

AEI Poster Session Grid 2016

*Poster #	Name	AGRO	ANYL	BIOL	BIOT	CARB	CATL	CELL	CHAL	CHED	COLL	COMP	ENFL	ENVR	FLUO	FUEL	GEOC	INOR	MEDI	NUCL	ORGN	PHYS	PMSE	TOXI	POLY	
1	Arroyo		•	•	•														•							
2	Wayu		•								•															
3	Morgan		•															•			•					
4	Hawk			•															•							
5	Izgu			•	•																	•				
6	King			•	•									•								•				
7	Sherrer			•											•										•	
8	Wang			•		•				•																
9	Sadowski				•																					
10	Cronk										•					•			•							
11	Kisley		•								•												•			
12	Smith		•								•								•							
13	Laury											•							•		•	•				
14	Lin											•										•				
15	Pellizzeri											•										•				
16	Provorse											•										•				
17	Sproviero						•					•	•									•				
18	Eitrheim													•												
19	Johnson													•			•									
20	Karunanayake		•											•												
21	Shen		•								•			•												
22	Zhang		•											•		•										
23	Jensen													•												
24	Anagnostopoulos													•			•			•						
25	Emerson													•			•									
26	Alatrash																		•							
27	Barber		•																•							
28	Boyer																		•							
29	Dong		•								•								•			•				
30	Gilliard																		•			•				•
31	Gisewhite																		•							
32	Han																		•							
33	Li																		•							
34	Neely																		•			•				

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35	(Withdrawn)																								
36	Regmi																	•							
37	Taylor-Edinbyrd			•								•						•				•			
38	Vaddypally			•														•					•		
39	Knight																	•							
40	Buckley			•															•			•			
41	Ahmed					•												•	•			•			
42	Bebbington																					•			
43	Hahn																	•				•			
44	O'Reilly			•															•			•			
45	Otley																					•		•	•
46	Patwardhan			•															•			•			
47	(Withdrawn)																								
48	Woods																					•			
49	Bates											•											•		
50	Daddysman																					•			
51	DeBlase		•																			•			
52	Ferzoco		•																			•			
53	Herrera																	•				•			
54	Kumar											•				•		•				•			
55	Swierk		•															•				•			
56	Thilakarathne			•								•							•			•			
57	Wang										•					•						•			
58	White											•										•			
59	Jensen											•	•									•			
60	Jose																					•			
61	Lu																				•		•		•
62	McEnnis		•																			•	•		•
63	Tong															•							•		•
64	Zha																						•		
65	Xiang																						•		•
66	Radlauer																	•					•		•
67	Politica			•										•										•	

2016 AEI Biosketches

1. Netz Arroyo, Department of Biochemistry, University of California, Santa Barbara, 5054 Santa Susana Ave., Santa Barbara, CA 93111. narroyo@chem.ucsb.edu; Tec de Monterrey, Mexico (B.S., Chem Sci, 2009); The University of Texas at Austin (Ph.D., 2015), Dr. Allen J. Bard, Development of an alkaline redox flow battery: From fundamentals to benchtop prototype; Otis Williams Postdoctoral Fellow at University of California, Santa Barbara (Jan 2015–present), Dr. Kevin W. Plaxco, Continuous, real-time molecular measurements directly in living subjects. www.netzarroyo.org

I've worked in analytical chemistry, specifically in electroanalytical chemistry, including studies of electrocatalytic surfaces by scanning electrochemical microscopy and developing a redox flow battery, for more than 10 years. A skilled bench scientist with good teaching experience, I worked as a TA for four years, teaching and mentoring undergrads and graduate students. Since starting my postdoc fellowship, I've switched my research focus to bioengineering. Specifically, I've recently developed an electrochemical, aptamer-based platform for real-time molecular measurements directly in living subjects. Having personally developed this new technology, I'm in a unique position to apply it to cutting-edge science and wish to continue working on *in vivo* molecular sensing at a research institution with animal facilities, where I could also invest my passion in chemical education.

