.D. in Chemistry, 2026, "Understanding Electronic Structure of Excited States in Molecules Used for Imaging and Energy Harvesting Applications" (embargoed)
Dr. Cameron Smith, Ph.D. in Chemistry, 2023, "Photophysical Characterization of Small Organic Molecules Via Time-Resolved and Steady-State Spectroscopic Techniques" (embargoed)
Dr. Leigh Anna Hunt, Ph.D. in Chemistry, 2022, "Spectroscopic Investigations of Photoinduced Electron Transfer Processes at Interfaces and in Solution" (embargoed)
Dr. Austin L. Dorris, Ph.D. in Chemistry, 2022, "The Spectroscopic Investigation of Newly Developed Materials for Light Harvesting, Energy Conversion, and Bioimaging" (embargoed)
Dr. Shane A. Autry, Ph.D. in Chemistry, 2021, "Linear and Nonlinear Photophysical Characterization of Novel Visible NIR Emissive Materials" (embargoed)
Dr. Ashley E. Williams, Ph.D. in Chemistry, 2021, "A Spectroscopic and Quantum Chemical Investigation into the Noncovalent Interactions and Charge Accommodation of Biomolecules and Their Building Blocks in Various Environments" (embargoed)
Dr. April Steen Hardin, Ph.D. in Chemistry, 2020, "Using Electronic and Vibrational Spectroscopy to Probe the Photophysical Properties of Novel Organoelectronic Materials" (embargoed)
Dr. John Kelly, Ph.D. in Chemistry, 2016, "Characterization of Charge Accommodation in Biologically Important Hydrogen-Bonded Clusters" (pdf)
Dr. Louis McNamara, Ph.D. in Chemistry, 2015, "The Spectroscopic Characterization of Newly Developed Emissive Materials and the Effect of Environment on Their Photophysical Properties" (pdf)
Dr. Debra Jo Scardino Sage, Ph.D. in Chemistry, 2012, "Theoretical and Spectroscopic Studies of Molecular Systems for Charge Transfer and Energy Storage and Transfer" (pdf)
Dr. Ashley Wright, Ph.D. in Chemistry, 2012, "Investigations of Noncovalent Interactions Using Raman Spectroscopy and Electronic Structure Computations" (pdf)
Margaret Stucky, M.S. in Chemistry, 2025, "Hydrogen and Halogen Interactions with 2,6 Dimethoxypyridine" (embargoed)
Kristina Cuellar, M.S. in Chemistry, 2014, "Noncovalent Interactions Involving Microsolvated Networks of Trimethylamine-N-Oxide" (pdf)
Brandon Suh, ACS-certified B.S. in Chemistry (Honors), 2026, "A Spectroscopic and Computational Study of Xylazine's Vibrational and Electronic States when Affected by Hydrogen Bonding" (embargoed)
Kenneth Arnett, ACS-certified B.S. in Chemistry (Honors), 2025, "Raman Spectroscopic and Quantum Chemical Investigation of Ethylene Carbonate" (embargoed)
Ethan Lambert, ACS-certified B.S. in Chemistry (Honors), 2023, "Photophysical and Photochemical Processes in Small Molecules and Materials for Solar Energy Conversion" (embargoed)
Trevor Wolfe, ACS-certified B.S. in Forensic Chemistry (Honors), 2022, "A Study of Cannabigerolic Acid (CBGA) and its Derivatives via Raman Spectroscopy and Density Functional Theory" (embargoed)
Nicholas Kruse, ACS-certified B.S. in Chemistry (Honors), 2022, "Computational and Spectroscopic Studies of New Sulfur-Containing Dipole-Bound Anions" (embargoed)
Katarina Papachrisanthou, ACS-certified B.S. in Chemistry (Honors), 2022, "The effect of gelatin pH and incubation time on the size of nanoparticles manufactured by desolvation"
Margaret Baldwin, ACS-certified B.S. in Chemistry (Honors), 2021, "A Spectroscopic and Computational

Study of Diacetyl and Water Clusters" (pdf)
Genevieve Verville, ACS-certified B.S. in Chemistry (Honors), 2020, "Raman Spectroscopic and Quantum Chemical Investigation of the Effects of Tri-Methylamine N-Oxide (TMAO) On Hydrated Urea, Hydrated Guanidinium, and Hydrogen Bonded Networks" (Portz Scholar) (pdf)
Mallory Loe, ACS-certified B.S. in Chemistry (Honors), 2020, "Raman Spectroscopic and Computational Study of Noncovalent Interactions between Serotonin, Methanol, Ethanol, and Water" (pdf)
Kalee Sigworth, ACS-certified B.S. in Chemistry (Honors), 2020, "Raman Spectroscopy Study of Delta-9-Tetrahydrocannabinol and Cannabidiol and their Hydrogen-Bonding Activities" (pdf)
James Johnson, ACS-certified B.S. in Chemistry (Honors), 2020, "Spectroscopic and Computational Studies of Dicamba" (pdf)
Kyle Pauly, ACS-certified B.S. in Chemistry (Honors), 2020, "Study of Pharmaceutical Tablets Using Raman Mapping" (pdf)
William Cannella, B.S. in Forensic Chemistry (Honors), 2020, "Comparison of the Vibrational Modes of Thiolated Gold Nanoparticles Undergoing Core-Conversions Via Raman Spectroscopy" (pdf)
Benjamin Wade Stratton, ACS-certified B.S. in Chemistry (Honors), 2019, "Theoretical and Experimental Vibrational Modes of the Borane Pyridine Complex" (pdf)
Cameron Smith, ACS-certified B.S. in Chemistry (Honors), 2018, "Studies of Carbonaceous Materials using Raman Spectroscopy" (pdf)
Allyson Henke, ACS-certified B.S. Forensic in Chemistry (Honors), 2018, "An Analysis of Commercial Oxidative Hair Dyes Using Raman Spectroscopy" (pdf)
Alex Wallace, ACS-certified B.S. in Chemistry (Honors), 2018, "Studying the Effects of Hydrogen Bonding in 1H-1,2,3-Triazole and Its Derivatives" (pdf)
Andrew Kamischke, ACS-certified B.S. in Forensic Chemistry (Honors), 2018, "Raman Spectroscopic and Computational Study of Hydrogen Bond Interactions between Guanidine Hydrochloride, Trimethylamine N-oxide (TMAO), Urea, and Water" (pdf)
Katelyn Allen, ACS-certified B.S. in Chemistry (Honors), 2017, "A Raman Spectroscopic and Computational Study on the Effects of Electron Withdrawing Groups on Halogen Bonding" (pdf)
Sarah Sutton, ACS-certified B.S. in Chemistry (Honors), 2017, "An Integrative Synthetic, Spectroscopic, and Computational Study of the Free Radical Chlorine Dioxide and its Interactions with Hydrogen Bonded Networks" (pdf)
Lemuel Tsang, ACS-certified B.S. in Chemistry (Honors), 2017, "Raman Spectroscopic Studies of Novel Gold-Containing Nanomaterials" (pdf)
Rachael Nelson, ACS-certified B.S. in Chemistry (Honors), 2017, "Photophysical Characterization of Newly-Synthesized Emissive Materials" (pdf)
Ashley Williams, ACS-certified B.S. in Chemistry (Honors), 2017, "Spectroscopic and Computational Studies of the Hydrogen Bonding Interactions of Hydroxyethyl Ethers" (pdf)
Gretchen Harknett, B.A. in Biochemistry (Honors), 2017, "An Analysis of Stimuli Responsive Biomaterials using Raman Spectroscopy and Computational Studies" (pdf)
April Steen ACS-certified B.S. in Chemistry/B.S. in Biology (Honors), 2015, "Using Technology to Engage Students in the STEM Field" (pdf)
Wells Prather, ACS-certified B.S. in Chemistry (Honors), 2015, "Non-Covalent Interactions of Trimethylamine N-Oxide (TMAO) and Urea in Water" (pdf)
Peyton Reves, ACS-certified B.S. in Chemistry (Honors), 2015, "A Raman Spectroscopic and Computational Study of the Effects of Halogen Bonding on Pyrimidine Containing Systems" (pdf)
Anna Craig, B.A. in Chemistry (Honors), 2015, "A Raman Spectroscopic Study of the Effects of Hydrogen Bonding on 1,2,3-Triazole" (pdf)
Ashton Nicholson, B.A. in Biochemistry (Honors), 2014, "Raman Spectroscopic and Computational Analysis of the Effects of Noncovalent Interactions on DMSO" (pdf)
Joey Golden, ACS-certified B.S. in Chemistry/B.A. in Biology/B.A. in Mathematics (Honors), 2013, "Effects of Micro-Solvation on Room Temperature Ionic Liquids" (pdf)
Annie McClellan, ACS-certified B.S. in Chemistry/B.A. in Biology (Honors), 2013, "Spectroscopic Study of Charge Transfer Induced Blue Shifting of Pyrimidine/Water Mixtures on Silver Substrate" (pdf)
Nikki Reinemann, ACS-certified B.S. in Chemistry/B.S. in Chemical Engineering (Honors), 2013, "Elucidation of B-N and B-P Stretching Vibrations Using Raman Spectroscopy and Electronic Structure Calculations" (pdf)
Ramsey Frey, B.A. in Chemistry (Honors), 2013, "Enlightenment Science & Nano-Science: Creating Order out of Magic" (pdf)
Matthew McDowell, ACS-certified B.S. in Chemistry (Honors), 2011, "Design and Construction of a Reflectron Time of Flight Mass Spectrometer for Multiphoton Ionization and Vibrational Spectroscopic Studies of Mass-Selected Clusters" (pdf)

Anna Hailey, B.S. in Chemical Engineering/B.A. in Chemistry/B.A. in Chinese (Honors), 2011. "New Catalysts for the Photocatalytic Reduction of Carbon Dioxide to C1 Organic Compounds" (pdf)
Jonathan Wolfe, ACS-certified B.S. in Chemistry (Honors), 2010, "Developing the Techniques for Raman, Surface-Enhanced Raman Scattering (SERS), and Fluorescence Spectroscopies of Organic Molecules in Isolation" (pdf)
Ryan Gregg, B.S. in Forensic Chemistry (Honors), 2010, "Development of a Laser-Induced Breakdown Spectrometer for Lead-Free Gunshot Residue Analysis" (pdf)
Austin Howard, ACS-certified B.S. in Chemistry/B.A. in Physics (Honors), 2009, "Upgrade of a Raman Spectrometer with Modern Computer Control and Data Acquisition for Studies of Hydrogen Bonding in Pyrimidine" (pdf) (Portz nominee)