ANYL, BIOT

2. Wayu Mulugeta, Department of Chemistry, Gottwald Science Center, University of Richmond, 28 Westhampton Way, Richmond, VA 23173. mwayu@richmond.edu, 615-525-7067; Addis Ababa University, Ethiopia (B.S., 2000); Middle Tennessee State University (M.S., 2012), Dr. Charles Chusuei, Modification of multi-walled carbon nanotubes using zinc oxide nanoparticles for electrochemical sensing; Middle Tennessee State University (Ph.D., 2015), Dr. Charles Chusuei, Developing an amperometric method for selective detection of hydrogen peroxide; Postdoctoral Research Associate at the University of Richmond (2015–present), Dr. Michael Leopold, Xerogel-based amperometric biosensors incorporating nanoparticle networks-adaptable templates for clinically relevant measurements.

I am interested in the syntheses and characterization of nanomaterials for biosensing applications. I hope to interest students in bioanalytical chemistry in this research. I assisted in teaching intermediate analytical and general chemistry laboratory. I want to join a research-intensive university where I can teach and mentor both undergraduate and graduate students.

ANYL, COLL

3. Michael (Thomas) Morgan, Department of Chemistry and Biochemistry, Georgia Institute of Technology, 901 Atlantic Dr., Atlanta, GA 30332. mmorgan32@gatech.edu; LaGrange College (B.S., magna cum laude, 2007); Georgia Tech (Ph.D., 2013), Dr. Christoph Fahrni, Molecular tools for elucidating copper biochemistry: Water-soluble fluorescent probes and robust affinity standards; Postdoctoral Fellow at Georgia Tech (2013–present), Dr. Christoph Fahrni, Development of air-stable copper(I)-selective chelators with dissociation constants down to the zeptomolar range; Determining the binding mode and affinity of glutathione to Cu(I) under biologically relevant conditions.

My research has involved the application of organic synthesis in developing analytical tools for Bioinorganic Chemistry, and I have served as a mentor to 10 undergraduate and graduate researchers, training them in both synthetic and analytical techniques. I have also taught Organic Chemistry courses at Georgia Tech and Agnes Scott College, making strategic use of observations from the lab as examples in the classroom. One of my future research goals is the development of new fluorophores, and I have observed that fluorescence is a particularly inspiring topic for chemistry students. I would like to teach and establish a research program at a PUI, and although Organic Chemistry is my favorite subject, I am also interested in the possibility of teaching Introductory, Analytical, Medicinal, or Inorganic Chemistry and in developing cooperative laboratory activities that bridge multiple courses.

ANYL, ORGN, INOR

4. Laura M. Luther Hawk, Department of Chemistry, University of Minnesota, 207 Pleasant St. SE, Minneapolis, MN 55455. lmhawk@umn.edu; University of Wisconsin–Madison (B.S., comprehensive honors, 2005); University of Chicago (Ph.D., 2013), Dr. Stephen Meredith, Polymorphism in variants of amyloid- β ; Postdoctoral Associate at University of Minnesota (2014–present), Dr. William Pomerantz, Developing inhibitors of protein–protein interactions using protein-observed fluorine NMR; In-cell NMR. Awarded Physical Sciences Teaching Prize (2007).

I am interested in characterization of inter- and intramolecular interactions in proteins and peptides, especially in the context of protein aggregation and protein–protein interactions. My research program, which will straddle the line between chemistry and biochemistry, will allow undergraduate researchers to develop new technical and scientific reasoning skills. In addition to working as a teaching assistant, my teaching experience includes teaching a semester of organic chemistry as a mentored adjunct professor at a small liberal arts college with a diverse student population, working as a teaching consultant, and mentoring undergraduate researchers. Since my first teaching experience, my career goal has been to work with undergraduates through both teaching and research at a two- or four-year undergraduate institution or a comprehensive university.

BIOL, ORGN

5. Enver C. Izgu, Department of Genetics, Harvard Medical School, Boston, MA, 02114. izgu@molbio.mgh.harvard.edu; Middle East Technical University, Turkey (B.S., ranked first with the highest honor, 2006); University of Minnesota (Ph.D., 2012), Dr. Thomas R. Hoye, Total synthesis of plant alkaloids and methodology development for potent steroid synthesis and NMR Mosher Analysis; Postdoctoral Fellow at Harvard Medical School and Massachusetts General Hospital (2012–present), Dr. Jack W. Szostak, Origin of cellular life. <https://www.linkedin.com/in/enver-cagri-izgu-076a4325>

I am an organic chemist interested in biophysical chemistry and chemical biology of genetic polymers. My current research focuses on the origin of cellular life, with an emphasis on replication of nucleic acids, and chemistry of RNA, peptides, and lipids. My future lab will combine organic synthesis with molecular biology to primarily develop (i) small organic molecules and nanodevices for applications in noncoding RNA biochemistry, and (ii) next-generation therapeutics that work via DNA mutagenesis as well as antisense strategy. Besides research, my other passion is teaching; previously I have taught O-chem (lab and lecture), mentored both undergrad and grad students, and volunteered in teaching activities for the local community. I seek to direct a lab and teach at a doctorate-granting university, where my students will gain skills to pursue research in both basic and applied sciences.

BIOL, ORGN, BIOT

6. Jason R. King, Department of Chemical Engineering, Massachusetts Institute of Technology, 32 Vassar St., MIT Building 56-439, Cambridge, MA 02142. j_king@mit.edu; University of Alabama at Birmingham (B.S., cum laude, departmental honors, 2008); Duke University (Ph.D., 2014), Dr. Eric Toone, Evaluation of complex biocatalysis in aqueous solution. Part I: Efforts towards a biophysical perspective of the cellulosome, Part II: Experimental determination of methonium desolvation thermodynamics; Postdoctoral Associate at Massachusetts Institute of Technology (2014–present), Dr. Gregory Stephanopoulos (Chem Eng), Metabolic engineering in *Escherichia coli* and *Thiobacillus denitrificans*.

I plan to combine bioorganic chemistry and enzymology with metabolic engineering to track and alter cellular carbon in primary and secondary metabolism. The work pairs an interest in cellular phenomena with access to medium- and high-value small molecules. I anticipate this work will attract students from across department lines. I plan to train students in basic and applied biochemistry at the graduate and undergraduate levels. From my experience in teaching organic chemistry labs at Duke and studying learning pedagogy at MIT, I can lead undergraduate courses in general and organic chemistry, biochemistry, and molecular biology, and graduate courses in biophysical chemistry, enzymology, and metabolic engineering. I plan to combine interests in research and teaching at an institution with a strong commitment to graduate education and cross talk among biology, chemistry, and engineering.

BIOL, ORGN, ENVR, MEDI, ENFL, I&EC, BIOT

7. Shanen M. Sherrer, Department of Biochemistry, Duke University Medical Center, 307 Research Dr., Box 3711, Nanaline Duke Building Room 159, Durham, NC 27710. shanen.sherrer@duke.edu; Miami University (B.S., Biochem, 2005), Dr. Ann Hagerman, Detection and characterization of polyphenols radicals via EPR spectroscopy, Investigation of the role of exercise in oxidative stress for rats by monitoring levels of certain biomarkers; The Ohio State University (Ph.D., Biochem, 2011), Dr. Zucui Suo, Mutagenic and kinetic effects of various DNA lesions on DNA polymerization catalyzed by Y-family DNA polymerases; Postdoctoral Research Associate at Howard Hughes Medical Institute/Duke University Medical Center (2011–2014), Dr. Paul Modrich, Identification and characterization of divalent metal ions required for endonuclease MutL α of the human DNA mismatch repair pathway; American Cancer Society Postdoctoral Fellow at Duke University Medical Center (2014–2017), Dr. Paul Modrich, The interplay between DNA mismatch repair and translesion DNA synthesis, The effects of cadmium on MutL α within the context of human mismatch repair. <https://sites.google.com/site/shanenmsherrer/home>

I am interested in DNA damage outcomes caused by internal and external factors. My research program will use methods from biochemistry, biophysics, and molecular biology to gain more insight into mutagenesis and carcinogenesis. During my NIH Chemistry–Biology Interface Training Program, I learned valuable approaches for answering scientific problems in human health, which will aid me in teaching chemistry and premedical students. I was a graduate teaching assistant for biochemistry courses and labs. I also trained several undergraduate, graduate, and postdoctoral researchers. My educational outreach usually targets college-age and younger students. I prefer teaching introductory and advanced biochemistry, but I can teach other chemistry courses. I seek a tenure-track faculty position at a four-year college or university where I can combine research and teaching endeavors to support student learning.