AWARDS OF DIRECTED STUDENTS

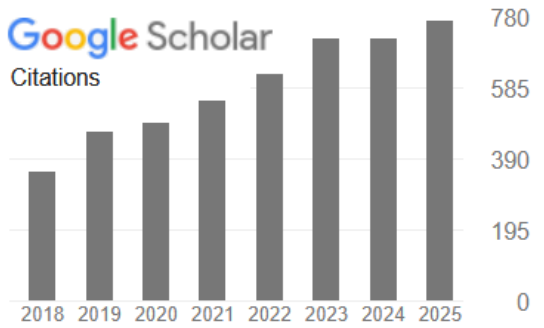
Barry M. Goldwater Scholarship: Ethan Lambert (2022), Dana Reinemann (2012), Anna Hailey (2010)
National Collegiate Honors Council (NCHC) Portz Scholar: Ethan Lambert (2023), Genevieve Verville (2020)
NSF Graduate Research Fellowship: Ethan Lambert (Florida State, 2023), Dana Reinemann (Vanderbilt, 2015), Anna Hailey (Princeton, 2012)
University of Mississippi STAMPS Impact Prize: Julian Callendar (2025)
ACS Physical Chemistry Division Graduate Student Award Honorable Mention: Leigh Anna Hunt (2022)
American Chemical Society National Meeting Outstanding Student Poster Award: Nick Kruse (2024)
Dr. Wayne Alexander Graduate Student Award: Shane Autry (2021)
UM Chemistry Outstanding Senior Chemistry Graduate: Ethan Lambert (2023), Allyson Henke (2018)
UM Chemistry Outstanding Physical Chemistry Graduate Student: Trey Arnett (2026), Ashley Williams (2019), Shane Autry (2017)
UM Chemistry Graduate Research Award: Leigh Anna Hunt (2022), John Kelly (2016)
UM Chemistry Undergraduate Research Award: Ethan Lambert (2023), Sarah Sutton (2017), Katelyn Allen (2017), Peyton Reves (2015), Kristina Cuellar (2012), Dana Reinemann (2011), Matt McDowell (2010)
UM Analytical Chemistry Award: Brandon Suh (2025), Ethan Lambert (2023), Genevieve Verville (2020), Margaret Baldwin (2020), Logan Powell (2018), Allyson Henke (2017), Andrew Kamiscke (2017), April Steen (2014)
UM Biochemistry Award: Brandon Suh (2026), Trevor Wolfe (2022), Margaret Baldwin (2020), Sarah Sutton (2016)
UM Physical Chemistry Award: Ethan Lambert (2023), Allyson Henke (2017), Anna Craig (2015), Annie McClellan (2012), Dana Reinemann (2011)
UM Forensic Chemistry Award: Allyson Henke (2018), Andrew Kamischke (2018)
UM Inorganic Chemistry Award: Margaret Baldwin (2021), Genevieve Verville (2020), Dana Reinemann (2013)
UM Taylor Medalist: Ethan Lambert (2023), Margaret Baldwin (2020), Mallory Loe (2020), Trip Johnson (2019), Allyson Henke (2018), Anna Craig (2014), Joseph Golden (2012), Ramsey Frey (2012), Anna Hailey (2010), Austin Howard (2009)
UM Outstanding Engineering Student: Dana Reinemann (Chemical Engineering Junior 2011, Senior 2012), Anna Hailey (College of Engineering Senior 2011 and Chemical Engineering Senior 2011)
Mississippi EPSCoR State Meeting Student Poster Awards: Dana Reinemann (1st place 2012), Annie McClellan (3rd place 2012), Anna Hailey (1st place 2010)
Southeastern Undergraduate Research Conference (SURC) Oral Presentation Awards: Kenneth Arnett (2025)
UM Most Outstanding Senior Honors Thesis: Ethan Lambert (2023), Genevieve Verville (2020), Austin Howard (2009)

PUBLICATIONS

Peer-Reviewed Journal Articles/Proceedings (Google Scholar *h*-index: 49, i10-index: 134, citations: 9119, 11/10/26)

---------- *Directed High School and Undergraduate Students Italicized* ----------

188. R. Chafin, M. Sujan, N. A. Kruse, C. R. Brower, N. I. Hammer, J. W. Jurss, A. Huckaba, "Donor acceptor Benzimidazole-pyridine Re complexes for CO_2 photoreduction," *Inorganic Chemistry*, submitted (2026).
187. N. I. Hammer, "Tracking the effects of noncovalent interactions in liquids using vibrational spectroscopy and computational chemistry," *ChemComm* (2026). DOI: 10.1039/d6cc04561h (Invited Review) (link)



186. M. Ahmed, A. Barth, M. Iddrisu, L. M. Whitt, N. Kruse, N. I. Hammer, B. Maji, F. Castellano, T. Szilvási, and E. Papish, "Synthesis of Ni(II) CNC-Pincer Catalysts with Electronic Donor or Acceptor Groups for Visible Light Driven Carbon Dioxide Reduction," *Inorganic Chemistry* (2026). DOI: 10.1021/acs.inorgchem.6c02589
185. A. C. Bromley, N. A. Kruse, C. R. Brower, M. K. Beam, N. I. Hammer, R. C. Fortenberry, D. N. Reinemann, "Tubulin E-hook Hexamers Reveal Charge Dependent Compaction and Transient Secondary Structure Signatures," *Molecules*, 31, 3378 (2026). DOI: 10.3390/molecules31193378 (link)
184. Q. Zhang, P. N. Samanta, Y. Qi, S. Jha, N. Kruse, G. Ma, J. Emodogo, H. Zhang, R. Thirumalai, P. C. Ray, J,. Leszczynski, X. Gu, K. Wang, D. Patton, N. I. Hammer, and Q. Dai, "Sulfolane-based Solvent Engineering for High-Performance MAPbI3 Perovskite Solar Cells," *ACS Applied Energy Materials*, 9, 9579-9591 (2026). DOI: 10.1021/acsaem.6c01764 (link)
183. N. A. Kruse, M. Saucier, J. H. Delcamp, and N. I. Hammer, "Understanding Violations of Kasha's Rule in the Heptamethine Indolizine-Cyanine Dye SO3C7," *Journal of Molecular Structure* 1371, 146507 (2026). DOI: 10.1016/j.molstruc.2026.146507 (link)
182. A. K. Shaik, D. Nugegoda, K. Madison, E. King, P. Mahalingam, C. Curiac, H. Cheema, J. Azoulay, G. Hill, J. H. Delcamp, and N. I. Hammer, "Evaluation of a conjugated polymer as a photosensitizer for energy conversion applications," Journal of Polymer Engineering 46, 485 (2026). DOI: 10.1515/polyeng-2025-0212 (link)
181. W. Silprakob, N, A. Kruse, M. Iddrisu, L. Whitt, T. Szilvási, N. I. Hammer, E. T. Papish, Elizabeth, "Synthesis, Characterization, and Catalytic CO2 Reduction Reactivity of a Macrocyclic CNC Pincer Ligand Bound to Nickel," Organometallics, 45, 424-437 (2026). DOI: 10.1021/acs.organomet.5c00391 (link)
180. M. M. Stucky, A. Antony, J. W. Jurss and N. I. Hammer, "Hydrogen and Halogen Bond Interactions with 2,6 Dimethoxypyridine," *Journal of Physical Chemistry A*, 130, 1282-1291 (2026). DOI: 10.1021/acs.jpca.5c07709 (Featured on Cover) (link)
179. G. Singh, C. Smith, D. S. Darlington, N. A. Kruse, E. C. Lambert, P. Vashisth, W. E. Meador, K. Kapusta, R. C. Fortenberry, I Owolabi, A. S. Flynt, J. H. Delcamp, N. I. Hammer, and E. E. L. Tanner, "Bioinspired Room-temperature Ionic liquids and GUMBOS as enHanced emission Tools (BRIGHT) for Organic Near-Infrared Dyes in Aqueous Media," *Cell Reports Physical Science, 7, 103113 (2026). DOI: 10.1016/j.xcrp.2026.103113* (link)
178. A. E. Williams, *A. C. Holan*, *L. A. Surbaugh*, A. J. Huckaba, J. H. Delcamp, G. S. Tschumper, N. I. Hammer, "Liquid 1H-1,2,3-Triazole Interpreted as a Continuous, Self-Assembled Hydrogen-Bonded Linear Network," *Journal of Physical Chemistry A*, 129, 9195-9203 (2025). (featured on cover) DOI: 10.1021/acs.jpca.5c04341 (link)
177. J. A. Denny, G. M. Lang, S. Autry, V. Dixit, T. L. Woodby, *A. McClellan*; J. M. Trate, N. I. Hammer, C. E. Webster, and T. K. Hollis, "Air-stable Palladium N-Heterocyclic Carbene based CCC-NHC Pincer Complexes: Synthesis, Characterization, Photophysical and Raman Vibrational Studies, and DFT Studies, Plus Observation of an Abnormal Carbene Pincer," *Journal of Organometallic Chemistry*, 1023, 123419 (2025). DOI: 10.1016/j.jorganchem.2024.123419 (link)
176. A. Bromley, N. I. Hammer, R. C. Fortenberry, and D. N. Reinemann, "BPS2025 - Elucidating the origins of transient secondary structure in tubulin E-hooks using quantum mechanics," *Biophysical Society*, *124*, 138A (2025). DOI: 10.1016/j.bpj.2024.11.773 (link)
175. W. Meador, M. Saucier, M. R. Tucker, N. A. Kruse, A. J. Mobley, C. Brower, S. Parkin, K. Clark, N. I. Hammer, G. S. Tschumper, and J. H. Delcamp, "Extended Shortwave Infrared Absorbing Antiaromatic Fluorenium-Indolizine Chromophores," *Chemical Science*, 15, 12349 (2024). DOI: 10.1039/D4SC00733F (link)
174. M. A. Saucier, N. A. Kruse, B. E. Seidel, N. I. Hammer, G. S. Tschumper, and J. H. Delcamp, "Shortwave Infrared Absorbing Phospha-RosIndolizine Dye with Peak SWIR Absorption and Emission," *Journal of Organic Chemistry*, 89, 9092−9097 (2024). DOI: 10.1021/acs.joc.4c00741 (link)
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Books, Book Chapters, Invited Reviews, and Comments