BIOL, TOXI, PHYS

8. Yiben Wang, Department of Chemistry and Biochemistry, University of Delaware, 102 Brown Laboratory, Newark, DE 19716. yibenw@udel.edu, 302-723-8736; Virginia Commonwealth University (B.S., Chem with Biochem concentration, magna cum laude, 2011); University of Delaware (Ph.D., Biochem, anticipated May 2017), Dr. Catherine Grimes, Utilizing peptidoglycan O-acetyltransferase B (PatB) to isolate, identify, and characterize new immunostimulatory fragments of the bacterial cell wall. VA Commonwealth U Outstanding Supplemental Instruction Leader Award (2011), UDel Grad Student Excellence in Teaching Award (2014), Chem & Biochem Dept. Elizabeth Dyer Excellence in Teaching Award (2014), Am Soc Biochem & Molecular Bio Grad Travel Award (2015), UDel Grad Student Gov't Outstanding Leadership Award (2016), UDel Professional Development Award for Grad Students (2016), ACS Div Biol Chem Travel Award (2016). www.linkedin.com/in/yibenwang

I am interested in immunostimulatory bacterial cell wall fragments and propose to identify new fragments by using a native bacterial enzyme, peptidoglycan *O*-acetyltransferase B (PatB), and characterize their structure by MS and NMR. I assisted in an integrated general chemistry–biology lab several times, an organic chemistry lab, and an introduction to biochemistry course that was taught in a Problem-Based Learning (PBL) format. I also helped to develop a lab course to compliment the biochemistry class. I am involved in an outreach program funded by the National Science Foundation (NSF) called SEEK: STEM Early Education Kinship, which aims to foster a lasting connection between early education and biochemistry majors. I would like to focus on undergraduate teaching and research advising at a four-year institution, but would consider directing graduate research as well.

BIOL, CARB, CHED

9. John P. Sadowski, 1200 First St. #1020, Alexandria, VA 22314.
jpsadowski@post.harvard.edu, cell: 516-672-2717; California Institute of Technology (B.S., with honor, Axline Merit Scholarship, 2007); Harvard University (M.A., 2009; Ph.D., 2013; NSF Graduate Research Fellowship), Prof. Peng Yin, Design and synthesis of dynamically assembling DNA nanostructures. ASEE Postdoctoral Research Fellowship at U.S. Naval Research Laboratory (2014–2015), Theory of scalable dynamic DNA self-assembly, three-dimensional DNA scaffolds for fluorophores.
<http://johnpsadowski.com/>

My research focuses on developing dynamic nucleic acid systems that respond to and control their chemical and physical environment in intricate ways, and the computational methods for designing them, for applications in molecular electronics, materials science, and nanomedicine. I have been active in DNA nanotechnology research for the past 14 years, and have worked with many of the field's dominant investigators, including its founder, Nadrian Seeman, and I was the first graduate student in Peng Yin's group at Harvard. I am also a pioneer in using Wikipedia as an educational tool, having trained students, scientific experts, policymakers, and others to write clear, accurate prose for Wikipedia, and I was recently featured in *Chemical & Engineering News* for this work. I am seeking to start a research program in a doctoral-granting institution with a strong STEM focus.

BIOT, BIOL, PHYS

10. Hannah L. Cronk, 17 ½ Clarke St. Binghamton, NY 13905.
hcronk1@binghamton.edu, 570-396-5318; Bloomsburg University of Pennsylvania (B.S., 2013); Binghamton University: State University of New York (Ph.D., Mat Chem, anticipated 2017), Dr. C. J. Zhong, Design, synthesis, and characterization of alloy nanoparticles. <https://www.linkedin.com/in/hannah-cronk-391376b0>

My interests are in the synthesis of nanoparticles with a focus on nanoalloys designed for energy conversion, storage, and production. There is much unknown about nanomaterial synthesis, and I like exploring the finer details of synthesis procedures. I enjoy creating new materials and wish to inspire future scientists to do the same. Teaching and outreach are activities that I love, and I hope to teach in a four-year university so that I can continue pursuing my passions and encouraging future generations of scientists.

COLL, INOR, FUEL

11. Lydia Kisley, Beckman Institute, University of Illinois at Urbana–Champaign, 600 S. Mathews Ave. MC-712, Box C-3, Urbana, IL 61801. lkisley@illinois.edu; Wittenberg University (B.S., 2010); Rice University (M.A., 2012; Ph.D., 2015; NSF Graduate Research Fellow), Dr. Christy F. Landes, Single molecule spectroscopy of materials; Beckman-Brown Interdisciplinary Postdoctoral Fellow at the University of Illinois at Urbana–Champaign (Oct 2015–present), Dr. Martin Gruebele (Chem), Dr. Deborah E. Leckband (Chem Eng), Dr. Paul V. Braun (Mat Sci), Protein folding and stability at polymeric interfacial environments. lydiakisley.tumblr.com; <https://www.linkedin.com/in/lydiakisley>

My career goal is to have my own lab at a Ph.D.-granting university with a theme of “inspired engineering.” I am motivated to engineer in an informed way using novel spectroscopic techniques. Many materials are optimized empirically, resulting in little understanding of why selected conditions perform the way they do. Motivated by problems in industry, physical science observations will drive materials engineering at the macroscale that, coming full circle, improve upon applications. My research applied this approach to chromatography, nanomaterials, hydrogels, and polymer brushes, where I collaborated with diverse teams, published 16 papers, and communicated my research to academic, government, and industrial audiences. I have mentored five undergraduates and have teaching experience in chemistry and chemical engineering, skills I will use in training my future interdisciplinary group.

ANYL, COLL, PHYS

13. Marie L. Laury, Department of Chemistry, Washington University in St. Louis, Campus Box 1134, One Brookings Dr., St. Louis, MO 63130-4899. marielaury@wustl.edu; Washington and Jefferson College (B.A., Chem, Math, Spanish, magna cum laude, 2008); University of North Texas (Ph.D., 2013), Dr. Angela K. Wilson, Accurate and reliable prediction of energetic and spectroscopic properties via electronic structure methods; Keck Fellow at Washington University in St. Louis (2013–present), Dr. Jay Ponder (Chem) and Dr. Garland R. Marshall (Biochem), Force field optimization for drug design.

My research plans include developing and applying computational methods to examine problems in the areas of proteins, drug design, and chemical mechanisms. The scope of my research plans can be tailored to meet the needs of undergraduates, graduate students, or both, all of whom would benefit from my research plans. I hope to apply my academic experiences to a position at a four-year college, regional comprehensive university, or R-1 university, where I will teach, lead research, and mentor students. Preparations for this career include: instructing a second-semester general chemistry course (enrollment: 125, responsible for the course lectures, exams, lab lectures), assisting in graduate- (computational chemistry) and undergraduate-level (physical chemistry) courses, and mentoring graduate and undergraduate students in research resulting in publications in peer-reviewed journals. I have a keen interest in the liberal arts and believe in cultivating a student's curiosity.

COMP, PHYS

14. Wei Lin, Department of Chemistry, Northwestern University, 2145 Sheridan Rd., Evanston, IL 60208. Wei.lin@northwestern.edu; Fuzhou University, China (B.S., 2003; M.E., honors, 2006); California State University, Los Angeles (M.S., 2009); University of California, San Diego (Ph.D., 2014), Dr. Francesco Paesani, Molecular modeling of atmospheric aerosols: From clusters to Langmuir monolayers; Postdoctoral studies at University of Minnesota, Twin Cities (2014–2015), Dr. Donald Truhlar, Potential energy surface development and quasiclassical dynamics simulations on $O(^3P)+N_2$ reaction; Postdoctoral studies at Northwestern University (2015–present), Dr. George Schatz, *Ab initio* studies of surface reactions in the plasma-catalytic dry reforming. www.sites.google.com/site/chemweilin

I am interested in utilizing quantum-chemical characterizations and classical molecular simulations on properties of catalytic materials and atmospheric aerosols. I hope to interest students in chemistry and materials in this research. I was teaching assistant in general and physical chemistry courses as well as in analytic and physical chemistry lab courses. I would like to develop a course in applications of modern computational techniques to students from both theoretical and experimental aspects. I want to teach and direct the research of Ph.D. and also master's degree students at a research university.