10. R. N. Compton, N. I. Hammer, E. C. Lambert, and J. S. Hager, *Raman Spectroscopy Under Liquid Nitrogen (RUN)*, Springer Series on Atomic, Optical and Plasma Physics (2022). ISBN: 978-3-030-99394-8 (link)
9. N. I. Hammer and G. S. Tschumper, "Importance of a Truly Cohesive Theme in a REU Program," in *Best Practices for Chemistry REU Programs*, edited by Mark Griep and Linette Watkins, ACS Books, 2018. DOI: 10.1021/bk-2018-1295.ch011 (link)
8. N. I. Hammer, *S. Sutton*, J. Delcamp, and *J. D. Graham*, "Photocatalytic Water Splitting and Carbon Dioxide Reduction," Handbook of Climate Change Mitigation and Adaptation, Springer, 2nd Edition (2016). (link)
7. J. T. Kelly, J. A. Maner, and N. I. Hammer, "Recent Advancements in Chemical Physics," *Journal of Physical Chemistry A*, 119, 12909–12910 (2015). DOI: 10.1021/acs.jpca.5b12096 (link)
6. *J. D. Graham* and N. I. Hammer, "Photocatalytic Water Splitting and Carbon Dioxide Reduction," in *Handbook of Climate Change Mitigation*, Springer, 2012. (link)
5. G. S. Tschumper and N. I. Hammer, "Non-Covalent Interactions: Theory and Experiment," *Journal of the American Chemical Society*, 132, 9512 (2010). (Book Review) DOI: 10.1021/ja104759m (link)
4. *M. McDowell*, A. E. Wright and N. I. Hammer, "Semiconductor Nanocrystals Hybridized with Functional Ligands: New Composite Materials with Tunable Properties," *Materials*, 3, 614-637 (2010). (Invited Review) DOI: 10.3390/ma3010614 (link)
3. M. D. Barnes, R. H. Paradise, E. Swain, D. Venkataraman, and N. I. Hammer, 'Comment on "Limits on Fluorescence Detected Circular Dichroism of Single Helicene Molecules" *Journal of Physical Chemistry A*, 113, 9757–9758 (2009). DOI: 10.1021/jp9051374 (link)
2. N. I. Hammer, T. Emrick, and M. D. Barnes, "Quantum dots coordinated with conjugated organic ligands: new nanomaterials with novel photophysics," *Nanoscale Research Letters*, 2, 282-290 (2007). (Invited Review) DOI: 10.1007/s11671-007-9062-8 (link)
1. R. N. Compton and N. I. Hammer, "Multipole-Bound Molecular Anions" in *Advances in Gas-Phase Ion Chemistry Volume 4*, edited by N. Adams and L. Babcock (Elsevier Science, 2001), 257-291. (link)

STUDENT CONFERENCE PRESENTATIONS

199. Conner Brower and Nathan Hammer, "Probing the effects of environment on novel CCC-NHC-Pt(II) pincer complexes," 2026 Southeastern Region Meeting of the American Chemical Society (SERMACS 2026), Memphis, TN, November 2026.
198. Kenneth Arnett and Nathan Hammer, "Spectroscopic and quantum chemical investigation of battery co-solvents molecular clusters," 2026 Southeastern Region Meeting of the American Chemical Society (SERMACS 2026), Memphis, TN, November 2026.
197. Conner Brower and Nathan Hammer, "Absolute quantum yield of IR1061 in chloroform," Spring 2026 National Meeting of the American Chemical Society, Atlanta, GA, March 2026.
196. Kenneth Arnett and Nathan Hammer, "Raman spectroscopic and quantum chemical investigation of ethylene carbonate molecular clusters," Spring 2026 National Meeting of the American Chemical Society, Atlanta, GA, March 2026.
195. Brandon Suh and Nathan Hammer, "Spectroscopic and computational study of xylazine's vibrational and electronic states when affected by hydrogen bonding," Spring 2026 National Meeting of the American Chemical Society, Atlanta, GA, March 2026.
194. Kenneth Arnett and Nathan Hammer, "Raman Spectroscopic and Quantum Chemical Investigation of Ethylene Carbonate Molecular Clusters," 54th Annual Southeastern Undergraduate Research Conference, Kennesaw, GA, January 2025. (oral)
193. Brandon Suh and Nathan Hammer, "Hydrogen-Bonding Interactions of Xylazine in Polar Environments," 54th Annual Southeastern Undergraduate Research Conference, Kennesaw, GA, January 2025. (oral)
192. Nicholas Kruse, "Excited-state dynamics of visible and near-IR fluorescent dyes," Spring 2024 National Meeting of the American Chemical Society, New Orleans, LA, March 2024. (1st place poster award)
191. Margaret Stucky, "Halogen and hydrogen bonding interactions with 2,6-dimethoxypyridine," Spring 2024 National Meeting of the American Chemical Society, New Orleans, LA, March 2024.
190. Nicholas Kruse, "Albumin-bound "switch-on" near-infrared emission beyond dark pigment absorption for forensic latent blood detection," 74th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Durham, NC, October 2023. (oral)

189. Cameron Smith, "On the PhotoPhysical Characterization of Novel Organic Small Molecule Dyes in the NIR," 73rd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), San Juan, PR, October 2022. (oral)
188. Nicholas Kruse, "Spectroscopic and Computational Studies of Nitrogen and Sulfur-Containing Dipole-Bound Anions as Components in Light-Harvesting Materials," 73rd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), San Juan, PR, October 2022.
187. Abdul Shaik, "Fluorescence and quantum yield studies of new swir emitting rhodindolizine dyes," 73rd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), San Juan, PR, October 2022.
186. Cameron Smith, "On the quantification of fluorescence efficiency of NIR-II dyes," Fall 2022 National Meeting of the American Chemical Society, Chicago, IL, August 2022.
186. Nicholas Kruse, "Computational and spectroscopic studies of nitrogen-containing dipole-bound anions," Fall 2022 National Meeting of the American Chemical Society, Chicago, IL, August 2022.
185. Ethan Lambert, "Guest-host Raman under liquid nitrogen spectroscopy for the acquisition of improved vibrational spectra of solids," Fall 2022 National Meeting of the American Chemical Society, Chicago, IL, August 2022. (oral)
184. Leigh Anna Hunt, "Designing Self-Assembled Dye-Redox Shuttle Systems via Interfacial π-Stacking in Dye-Sensitized Solar Cells for Enhanced Low Light Power Conversion" Electron Donor-Acceptor Interactions Gordon Research Conference, Salve Regina University, August 2022
183. Ethan Lambert, "Elucidating steric effects on charge separation and trapping in sensitizer dyes with transient absorption spectroscopy," Electron Donor-Acceptor Interactions Gordon Research Conference, Salve Regina University, August 2022
182. Ethan Lambert, "Probing Halogen Bonding Interactions Between Heptafluoro-2-Iodopropane and Three Azabenzenes with Raman Spectroscopy and Density Functional Theory," International Symposium on Molecular Spectroscopy, Urbana-Champaign, IL, June 2022 (oral).
182. Nicholas Kruse, "Computational and Spectroscopic Studies of Nitrogen-Containing Dipole Bound Anions," International Symposium on Molecular Spectroscopy, Urbana-Champaign, IL, June 2022 (oral).
181. Cameron Smith, "Quantifying Emission of NIR-I and NIR-II Dyes via Fluorescence Quantum Yield," International Symposium on Molecular Spectroscopy, Urbana-Champaign, IL, June 2022 (oral).
180. Abdul Shaik, "Fluorescence and Quantum Yield Studies of New SWIR Emitting Rhodindolizine Dyes," International Symposium on Molecular Spectroscopy, Urbana-Champaign, IL, June 2022 (oral).
179. Austin Dorris, "Spectroscopic investigation of novel 3,4-ethylenedioxythiophene (EDOT) derivatives and their potential aggregate induced emitter behaviors," 72nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Birmingham, AL, November 2021. (oral)
178. Cameron Smith, "Quantifying Emission of NIR-I and NIR-II Dyes via Fluorescence Quantum Yield and Transient Absorption Spectroscopy," 72nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Birmingham, AL, November 2021. (oral)
177. Leigh Anna Hunt, "Insights into Possible Halogen Bonding Effects in Dye-Sensitized Solar Cells Studied by Nanosecond Transient Absorption Spectroscopy," 72nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Birmingham, AL, November 2021. (oral)
176. Abdul Kalam, Brad Davis, Yoan Simon, and Nathan Hammer, "Upconversion and quantum yield studies of PdOEP-DPA system in the sPS/THF polymer gel," 72nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Birmingham, AL, November 2021. (oral)
175. Ethan C. Lambert, Cameron L. Smith, Robert N. Compton and Nathan I. Hammer, "Guest-Host Raman Under liquid Nitrogen Spectroscopy (GHRUNS) for the acquisition of improved vibrational spectra of solids," 72nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Birmingham, AL, November 2021.
174. Nicholas A. Kruse and Nathan I. Hammer, "Computational and Spectroscopic Studies of New Dipole-Bound Anions," 72nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Birmingham, AL, November 2021.
173. Leigh Anna Hunt, Sreya Parambath, Ashley Williams, Dhanashree Selvan, Saumen Chakraborty, and Nathan Hammer, "Mechanistic insights related to photocatalytic H_2 production from a de novo-designed artificial metallopeptide hydrogenase," 262nd National Meeting of the American Chemical Society, Atlanta, GA, August 2021. (oral)
172. Austin Dorris, Nicholas Sparks, Indika Chandrasiri, Davita Watkins, and Nathan Hammer, "Spectroscopic investigation of novel 3,4-ethylenedioxythiophene (EDOT) derivatives and their potential aggregate induced emitter behaviors," 262nd National Meeting of the American Chemical Society, Atlanta, GA, August 2021. (oral)
171. Abdul Shaik, Hammad Cheema, Dinesh Nugegoda, Eric King, Jason Azoulay, Jared Delcamp, and Nathan Hammer, "Electron injection efficiency studies of polymer sensitized devices by transient absorption

spectroscopy for solar cell applications," 262nd National Meeting of the American Chemical Society, Atlanta, GA, August 2021. (oral)

170. Ethan Lambert, Ashley Williams, and Nathan Hammer, "A computational and experimental study of the effects of halogen bonding interactions on the vibrational modes of heptafluoro-2-iodopropane with three azabenzenes," 262nd National Meeting of the American Chemical Society, Atlanta, GA, August 2021.
169. Cameron Smith, Ndaleh David, Jared Delcamp, and Nathan Hammer, "Spectroscopic analyses of NIR-emissive cyanine and squaraine dyes using steady-state and time-resolved excited-state absorption and fluorescence," 262nd National Meeting of the American Chemical Society, Atlanta, GA, August 2021.
168. Austin Dorris, Sheeba Dawood, Hemali Rathnayake, and Nathan Hammer, "Photophysical investigation of zinc and gadolinium metal organic frameworks with naphthalene chromophore in various solvent environments," 262nd National Meeting of the American Chemical Society, Atlanta, GA, August 2021.
167. Austin L. Dorris, "An Introduction to Ultrafast Technology at the University of Mississippi," "Fitting fs TAS Data Files," and "Special Considerations for Fitting and Analyzing fs-TAS Data," 2021 fs TAS Workshop, Oxford, MS, June 2021. (oral)
166. Ashley Williams and Leigh Anna Hunt, "Fundamentals of Data Fitting," 2021 fs TAS Workshop, Oxford, MS, June 2021. (oral)
165. Cameron L. Smith, "Fundamentals of Data Files and Analysis," 2021 fs TAS Workshop, Oxford, MS, June 2021. (oral)
164. Abdul K. Shaik, "Ultrafast Spectroscopy Basics," 2021 fs TAS Workshop, Oxford, MS, June 2021. (oral)
163. Shane A. Autry and Nathan I. Hammer, "Light Sources & Time-Resolved Phenomena and Technologies," 2021 fs TAS Workshop, Oxford, MS, June 2021. (oral)
162. Austin L. Dorris and Nathan I. Hammer, "Fundamentals of Spectroscopy and Electronic States," 2021 fs TAS Workshop, Oxford, MS, June 2021. (oral)
161. Genevieve A. Verville, Mary Hannah Byrd, Andrew Kamischke, Shelly A. Smith, David Magers, and Nathan Hammer, "Noncovalent Interactions between Trimenthylamine N-Oxide (TMAO), Guanidinium Chloride (Gdn-HCl), and Water," 52nd Annual Southeastern Undergraduate Research Conference, Tuscaloosa, AL, February 2020. (oral)
160. Austin L. Dorris, "Ultrafast Transient Absorption Spectroscopy," MS EPSCoR CEMOs Summer Summit, Jackson, MS, July 2019. (oral)
159. Leigh Anna Hunt, Roberta Rodrigues, Jared Delcamp, Nathan Hammer, "Fluorescence Lifetime Studies of Donor-π Bridge-Acceptor (D-π-A) Dyes for use in Dye-Sensitized Solar Cells," Feeding and Powering the World 2019: The Next Generation, Oxford, MS, July 2019.
158. Leigh Anna Hunt, "Determination of Dye Regeneration Efficiency in Dye Sensitized Solar Cells," Feeding and Powering the World 2019: The Next Generation, Oxford, MS, July 2019. (oral)
157. Ashley E. Williams, Nathan I. Hammer, and Steven R. Davis, "Theoretical investigation of biologically-relevant 1-hydroxyethyl radical: Preferential formation of cyclic hydrogen bonding networks versus electrostatic interaction maximization," 257th National Meeting of the American Chemical Society, Orlando, FL, April 2019. (oral)
156. Ashley E. Williams, J. Davis, J. Reynolds, Nathan I. Hammer, and D. N. Reinemann, "Spectroscopic characterization of the tubulin E-hook: Implications of protein affinity for microtubules," 257th National Meeting of the American Chemical Society, Orlando, FL, April 2019.
155. Ashley E. Williams and Nathan I. Hammer,"Spectroscopic and computational comparison of the dipole-bound anions of nitrogen-containing molecules in space involved in potential proliferation of life," 257th National Meeting of the American Chemical Society, Orlando, FL, April 2019.
154. April E. Steen, R. G. Rajapakse, N. H. Attanayake, D. Karunathilaka, D. R. Strongin, D. L. Watkins, and Nathan I. Hammer "Spectroscopic and computational analysis of benzothiadiazole (BTD) building blocks and their copolymers," 257th National Meeting of the American Chemical Society, Orlando, FL, April 2019.
153. Leigh Anna Hunt, J. H. Delcamp, and Nathan I. Hammer, "Quantifying environmental influence on interfacial charge transfer kinetics involving near-infrared organic dyes using excited state lifetimes and transient absorption spectroscopy," 257th National Meeting of the American Chemical Society, Orlando, FL, April 2019.
152. Austin L. Dorris, T. Vaughan, D. L. Mattern, R. C. Fortenberry, and Nathan I. Hammer, "Raman characterization and theoretical study of semi-dative B-O bonds in organoborane molecules," 257th National Meeting of the American Chemical Society, Orlando, FL, April 2019.
151. Shane A. Autry, M. Zhang, E. Dornshuld, T. Keith Hollis, Charles E. Webster, Nathan I. Hammer, "Probing the effects of environment on novel CCC-NHC-Pt(II) pincer complexes," 257th National Meeting of the American Chemical Society, Orlando, FL, April 2019. (oral)

150. Virginia Baker, Genevieve A. Verville, Noelle Watson, Jacqueline Gayton, Jared Delcamp, and Nathan Hammer, "A Computational and Spectroscopic Study of Cu(II)Imidazole$_4$Cl$_2$," 2019 Meeting of the Mississippi Academy of Sciences, Hattiesburg, MS, February 2019.
149. Genevieve A. Verville, Mary Hannah Byrd, Andrew Kamischke, Shelly A. Smith, David Magers, and Nathan Hammer, "Noncovalent Interactions between Trimenthylamine N-Oxide (TMAO), Guanidinium Chloride (Gdn-HCl), and Water," 51st Annual Southeastern Undergraduate Research Conference, Martin, TN, February 2019. (oral)
148. Benjamin Stratton and Nathan I. Hammer, "Theoretical and Experimental Vibrational Modes of the Borane Pyridine Complex," 51st Annual Southeastern Undergraduate Research Conference, Martin, TN, February 2019.
147. Ashley Williams, Steven Davis, and Nathan Hammer, "A Computational Investigation of 1-Hydroxyethyl Radical: Optimized Hydrated Cluster Structures, Energetics, and Vibrational Characterization," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
146. Noelle Watson, Louis E. McNamara, Walter Cleland, Nathan Hammer, "Computational Studies of Chromium(III)-Imidazole Complexes," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
145. Genevieve A. Verville, Mary Hannah Byrd, Andrew Kamischke, Shelley A. Smith, David H. Magers, and Nathan I. Hammer, "Raman Spectroscopic and Computational Study of Noncovalent Interactions between Guanidinium Chloride (Gdn-HCl), Trimethylamine N-oxide (TMAO), and Water," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
144. April E. Steen, Suong T. Nguyen, Thomas L. Ellington, Jared H. Delcamp, Gregory S. Tschumper, Davita L. Watkins, and Nathan I. Hammer, "Synthesis and Photophysical Characterization of Bispyridyl Hybrid Oligomers: Examining Mixed Furan-Thiophene Systems via Spectroscopic and Computational Methods," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
143. Thomas L. Powell and Nathan I. Hammer, "Spectroscopic and Computational Study of Metformin Hydrochloride utilizing Raman Under Nitrogen Spectroscopy to Examine Lattice Structure," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
142. Louis McNamara, Dana N. Reinemann, Henry Valle, T. Keith Hollis, and Nathan Hammer, "Raman Spectroscopic, Computational, and X-ray crystallographic investigation of Intermolecular Interactions in Trimethylamine N-oxide," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
141. Leigh Anna Hunt, Roberta R. Rodrigues, Jared H. Delcamp, and Nathan I. Hammer, "Fluorescence Lifetime Studies of Donor-π Bridge-Acceptor (D-π-A) Dyes for use in Dye-Sensitized Solar Cells," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
140. Austin L. Dorris, Hal Vaughan, Daniell L. Mattern, and Nathan I. Hammer, "Low Energy Raman Spectroscopic and Computational Study of Newly-Developed Boron Acid Derivatives," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
139. Virginia Baker, Jacqueline Gayton, Jared Delcamp, and Nathan Hammer, "A Computational and Spectroscopic Study of Cu(II)Imidazole$_4$Cl$_2$," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
138. Margaret Baldwin, David Magers, Nathan Hammer, Gregory Tschumper, and Shelley Smith, "Characterizing the Nature of Intermolecular Interactions in Dimethyl Sulfoxide: A Computational and Spectroscopic Study," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018.
137. Shane A. Autry and Nathan I. Hammer, "Spectroscopic Characterization of Newly Developed Systems and Challenges to Overcome," Feeding and Powering the World 2018: Planning for the Future, Oxford, MS, June 2018. (oral)
136. Louis E. McNamara, Henry U. Valle, Frank R. Fronczek, T. Keith Hollis, Gregory S. Tschumper, and Nathan I. Hammer, "Intermolecular interactions between TMAO and water: Restructuring the water hydrogen bonding network," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018. (oral)
135. Thomas Logan Powell, Kimberly Stevens, John T. Kelly, and Nathan I. Hammer, "Probing hydrogen bonding in Nitrogen-containing heterocyclic molecules using Raman under nitrogen spectroscopy," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018. (oral)
134. April E. Steen, Kerri D. Scott, and Nathan I. Hammer, "Comparison of emission spectra from various light sources: A physical chemistry education outreach project," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018. (oral)