COMP, PHYS, CATL, ENVR

15. Steven Pellizzeri, Department of Chemical and Biomolecular Engineering, Clemson University, 127 Earle Hall, Clemson, SC 29634. spelliz@clemson.edu; Rochester Institute of Technology (B.S., Polymer Chem, 2007); Syracuse University (M.S., 2010; Ph.D., 2013), Dr. Jon A. Zubietta, The solid state simulation of the structure and vibrational modes of organic, hybrid organometallic and inorganic species using the CRYSTAL09 code; Clemson University (2014–present), Dr. Rachel Getman, Computational catalysis design and screening for energy relevant conversions. www.bit.ly/spelliz

My research interests focus around the computational design of materials for advanced properties. Currently I have been working with optimizing catalysts for the conversion of light hydrocarbons for energy relevant applications by predicting compositions that can actively and selectively promote these reactions. I would like to expand upon these topics to computationally optimize other properties of general interest in material design. As a part of my research, I would like to develop collaborations with experimentalists to test predictions as well as aid in experimental design. I hope to show students the benefits of computational design at the atomic scale to influence experimental efforts as well as the potential to move past known examples to discover new materials. I would like to teach at either an undergraduate- or graduate-degree granting institution.

CATL, PHYS, COMP

16. Makenzie R. Provorse, School of Natural Sciences, University of California, Merced, 5200 North Lake Rd., Merced, CA 95343. mprovorse@ucmerced.edu, 402-707-7422; Kansas State University (B.S., 2009), Christine Aikens, Ligand binding and absorption properties of gold nanoparticles from density functional theory; University of Minnesota (M.S., 2010; Ph.D., 2014), Jiali Gao, Insights into proton-coupled electron transfer from computation: Development and application of multistate density functional theory; Postdoctoral Scholar at University of California, Merced (2014–Present), Christine Isborn, Improved computational methods for simulating absorption spectra and charge transfer dynamics in the condensed phase.
<https://www.linkedin.com/in/mprovorse>

I am interested in modeling ligand binding and electron and proton transfer in the condensed phase using state-of-the-art computational methods. My expertise is rooted in density functional theory, combined quantum mechanics/molecular mechanics (QM/MM), and molecular dynamics. I enjoy mentoring undergraduate and graduate students in research and professional development. I have taken advantage of many opportunities to develop my knowledge of teaching and learning. I developed a team-based active learning curriculum for an undergraduate quantum chemistry and spectroscopy course based on POGIL (process-oriented guided inquiry learning). My ideal tenure-track position is at a Ph.D.-granting institution that values teaching and learning where I can direct undergraduate and graduate research and teach computational and physical chemistry to both undergraduate and graduate students.

COMP, PHYS

17. Eduardo M. Sproviero, 4435 Baltimore Ave., Apt. 305, Philadelphia, PA 19104. e.sproviero@uscience.edu, Phone: 203-936-8299, Fax: 215-596-8543; School of Exact and Natural Sciences, University of Buenos Aires, Buenos Aires, Argentina (this school offered only U.S. equivalent M.S. degree, without prior bachelor's degree; M.S., Physics and Chem, 1994), Dr. Gerardo Burton, Theoretical analysis of internal mobility in steroidal hormones; University of Buenos Aires, Buenos Aires, Argentina (Ph.D., 2003), Dr. Gerardo Burton (Orgn Chem) and Dr. Ruben H. Contreras (Physics), Study of conformational and structural effects in molecules. Development of methods based on orbital interactions to analyze their electronic mechanisms; Postdoctoral researcher at Yale University, Dept. of Chem (2004–2010), Dr. Victor S. Batista, (i) QM/MM models and water splitting mechanism of the O₂-evolving complex in photosystem II and inorganic complexes, (ii) QM/MM characterization of functionalized TiO₂ surfaces as photocatalytic devices for oxidation chemistry, (iii) EXAFS spectroscopy as a tool to determine molecular structures of transition metal-containing species (e.g., active sites in proteins and inorganic complexes), and (iv) Electronic structure analysis based on QM/MM and NMR methodologies applied to the retinyl chromophore in rhodopsin; Postdoctoral Researcher at University of the Sciences, Department of Chem and Biochem (2011–2013), Dr. Vojislava Pophristic, Folding properties of arylamide foldamers. <http://goo.gl/nJ7xb2>