133. Thomas Logan Powell and Nathan I. Hammer, "Spectroscopic and computational study of metformin hydrochloride utilizing Raman under nitrogen spectroscopy to examine lattice structure," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
132. Genevieve A. Halingten-Verville, Leigh Sumner, Kirkland Laughter, Saumen Chakraborty, and Nathan I. Hammer, "Raman spectroscopic investigations of DNA-gold hybrid nanoclusters," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
131. Shane Autry, Min Zhang, Eric Van Dornshuld, Vivek Dixet, T. Keith Hollis, Charles Edwin Webster, Nathan I. Hammer, "Characterization of the photophysical properties of CCC-N-heterocyclic carbene platinum pincer complexes at the single molecule level," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
130. April E. Steen, Suong Nguyen, Thomas L. Ellington, Gregory S. Tschumper, Davita L. Watkins, Nathan I. Hammer, "Synthesis and photophysical characterization of bipyridyl hybrid oligomers: Examining mixed Furan-thiophene systems using spectroscopy and DFT methods," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
129. Leigh Anna Hunt, Jacqueline N. Gayto, Tana Rill, Aron Huckaba, Louis E. McNamara, Jared H. Delcamp, and Nathan I. Hammer, "Single molecule spectroscopic studies of squaraine-based donor–acceptor–donor (D-A-D) dyes," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
128. Austin Dorris, Trey Vaughan, Daniell L. Mattern, and Nathan I. Hammer, "Spectroscopic and computational characterization of a new series of organoboron derivatives for use in Suzuki-Miyaura coupling reactions," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
127. Ashley E. Williams and Nathan I. Hammer, "A spectroscopic and theoretical study of dipole-bound anions of indazole derivatives," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
126. Leah Alex Wallace, Anna Craig, Jared H. Delcamp, Gregory S. Tschumper, and Nathan I. Hammer, "Studying the effects of hydrogen bonding in triazole and its derivatives," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
125. Cameron Smith and Nathan I. Hammer, "Raman under nitrogen spectroscopy (RUNS) and surface-enhanced Raman spectroscopy under nitrogen (SERSUN) of carbonaceous materials," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
124. Allyson Henke and Nathan I. Hammer, "Analysis of commercial oxidative hair dyes using surface-enhanced Raman spectroscopy," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
123. Andrew Kamischke, Mary Byrd, Shelley Ann Smith, David Magers, and Nathan I. Hammer, "Raman spectroscopic and computational study of hydrogen bond interactions between urea, guanidine, and water," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
122. Kyle Quist and Nathan I. Hammer, "Raman spectroscopic studies of interactions between metal ions and ceramics," 255th National Meeting of the American Chemical Society, New Orleans, LA, March 2018.
121. Leah A. Wallace, Anna E. Craig, Jared H. Delcamp, Gregory S. Tschumper, and Nathan I. Hammer, "Studying the Effects of Hydrogen Bonding in Triazole and Its Derivatives," 50th Annual Southeastern Undergraduate Research Conference, Oxford, MS, February 2018.
120. Cameron Smith, Riya Chatterjee, Baharak Sajjadi, Wei-Yin Chen, and Nathan I. Hammer, "Spectroscopic Studies of Carbonaceous Materials Using Raman Spectroscopy," 50th Annual Southeastern Undergraduate Research Conference, Oxford, MS, February 2018.
119. Kyle Quist and Nathan I. Hammer, "Raman Spectroscopic Studies of Interactions between Metal Ions and Ceramics," 50th Annual Southeastern Undergraduate Research Conference, Oxford, MS, February 2018.
118. Andrew D. Kamischke, Mary H. Byrd, Shelley A. Smith, David H. Magers, and Nathan I. Hammer, "Raman Spectroscopic and Computational Study of Hydrogen Bond Interactions Between Urea, Guanidine, and Water," 50th Annual Southeastern Undergraduate Research Conference, Oxford, MS, February 2018.
117. Thomas L. Powell, Kimberly Stevens, John T. Kelly, and Nathan I. Hammer, "Probing Hydrogen Bonding in Nitrogen-Containing Heterocyclic Molecules using Raman Under Nitrogen Spectroscopy," 50th Annual Southeastern Undergraduate Research Conference, Oxford, MS, February 2018. (oral)
116. Allyson R. Henke and Nathan I. Hammer, "Analysis of commercial oxidative hair dyes using surface-enhanced Raman Spectroscopy," 50th Annual Southeastern Undergraduate Research Conference, Oxford, MS, February 2018. (oral)
115. Louis McNamara, "Time-Correlated Single Photon Counting (TCSPC) for Excited State Lifetime Measurements," Feeding and Powering the World 2017: Building the Knowledge Base, Oxford, MS, June 2017. (oral)

114. Shane Autry, "Spectroscopic Characterization of the Physical and Photophysical Properties of Newly Developed Pincer Complexes," Feeding and Powering the World 2017: Building the Knowledge Base, Oxford, MS, June 2017. (oral)
113. April Steen, "Photophysical Characterization of Bipyridyl Hybrid Oligomers: Examining Mixed Furan-Thiophene Systems Using Spectroscopy and DFT Methods," Feeding and Powering the World 2017: Building the Knowledge Base, Oxford, MS, June 2017. (oral)
112. Leigh Anna Hunt, Roberta R. Rodrigues, Yanbing Zhang, Adithya Peddapuram, Louis McNamara, Jared H. Delcamp, and Nathan I. Hammer, "Measuring Electron Injection Efficiencies for Optimization of Dye-Sensitized Solar Cells," Feeding and Powering the World 2017: Building the Knowledge Base, Oxford, MS, June 2017.
111. Ashley E. Williams, John T. Kelly, Steven R. Davis, and Nathan I. Hammer, "Spectroscopic and computational studies of the hydrogen bonding interactions of hydroxyethyl ethers," Feeding and Powering the World 2017: Building the Knowledge Base, Oxford, MS, June 2017.
110. Sarah C. Sutton, Walter E. Cleland, and Nathan I. Hammer, "Spectroscopic and computational study of chlorine dioxide/water interactions," Feeding and Powering the World 2017: Building the Knowledge Base, Oxford, MS, June 2017.
109. April E. Steen, Suong Nguyen, Thomas L. Ellington, Gregory S. Tschumper, Davita L. Watkins, and Nathan I. Hammer, "Synthesis and photophysical characterization of bipyridyl hybrid oligomers: Examining mixed furan-thiophene systems using spectroscopy and DFT methods," 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017.
108. Shane A. Autry, Mihn Zhang, V. Dixit, T. Keith Hollis, C. Edwin Webster, and Nathan I. Hammer, "Spectroscopic characterization of the physical and photo-physical properties of newly developed platinum pincer complexes," 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017.
107. Louis E. McNamara, Hamad Cheema, Jared H. Delcamp, and Nathan I. Hammer, "Photophysical investigation of electron ejection efficiencies of novel organic near-IR absorbing dyes into TiO_2 based semiconductor surfaces for dye-sensitized solar cell applications," 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017. (oral)
106. Katelyn A. Allen, Suong Nguyen, Thomas L. Ellington, Gregory S. Tschumper, Davita L. Watkins, and Nathan I. Hammer, "Raman spectroscopic and computational study of the electron withdrawing effects on halogen bonding," 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017.
105. Sarah C. Sutton, Walter E. Cleland, and Nathan I. Hammer, "Spectroscopic and computational study of chlorine dioxide/water interactions," 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017.
104. Ashley E. Williams, John T. Kelly, Steven R. Davis, and Nathan I. Hammer, "Spectroscopic and computational studies of the hydrogen bonding interactions of hydroxyethyl ethers," 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017.
103. Rachael A. Nelson, Louis E. McNamara, Tana Rill, Aron Huckaba, Jared H. Delcamp, and Nathan I. Hammer, "Investigating the photophysical properties of indolizine-squaraines," 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017.
102. Lemuel Tsang and Nathan I. Hammer, "Fundamental structural studies of thiolate-protected gold clusters using Raman spectroscopy" 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017.
101. Louis McNamara, Tana Rill, Jared Delcamp, Nathan I. Hammer, "Indolizines-Squaraine based NIR Emissive Materials: Characterization and Applications," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016. (oral)
100. Katelyn Allen, Suong Nguyen, John Kelly, Gregory S. Tschumper, Davita L. Watkins, and Nathan I. Hammer, "A Raman Spectroscopic and Computational Study of the Electron Withdrawing Effects on Halogen Bonding," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.
99. Shane A. Autry, T. Keith Hollis, Nathan I. Hammer, "Spectroscopic Characterization of the Physical and Photo-Physical Properties of Newly Developed Platinum Pincer Complexes," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.
98. Kim Hamilton-Wims, Nathan Hammer, and Jared H. Delcamp, "Research Experience for Community College Instructors in the Water-Energy-Food Nexus: Preparation of a Cobalt-Based Dye-Sensitized Solar Cell," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.
97. Cameron L. Smith, Han Thuy An Truong,2 Wei-Yin Chen, and Nathan I. Hammer, "Raman Spectroscopic Characterization of Functionalized Graphene Nanomaterials," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.

96. April E. Steen, Suong T. Nguyen, Thomas L. Ellington, Gregory S. Tschumper, Davita L. Watkins, and Nathan I. Hammer, "A Spectroscopic and Computational Study of Newly- Synthesized Mixed Furan-Thiophene Oligomers," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.
95. Sarah Sutton, Walter E. Cleland, Jr., and Nathan I. Hammer, "Spectroscopic and Computational Study of Chlorine Dioxide/Water Interactions," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.
94. Daniel Touzeau, Nalaka Liyanage, Nathan I. Hammer, and Jared H. Delcamp, "Synthesis and Characterization of an Indolizine-based Donor-Acceptor Molecule for Use in Dye Sensitized Solar Cells," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.
93. Vy Tran and Nathan Hammer, "The Application of Surface-Enhanced Raman Spectroscopy (SERS) for Materials Characterization," Feeding and Powering the World 2016: Building the Network, Oxford, MS, July 2016.
92. Katelyn E. Allen, Suong Nguyen, John T. Kelly, Davita L. Watkins, and Nathan I. Hammer, "A Raman Spectroscopic and Computational Study of the Electron Withdrawing Effects on Halogen Bonding," Posters in the Rotunda, Jackson, MS, March 2016.
91. John T. Kelly and Nathan I. Hammer, "Indirect radiation damage to DNA by low-energy electron attachment to nucleobase subunits,"2016 University of Mississippi/ University of Mississippi Medical Center Research Day, Jackson, MS, March 2016.
90. April E. Steen, Kerri D. Scott, and Nathan I. Hammer, "Using Spectroscopy to Engage Students in STEM and Physical Chemistry," Research Day at the Capitol, Jackson, MS, February 2016.
89. Katelyn E. Allen and Nathan I. Hammer, "Spectroscopic Studies of the Physical and Photophysical Properties of Biological and Materials Building Blocks," Research Day at the Capitol, Jackson, MS, February 2016.
88. Sarah C. Sutton, Walter E. Cleland, Jr., and Nathan I. Hammer, "Spectroscopic and Computational Study of Chlorine Dioxide/Water Interactions," 48th Annual Southeast Undergraduate Research Conference, Atlanta, GA, February 2016.
87. Rachael A. Nelson, Louis E. McNamara, Steven J. Cassidy, Mallory Smith, Ian A. Adam, Paul A. Rupar, and Nathan I. Hammer, "Spectroscopic Investigations of a BoraFluorene Derivative," 48th Annual Southeast Undergraduate Research Conference, Atlanta, GA, February 2016.
86. Christopher B. Boland, Kayla Warren, John C. Prather, Jordan Cauley, Hannah K. Trent, Ashton T. Nicholson, David H. Magers, and Nathan Hammer, "Spectroscopic Studies of the Noncovalent Interactions Involving Osmolytes," 48th Annual Southeast Undergraduate Research Conference, Atlanta, GA, February 2016.
85. Ashley E. Williams, Nathan I. Hammer, "Spectroscopic and Computational Studies of the Hydrogen Bonding Interactions of Hydroxyethyl Ethers," 48th Annual Southeast Undergraduate Research Conference, Atlanta, GA, February 2016.
84. Jonathan A. Ishee, Peyton Reves, Jamey L. Wilson, Davita L. Watkins, Gregory S. Tschumper, and Nathan I. Hammer, "Raman Spectroscopic and Computational Studies of Halogen Bonded Pyrimidine Complexes," 48th Annual Southeast Undergraduate Research Conference, Atlanta, GA, February 2016. (oral)
83. Katelyn E. Allen, Suong Nguyen, John T. Kelly, Davita L. Watkins, and Nathan I. Hammer, "A Raman Spectroscopic and Computational Study of the Electron Withdrawing Effects on Halogen Bonding," 48th Annual Southeast Undergraduate Research Conference, Atlanta, GA, February 2016.
82. Vy T. Tran, John T. Kelly, Annie K. McClellan, Lawson T. Lloyd, Lynn V. Joe, Gregory S. Tschumper, and Nathan I. Hammer, "Elucidating the Competition for Charge Transfer between Solvents and Silver in Surface-Enhanced Raman Spectroscopy (SERS)," 48th Annual Southeast Undergraduate Research Conference, Atlanta, GA, February 2016.
81. Louis E. McNamara, Tana Rill, Emily A. Sharpe, Aron J. Huckaba, Jared H. Delcamp, and Nathan Hammer, "Characterizing the Effects of Noncovalent Interactions on the Photophysics of Newly Developed Near Infrared Emissive Materials," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015. (oral)
80. John T. Kelly, Yi Wang, Kit H. Bowen, Gregory S. Tschumper, and Nathan Hammer, "Unraveling Proton Transfer in Stepwise Hydrated N-Heterocyclic Anions," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015. (oral)
79. Vy T. Tran, Louis E. McNamara, John T. Kelly, and Nathan I. Hammer, "Investigating the Effects of Solvent on the Surface-Enhanced Raman Scattering (SERS) of Nitrogen Containing Molecules: Azabenzenes and 1H-1,2,3 Triazole," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015.
78. April E. Steen, Kerri D. Scott, and Nathan I. Hammer, "Using Spectroscopy to Engage Students in STEM and Physical Chemistry," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015.

77. Hannah K. Trent, Ashton T. Nicholson, Gregory S. Tschumper, David H. Magers, and Nathan I. Hammer, "Raman Spectroscopic and Computational Analysis of the Effects of Noncovalent Interactions on DMSO," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015.
76. Kayla Warren, John C. Prather, Jordan Cauley, David H. Magers, and Nathan I. Hammer, "Non-Covalent Interactions Between Trimethylamine N-Oxide (TMAO) and Urea in Water," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015.
75. Sarah C. Sutton, Walter E. Cleland, and Nathan I. Hammer, "Spectroscopic and Computational Study of Chlorine Dioxide/Water Interactions," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015.
74. Katelyn E. Allen, Hunter A. Dulaney, Jonah W. Jurss, and Nathan I. Hammer, "Reinvestigation of the Resonance Raman Spectrum of the Blue Ruthenium Dimer," 67th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Memphis, TN, November 2015.
73. John T. Kelly, Kit Bowen, Gregory Tschumper, and Nathan I. Hammer "Unraveling Proton Transfer in Stepwise Hydrated N-Heterocyclic Anions," 70th International Symposium on Molecular Spectroscopy, University of Illinois at Urbana–Champaign, June 2015. (oral)
72. Louis E. McNamara, Nalaka Liyanage, Adithya Peddapuram, Joseph S. Murphy, Jared H. Delcamp, and Nathan I. Hammer "Spectroscopic Investigation of Newly-developed Near Infrared Emitting Dyes," 70th International Symposium on Molecular Spectroscopy, University of Illinois at Urbana–Champaign, June 2015. (oral)
71. Peyton L. Reves, Davita L. Watkins, Gregory S. Tschumper, and Nathan I. Hammer "Raman Spectroscopic and Computational Studies of Halogen Bonded Pyrimidine Complexes," 8th Annual Mississippi Biophysical Consortium Meeting, Oxford, MS, June 2015.
70. Katelyn E. Allen, Nathan I. Hammer, and Gregory S. Tschumper "Assessing the Ability of Turbomole Basis Sets to Accurately Describe Noncovalent Interactions Between Pyrimidine and Water," 8th Annual Mississippi Biophysical Consortium Meeting, Oxford, MS, June 2015.
69. Louis E. McNamara, Dana N. Reinemann, Henry U. Valle, T. Keith Hollis, Gregory S. Tschumper, and Nathan I. Hammer "Characterizing the Effects of Intermolecular Interactions Between Trimethylamine N-oxide (TMAO) Molecules" 8th Annual Mississippi Biophysical Consortium Meeting, Oxford, MS, June 2015. (oral)
68. John T. Kelly, Kit Bowen, Gregory Tschumper, and Nathan I. Hammer "Investigating Excess Charge Accommodation in Biological Building Blocks with Solution-Phase and Gas-Phase Spectroscopy," 8th Annual Mississippi Biophysical Consortium Meeting, Oxford, MS, June 2015. (oral)
67. John T. Kelly, Kit Bowen, Gregory Tschumper, and Nathan I. Hammer "Characterizing the effects of noncovalent interactions on hydrated azabenzene clusters: Charge localization and charge transfer," 249th National Meeting of the American Chemical Society, Denver, CO, March 2015.
66. Louis McNamara, Dana Reinemann, Henry Valle, John Prather, Peyton Reves, David Magers, Thedford Hollis, Gregory Tschumper, and Nathan Hammer "Spectroscopic study of the effects of local environment and deuteration on the structure of trimethylamine N-oxide (TMAO)," 249th National Meeting of the American Chemical Society, Denver, CO, March 2015.
65. Jordan Cauley, Leeann Smith, Wells Prather, Nathan I. Hammer, and David H. Magers "Noncovalent Interactions in Networks of Trimethylamine-N-oxide, Urea, and Water," 70th Southwest Regional Meeting of the American Chemical Society, Fort Worth, Texas, November 2014.
64. John T. Kelly and Nathan I. Hammer "Spectroscopic and Computational Characterization of Hydrated Pyrimidine Anions," 69th International Symposium on Molecular Spectroscopy, University of Illinois at Urbana–Champaign, June 2014. (oral)
63. Louis E. McNamara and Nathan I. Hammer "Spectroscopic Investigation of the Effects of Environment on Newly Developed Emissive Materials," 69th International Symposium on Molecular Spectroscopy, University of Illinois at Urbana–Champaign, June 2014. (oral)
62. John T. Kelly, Nathan I. Hammer, Gregory S. Tschumper, "Spectroscopic and Computational Characterization of the Interaction Between Biological Building Blocks and Excess Electrons," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.
61. Kristina A. Cuellar, Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Noncovalent Interactions in Micro-Solvated Networks of Trimethylamine N-Oxide (TMAO)," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.
60. Louis E. McNamara, Nathan I. Hammer, Hemali Rathnayake, "Probing the Chiral Heterogeneity of Perylene Diimide (PDI) Nano-Ribbons Using Single Molecule Fluorescence Detected Circular Dichroism (FDCD)," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.

59. Inga P. Juchheim and Nathan Hammer, "Computational Chemistry in Chemical Education," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.
58. Peyton L. Reves, Davita L. Watkins, Gregory S. Tschumper, Nathan I. Hammer, "Investigations of Halogen Bonding Interactions in Solutions of Pyrimidine and Bromobenzene," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.
57. Ashton Nicholson, Kristina Cuellar, David H. Magers, Nathan I. Hammer, "Raman Spectroscopic and Computational Analysis of the Effects of Noncovalent Interactions on DMSO," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.
56. April E. Steen, Louis E. McNamara, Nathan I. Hammer, "Comparison of Emission Spectra from Different Lighting Sources: A Physical Chemistry Outreach Project," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.
55. Anna E. Craig, Aron J. Huckaba, Jared H. Delcamp, Gregory S. Tschumper, Nathan I. Hammer, "Raman Spectroscopic and Computational Study of the Liquid Structure of 1H-1,2,3-Triazole," 2014 Mississippi State EPSCoR Meeting, Starkville, MS, April 2014.
54. John T. Kelly, Nathan I. Hammer, Gregory S. Tschumper, "Towards the Origins of Radiation Damage in Biology: Experimental and Computational Study of Excess Charge Localization in Pyrimidine/Water Hydrogen Bonded Networks," 2013 Mississippi State EPSCoR Meeting, Hattiesburg, MS, April 2013.
53. Kristina A. Cuellar, Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Investigations of Noncovalent Interactions in Micro-solvated Networks of Trimethylamine N-oxide," 2013 Mississippi State EPSCoR Meeting, Hattiesburg, MS, April 2013.
53. Loan Tran, Kristina Cuellar, John T. Kelly, Gregory S. Tschumper, and Nathan I. Hammer, "Effects of Microsolvation on Pyrazine, Pyridazine, and S-Triazine," 2013 Mississippi State EPSCoR Meeting, Hattiesburg, MS, April 2013.
52. Louis E. McNamara, Nathan I. Hammer, Hemali Rathnayake, "Probing the Chiral Heterogeneity of Perylene Diimide (PDI) Nano-Ribbons using Single Molecule Fluorescence Detected Circular Dichroism," 2013 Mississippi State EPSCoR Meeting, Hattiesburg, MS, April 2013.
51. Loan Tran, Kristina Cuellar, John T. Kelly, Gregory S. Tschumper, and Nathan I. Hammer, "Effects of Microsolvation on Pyrazine, Pyridazine, and S-Triazine," 245th National Meeting of the American Chemical Society, New Orleans, LA, April 2013.
50. Kristina A. Cuellar, Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Investigations of Noncovalent Interactions in Micro-solvated Networks of Trimethylamine N-oxide," 245th National Meeting of the American Chemical Society, New Orleans, LA, April 2013.
49. Dana N. Reinemann, Gregory S. Tschumper, and Nathan I. Hammer, "Computational Study of Substituent Effects on B-N and B-P Dative Bond Containing Molecules," 245th National Meeting of the American Chemical Society, New Orleans, LA, April 2013.
48. Annie K. McClellan, Ashley M. Wright, Lynn V. Joe, Thomas Ellington, Gregory S. Tschumper, and Nathan I. Hammer, "Charge Transfer Induced Vibrational Blue Shifts in Pyrimidine Mixtures on Silver Substrates," 245th National Meeting of the American Chemical Society, New Orleans, LA, April 2013.
47. Annie K. McClellan, Lynn V. Joe, Ashley M. Wright, Ciara M. Frizzell, Gregory S. Tschumper, and Nathan I. Hammer, "Surface Enhanced Raman (SERS) Spectroscopic and Computational Studies of Charge Transfer Induced Vibrational Blue Shifts in Pyrimidine/Water Mixtures on Silver Substrates," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.
46. Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Computational and Spectroscopic Studies of the Effects of Weak Intermolecular Interactions in Ammonia Borane," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.
45. Debra J. Scardino, Rajesh Kota, Daniell L. Mattern, and Nathan I. Hammer, "Single Molecule Spectroscopic and Computational Studies of Organic Rectifiers Composed of Pyrene and Perylenebisimide," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.
44. Joseph Golden, Kristina Cuellar, Charles L. Hussey, Gregory S. Tschumper, and Nathan I. Hammer, "Effects of Micro-Solvation on Room Temperature Ionic Liquids," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.
43. Kristina A. Cuellar, Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Investigations of Noncovalent Interactions in Micro-solvated Networks of Trimethylamine N-oxide," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.
42. Lynn V. Joe, Siyam Ansar, Nuwan Kothalawala, Amal Dass, Dongmao Zhang, and Nathan I. Hammer, "Spectroscopic Characterization of Gold Nanomolecules," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.