My research interests include areas of natural and artificial catalysis, e.g., using artificial scaffolds that mimic the protein environment around inorganic models of the active site of enzymes; or the substitution of fossil fuels by renewable fuels, e.g., improving the efficiency of dye-sensitized solar cells (DSSC) through the increase of the anion attractors cross section. I also want to contribute to the public health, e.g., using coarse-grained molecular dynamics (CG-MD) to study the aggregation mechanisms of the TDP-43 protein, responsible for some neurodegenerative diseases (ALS and FTD). I taught undergraduate courses for both chemistry and physics majors, including introductory courses in chemistry and physics, and advanced physical chemistry courses. I have also advised many undergraduate and graduate students. I want to form a research group with students and postdocs and teach in four-year colleges or schools with graduate (master's, Ph.D., or both) degrees.

COMP, PHYS, ENFL, CATL

18. Eric Eitrheim, Department of Chemistry, University of Iowa, Iowa City, IA 52242. eric-eitrheim@uiowa.edu; Luther College (B.A., 2012); University of Iowa (Ph.D., anticipated 2017), Dr. Tori Forbes. McCloskey Fellowship, Nuclear Regulatory Commission Fellowship, Eichrom Graduate Scholar, University of Iowa Research Foundation 2014 Inventor Award. www.linkedin.com/in/ericeitrheim

I am interested in various areas within radiochemistry as well as inorganic speciation chemistry. I have done work involving environmental radioactivity, nuclear forensics, and aluminum cluster speciation. I have interests in teaching as well and have taught a graduate-level Radiochemistry course at the University of Iowa. I am interested in many career paths but currently would like to teach and direct the research of undergraduate students at a four-year college.

ENVR, INOR, NUCL

19. Carol Ann Johnson, Department of Mechanical Engineering, Division of Materials Science and Engineering, 110 Cummington Mall, Boston, MA 02215. cajohns@bu.edu; Purdue University (B.S., Envr Chem, 2007); Virginia Tech (Ph.D., Geosciences, 2014), Dr. Michael Hochella, Jr., Observations and assessment of iron oxide nanoparticles in metal-polluted mine drainage within a steep redox gradient, and a comparison to synthetic analogs; Postdoctoral Researcher in Civil and Environmental Engineering at Duke University (2014–2016), Dr. Heileen Hsu-Kim, Effects of activated carbon treatments on mercury bioavailability and methylation; Postdoctoral Researcher in Materials Science and Engineering at Boston University (2016–present), Drs. Jillian Goldfarb and Allison Dennis, Fate and transport of quantum dots in the environment. <https://www.linkedin.com/in/cajohnson2>

My research experience transcends traditional disciplinary boundaries, integrating aspects of chemistry, geosciences, nanoscience, materials science, environmental engineering, and microbiology. I answer research questions that lie at the interface of minerals, metal contaminants, and microbes, and bridge the gap between mechanistic laboratory experiments and the realities of complex environmental systems. My toolbox includes a variety of analytical techniques, such as TEM and ICP-MS, with which I characterize a wide variety of inorganic and organic materials from the nanoscale to bulk scale. In the classroom I will use student-centered, problem-based, active learning, such as integrating field research into environmental chemistry courses. I seek a faculty position in a department in any type of four-year institution that values interdisciplinary research and teaching.

ENVR, GEOC, COLL

20. Akila G Karunanayake, 467 E. Lee Blvd., Apt. 10, Starkville, MS 39759. uak1@msstate.edu, 662-617-2721; Open University, Sri Lanka (B.Education, Nat. Sci., 2010); Institute of Chemistry Ceylon, Sri Lanka (Graduateship in Chem, first class honors, 2008); Mississippi State University (Ph.D., anticipated Aug 2016), Dr. Todd E. Mlsna, Exploring bio-char interface and sorption phenomena. Upper Division Most Outstanding Teaching Assistant Award 2015, Dept. of Chem, Mississippi SU; 2015, 2nd Place Grad Poster Presentation, ACS Mississippi Chapter; Three papers published and others in press or preparation.