41. Dana N. Reinemann, Ashley M. Wright, Jonathan D. Wolfe, Gregory S. Tschumper, and Nathan I. Hammer, "Vibrational Spectroscopy of Molecules Containing B-N and B-P Dative Bonds," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.
40. Talyr Hall, Xiaoyun Howard, Nagamani Vunnam, Nathan I. Hammer, and Susan Pedigo, "Dynamics of Strand-Crossover Formation in Cadherin," 2012 Mississippi State EPSCoR Meeting, Oxford, MS, April 2012.
39. Kristina A. Cuellar, Katherine L. Munroe, David H. Magers and Nathan I. Hammer, "Investigations of Noncovalent Interactions in Micro-solvated Networks of Trimethylamine N-oxide," University of Memphis Undergraduate Research Conference, February 2012.
38. Katherine L. Munroe, David H. Magers, Kristina A. Cuellar, and Nathan I. Hammer, "Investigations of Noncovalent Interactions in Micro-solvated Networks of Trimethylamine N-oxide," 2011 Conference on Current Trends in Computational Chemistry, Jackson State University, MS, October 2011.
37. Annie K. McClellan, Lynn V. Joe, James C. Howard, Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Surface enhanced Raman spectra (SERS) of pyrimidine/water mixtures," 242nd National Meeting of the American Chemical Society, Denver, CO, August 2011.
36. Debra J. Scardino, Rajesh Kota, Daniell L. Mattern, and Nathan I. Hammer, "Single Molecule Spectroscopic and Computational Studies of Two Organic Rectifiers," 242nd National Meeting of the American Chemical Society, Denver, CO, August 2011.
35. Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Computational study of dihydrogen bonding in ammonia borane and its derivatives," 242nd National Meeting of the American Chemical Society, Denver, CO, August 2011.
34. Lynn V. Joe, Murrell Godfrey, Nathan I. Hammer, "Latent fingerprint analysis using single molecule surface enhanced Raman scattering (SERS)," 242nd National Meeting of the American Chemical Society, Denver, CO, August 2011.
33. Dana N. Reinemann, Ashley M. Wright, Jonathan D. Wolfe, Gregory S. Tschumper, and Nathan I. Hammer, "Elucidation of the B-N and B-P Stretching Frequencies in Organic Molecules," 242nd National Meeting of the American Chemical Society, Denver, CO, August 2011.
32. Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Computational and Spectroscopic Study of the B-N Dative Bond in Ammonia Borane," 66th International Symposium on Molecular Spectroscopy, Columbus, OH, June 2011. (oral)
31. Dana N. Reinemann, Ashley M. Wright, Jonathan D. Wolfe, Gregory S. Tschumper, and Nathan I. Hammer, "Elucidation of the B-N stretching vibration in N-methyliminodiacetic acid boronates," 2011 Southeastern Regional Meeting of the American Institute of Chemical Engineers, Atlanta, GA, April 2011. (oral)
30. Ashley M. Wright, Nathan I. Hammer, and Gregory S. Tschumper, "Computational and Spectroscopic Study of Ammonia Borane," Southeast Theoretical Chemistry Association (SETCA), Jackson, MS, March 2011.
29. Annie K. McClellan, Lynn V. Joe, James C. Howard, Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Surface enhanced Raman spectra (SERS) of pyrimidine/water mixtures," 2011 Mississippi State EPSCoR Meeting, Starkville, MS, April 2011.
28. Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Computational and Spectroscopic Study of the B-N Coordinate Covalent Bond in Ammonia Borane," 2011 Mississippi State EPSCoR Meeting, Starkville, MS, April 2011.
27. Debra J. Scardino, Rajesh Kota, Daniell L. Mattern, and Nathan I. Hammer, "Single Molecule Spectroscopic and Computational Studies of Two Organic Rectifiers," 2011 Mississippi State EPSCoR Meeting, Starkville, MS, April 2011.
26. Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Raman Spectroscopic Signatures of Noncovalent Interactions Between Trimethylamine N-oxide (TMAO) and Water," 2011 Mississippi State EPSCoR Meeting, Starkville, MS, April 2011.
25. Ashley M. Wright, Lynn V. Joe, Austin A. Howard, Gregory S. Tschumper, and Nathan I. Hammer, "Spectroscopic and computational studies of weak noncovalent interactions in crystalline pyrimidine," 2011 Mississippi State EPSCoR Meeting, Starkville, MS, April 2011.
24. Dana N. Reinemanny, Ashley M. Wright, Jonathan D. Wolfe, Gregory S. Tschumper, and Nathan I. Hammer, "Vibrational Spectroscopy of N-Methyliminodiacetic Acid (MIDA)-Protected Boronate Ester: Examination of the B-N Dative Bond," 2011 Mississippi State EPSCoR Meeting, Starkville, MS, April 2011.
23. Dana N. Reinemann, Ashley M. Wright, Jonathan D. Wolfe, Gregory S. Tschumper, and Nathan I. Hammer, "Infrared, Raman, and SERS Spectroscopy of N-Methyliminodiacetic Acid (MIDA)-Protected Boronate Esters," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010. (oral)
22. Ashley M. Wright, Austin A. Howard, Gregory S. Tschumper, and Nathan I. Hammer, "Spectroscopic and computational investigations of noncovalent interactions between pyrimidine and hydrogen bonded

networks," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010. (oral)

21. Debra J. Scardino, Rajesh Kota, Daniell L. Mattern, and Nathan I. Hammer, "Single Molecule Spectroscopic and Computational Studies of Two Organic Rectifiers," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010. (oral)
20. Anna K. Hailey, Guang Shi, Wei-Yin Chen, and Nathan I. Hammer, "New Catalysts for the Photocatalytic Conversion of Carbon Dioxide to Hydrocarbons," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010. (oral)
19. Ashley M. Wright, Lynn V. Joe, Austin A. Howard, Gregory S. Tschumper, and Nathan I. Hammer, "Spectroscopic and computational studies of weak noncovalent interactions in crystalline pyrimidine," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010.
18. Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Raman Spectroscopic Signatures of Noncovalent Interactions Between Trimethylamine N-oxide (TMAO) and Water," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010.
17. Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "High level ab initio calculations on ammonia borane," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010.
16. Annie K McClellan, Lynn V. Joe, James C. Howard, Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Surface enhanced Raman spectra (SERS) of pyrimidine/water mixtures," 62nd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), New Orleans, LA, December 2010.
15. Ashley M. Wright, Austin A. Howard, Gregory S. Tschumper, and Nathan I. Hammer, "Raman Spectroscopic Investigations of Noncovalent Interactions between Pyrimidine and Hydrogen Bonded Networks," XXII International Conference on Raman Spectroscopy, Boston, MA, August 2010.
14. Dana N. Reinemann, Ashley M. Wright, Jonathan D. Wolfe, Gregory S. Tschumper, and Nathan I. Hammer, "Raman and SERS Spectroscopy of N-Methyliminodiacetic Acid (MIDA)-Protected Boronate Esters," XXII International Conference on Raman Spectroscopy, Boston, MA, August 2010.
13. Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Raman Spectroscopic Signatures of Noncovalent Interactions Involving Trimethylamine N-oxide (TMAO)," XXII International Conference on Raman Spectroscopy, Boston, MA, August 2010.
12. Anna K. Hailey, Guang Shi, Wei-Yin Chen, and Nathan I. Hammer, "New Catalysts for the Photocatalytic Conversion of Carbon Dioxide to Hydrocarbons," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010. (Won 1st Prize in Poster Competition)
11. Ashley M. Wright, Gregory S. Tschumper, Nathan I. Hammer, "High Level ab Initio Calculations on Ammonia Borane: Sensitivity of the B–N Dative Bond to Method and Basis Set," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.
10. Katherine L. Munroe, David H. Magers, and Nathan I. Hammer, "Computational and Raman Spectroscopic Studies Of Trimethylamine N-oxide (TMAO)/Water Mixtures," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.
9. Ryan A. Gregg, Brock Sain, Murrell Godfrey, and Nathan I. Hammer, "Development of a Laser-Induced Breakdown Spectrometer for Lead-Free Gunshot Residue Analysis," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.
8. Dana N. Reinemann, Ashley M. Wright, Gregory S. Tschumper, and Nathan I. Hammer, "Computational and Raman Spectroscopic Studies of N-methyliminodiacetic acid (MIDA) - Protected Boronate Esters," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.
7. Matthew D. McDowell, Debra Jo Scardino, Emily J. Carrell, Jacob D. Graham, and Nathan I. Hammer, "The Multiphoton Ionization Spectrum of Methyl Iodide Revisted: Fragmentation Patterns from Highly Excited States," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.
6. Jonathan Wolfe, Ashley Wright, Dana Reinemann, and Nathan I. Hammer, "Surface Enhanced Raman Scattering (SERS) Spectroscopy of Molecules Containing B–N Dative Bonds," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.
5. Debra Jo Scardino, Ashley M. Wright, Rajesh Kota, Daniell L. Mattern, and Nathan I. Hammer, "Single Molecule Spectroscopic and Computational Studies of Two Organic Rectifiers," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.
4. Suzanne Sereduck and Nathan I. Hammer, "Computational and Raman Spectroscopic Studies of Allyboronic Acid Pinacol Ester – Water Interactions," 2010 Mississippi State EPSCoR Meeting, Jackson, MS, April 2010.

3. Debra Jo Scardino, Matthew D. McDowell, Emily J. Carrell, Jacob D. Graham, and Nathan I. Hammer, "The Multiphoton Ionization Spectrum of Methyl Iodide Revisted," 61st Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), San Juan, Puerto Rico, October 2009.
2. Dana N. Reinemann, Ashley E. Wright, Austin A. Howard, Gregory S. Tschumper, and Nathan I. Hammer, "Vibrational Spectroscopy of N-Methyliminodiacetic Acid (MIDA)-Protected Boronate Esters: Assignment of the B-N Dative Bond Stretching Frequency," 61st Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), San Juan, Puerto Rico, October 2009.
1. A. A. Howard and N. I. Hammer, "Raman Spectroscopic Investigation of Noncovalent Interactions in Pyrimidine," 60th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Nashville, TN, November 2008. (oral)

SELECTED PRESENTATIONS

"Exploring the photophysical properties of near-infrared and shortwave-infrared Indolizine–cyanine dyes," 2026 South-eastern Region Meeting of the American Chemical Society (SERMACS 2026), Memphis, TN, Nov. 2026. (invited)
"Tracking the Effects of Noncovalent Interactions in Liquids Using Vibrational Spectroscopy & Computational Chemistry," Mississippi College, October 2025 & The Southern Chemist Award Dinner, Memphis, TN, November, 2025.
"Excited-state dynamics of visible and near-IR absorbing molecules for light harvesting, photocatalysis, and bioimaging," University of Kentucky, April 2025, East Tennessee State University, Oct. 2024, & 75th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Atlanta, GA, Oct. 2024. (invited)
"A study of major cannabinoids via Raman spectroscopy and density functional theory," RamanFest 2023, Paris, France, Nov. 2023.
"Effects of proaromaticity on excited-state properties in near-infrared sensitizer dyes," 74th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Durham, NC, Oct. 2023. (invited)
"Elucidation of the Molecular-Level Organization of Liquid Phase 1H-1,2,3-Triazole," 2022 Meeting of the South-Western Region of the American Chemical Society (SWRM), Baton Rouge, LA, Nov. 2022. (invited)
"Guest-Host Raman under Liquid Nitrogen Spectroscopy for the Acquisition of Improved Vibrational Spectra of Solids," RamanFest 2022, Paris, France, Sept. 2022.
"Fluorescence and quantum yield studies of new SWIR emitting rhodindolizine dyes," Fall 2022 National Meeting of the American Chemical Society, Chicago, IL, Aug. 2022.
"Fundamentals of Spectroscopy and Electronic States" and "Light Sources & Time-Resolved Phenomena and Technologies," 2022 & 2021 fs Transient Absorption Spectroscopy (TAS) Workshops, Oxford, MS
"Probing the Effects of Noncovalent Interactions and the Properties of Newly-Developed Emissive Materials Using Molecular Spectroscopy," University of Southern Mississippi, March 2019.
"Raman spectroscopy as a sensitive probe for noncovalent molecular interactions involving nitrogen atoms," 70th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Augusta, GA, Nov. 2018. (invited)
"Charge injection efficiencies of ullazine, indolizine, quinoxaline, and benzothiadiazole-based dyes for dye-sensitized solar cells from time-correlated single-photon counting (TCSPC) measurements," 70th Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Augusta, GA, Nov. 2018. (invited)
"Feeding and Powering the World," 2018 Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS) Principal Investigators Workshop, Alexandria, VA, May 2018.
"Harrowing Tales of Entropy" Science Café with Prof. Randy Wadkins, Lusa, Oxford, MS, January 2018.
"The NSF EPSCOR RII Track-2 Award Program," 25th NSF EPSCoR National Conference, Missoula, MT, Nov. 2017. (Panelist)
"Competitive partial charge transfer interactions with hydrogen-bonded solvent networks," Nanostructure Engineering & Surface Chemistry for Spectroscopy, Imaging & Alternative Energy Harvesting & Conversion, 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017. (invited)
"Securing a tenure-track position at a research university: The hiring process," Looking Beyond Your Current Boundaries: What's the Next Step? Academic Route: PhD to Postdoc to Assistant Professor, 253rd National Meeting of the American Chemical Society, San Francisco, CA, April 2017. (invited)
"The Importance of a Truly Cohesive Theme in a Research Experience for Undergraduates (REU) Program," Successful REU Programs, 251st National Meeting of the American Chemical Society, San Diego, CA, March 2016. (invited)
"Tracking the Effects of Noncovalent Interactions on Osmolytes and Nitrogen Containing Biological Building Blocks," Western Kentucky University, April 2016, Jackson State University, March 2016.
"Spectroscopically Tracking the Evolution of Noncovalent Interactions from the Single Molecule Level to the Condensed Phases," Tulane University, Nov. 2015, Memphis Section of the ACS, Sept. 2012, 2012

Mississippi Academy of Sciences Meeting, Feb. 2012, 2011 CAREER Award Regional Forum, Baton Rouge, LA, Nov. 2011.

"Accurate Descriptions of the Effects of Noncovalent Interactions and Excess Charge on Nitrogen Containing Heterocyclic Molecules," University of Alabama-Birmingham, Feb. 2015; Auburn University, Nov. 2014; 248th National Meeting of the American Chemical Society, San Francisco, CA, Aug. 2014.

"Effects of Noncovalent Interactions on the Osmolyte TMAO and the Biological Building Block Pyrimidine," University of Tennessee, March 2014, University of Charleston, November 2013, Georgia Southern University, November 2013, University of Georgia, April 2013; Johns Hopkins University, Oct. 2012; LSU, March 2011; University of Memphis, April 2011; Kentucky Lake Local Section of the ACS, April 2011; 4th Annual Mississippi Biophysical Consortium Meeting, June 2011; University of Alabama, September 2011; Mississippi State University Department of Chemistry, Oct. 2011.

"Nanohydration of Biological Building Blocks," 2011 Mississippi EPSCoR Fall Forum, Oxford, MS, Sept. 2011.

"Raman spectroscopic studies to investigate molecular properties and weak intermolecular interactions: Pyrimidine, TMAO, and Methylboronic acid MIDA ester," Mercer University, Nov. 2010; Georgia College & State University, Nov. 2010; University of South Alabama, Aug. 2009; University of Memphis, Feb. 2010.

"Laser spectroscopy of single molecules and interacting molecular systems," Southeastern Louisiana University, Oct. 2008; East Tennessee State University, Oct. 2008; Western Kentucky University, Sept. 2008.

"Single Molecule Spectroscopy," Inaugural Meeting of the Mississippi Biophysical Consortium, Oxford, MS, May 2008.

"Spectroscopy of Single Molecules and Nanostructures: Probing the Individual Contributions to Bulk Observables," University of Alabama, Birmingham, AL, September 2007.

"Conjugated Polymer - Quantum Dot Composite Nanostructures: Enhanced Properties and Stability," Intelligence Community Postdoctoral Research Fellowship Colloquium, Chantilly, VA, May 2007.

"Photophysics and Enhanced Properties of Quantum Dot/Conjugated Organic Composite Nanostructures Revealed by Single Molecule Spectroscopy," University of Tennessee, Knoxville, TN, March 2007.

"Modified Blinking Kinetics in Solid State Quantum Dot/Conjugated Organic Polymer Composite Nanostructures," Materials Research Society (MRS) Fall Meeting, Boston, MA, November 2006.

"Suppression of Blinking in Solid State Quantum Dot/Conjugated Organic Polymer Composite Nanostructures," Frontiers in Optics 2006/Laser Science XXII, Rochester, NY, October 2006.

"Novel-Polymer-Quantum Dot Composites for IR-based Photonic Quantum Information Processing and Sensor Applications," Intelligence Community Postdoctoral Research Fellowship Colloquium, Tysons Corner, VA, April 2006.

"Elucidation of the Local Binding Motifs of Electrons Trapped on Water," 60th Annual International Symposium on Molecular Spectroscopy, The Ohio State University, Columbus, OH, June 2005.

"Identification and elucidation of the local binding motifs of electrons trapped on water," Gordon Research Conference on Molecular Energy Transfer, Buellton, CA, January 2005.

"Reactions of Dipole-Bound Anions," XX International Symposium on Molecular Beams, Lisbon, Portugal, June 2003.

"Resonance Charge Transfer in Dipole Bound Anions," Japan-US Workshop on Resonances, Shonan Village, Hayama, Japan, December 2002.

"Spectroscopy of Dipole-Bound Anions," 57th Annual International Symposium on Molecular Spectroscopy, The Ohio State University, Columbus, OH, June 2002.

"Rydberg Charge Exchange Formation of Dipole Bound Anions," 2002 Division of Atomic, Molecular and Optical Physics Annual Meeting (DAMOP), The College of William and Mary, Williamsburg, VA, May 2002.

"Studies of Electron Transfer Between Rydberg Atoms and Polar Molecules," 53rd Annual Meeting of the Southeastern Region of the American Chemical Society (SERMACS), Savannah, GA, September 2001.

"Dipole Bound Anions: Rydberg Electron Transfer to a Series of Cyanogens," XXII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC), Santa Fe, NM, July 2001.

"Effects of Electric Fields on Multiphoton Ionization of Rubidium Atoms at Low and High Densities," The Tenth International Symposium on Resonance Ionization Spectroscopy and Its Applications, Knoxville, TN, October 2000.

"The Interaction of Free-Electron Laser Light with C_{60}," Centennial Celebration Meeting of the American Physical Society, Atlanta, GA, March 1999.