I'm a highly motivated, self-driven doctoral candidate who is seeking a challenging and creative environment to practice and produce results utilizing my expertise in areas of clean water, alternative energy, chemical sorption, and environmental and analytical chemistry. I have published two chemical education papers related to analytical and environmental chemistry. I'm currently in charge of running both Analytical I and Analytical II chemistry laboratories. For EPSCoR, I developed three new experiments for use in educational teaching labs, successfully completed two workshops for high school teachers, and conducted the experiments with undergraduate students and high school science teachers. I'm also working as a consultant at Black Owl company. I'm interested in teaching undergraduate chemistry students related to analytical and environmental chemistry.

ENVR, ANYL

21. Yun Shen, 4158 Newmark Lab, 205 N. Mathews Ave., Urbana IL 61801. yunshen2@illinois.edu, 217-898-1087; Hohai University, Nanjing, P. R. China (B.S., Envr Eng, 2004–2008), Meiping Tong, A continuous anaerobic baffled stacking microbial fuel cell for electricity generation; Peking University, Beijing, P. R. China (M.S., Envr Eng, 2008–2011), Meiping Tong, Deposition of bacteriophage MS2 and hereditary material (RNA) on mineral surfaces; University of Illinois at Urbana–Champaign (Ph.D., Envr Eng, 2011–present), Thanh H. Nguyen, *Legionella pneumophila* accumulation and release associated with biofilms in drinking water distribution system; Pathogen transport and biofilm characterization in drinking water distribution systems: (a) Pathogen transport, (b) Biofilm characterization, and (c) Disinfection kinetics: Evaluate the release kinetics of pathogen from biofilms under disinfectant exposure; monitor the cultivability and infectivity of pathogen associated with biofilms under disinfection, (d) Risk assessment: Quantitative characterize the risk of a certain pathogen (*Legionella pneumophila*) in drinking water distribution systems. <https://www.linkedin.com/in/shen-yun-34570a53>.

I am interested in the transmission of pathogens in drinking water distribution systems and water treatment systems, as well as pathogen accumulation and removal on food surfaces. I have the expertise on pathogen transport, pathogen and biofilm disinfection, material morphology and mechanical strength characterization, and risk assessment. I can teach courses such as water and wastewater treatment, environmental microbiology, physical and chemical process in environmental engineering, and many others. I want to conduct research, teach environmental engineering courses, and mentor graduate and undergraduate students for their independent study at a research-oriented university.

ENVR, COLL

22. Zhang Lijuan, 3 Science Dr. 3, Dept. of Chemistry, National University of Singapore, 117543. a0095200@u.nus.edu, cathyzhlj@gmail.com, Phone: (+65) 93467076; Beijing University of Technology, Beijing (B.Eng., Envr Eng, 2009); Peking University, Beijing (M.S., Envr Eng, 2012), Scaling up of a membrane-free bioelectrochemical system for copper containing wastewater treatment; National University of Singapore (Ph.D., anticipated Jul 2016).
https://www.researchgate.net/profile/Lijuan_Zhang20

I have a strong interest in environmental chemistry and energy engineering, a focus on applied biological fuel cells for pollutant removal, and renewable energy generation from wastewater. My research scope is on the bio-electrochemical system (microbial/enzymatic fuel cell) and flow battery. TA experience includes an undergraduate module of experiments in analytical and physical chemistry for three semesters. I mentored thesis projects—one master's degree and two undergraduate students for three years. I am interested in working at an environmental research institute or a Department or School of Environment and Energy. I would like to direct the research of undergraduate and perhaps master's degree students at a college or regional comprehensive university.

ENVR, FUEL

23. Cory D. Jensen, DOE—Federal Energy Regulatory Commission, 888 1st St., Washington DC, 20426. cory.jensen@alumni.colostate.edu; South Dakota School of Mines and Technology (B.S., 2000); Colorado State University (M.S., 2006), Dr. Kenneth Reardon and Dr. David Dandy; Colorado School of Mines (Ph.D., anticipated 2016–2017), several advisers in coordination with CSU, Energy and Environmental Systems & Science Technology Engineering Policy Certificate, Research Program Participant, Department of Energy's National Renewable Energy Laboratory, Thermochemical and Biochemical Renewable Energy Research in the Biomass Surface Characterization Laboratory, part of the Bioenergy Technology Office and National Bioenergy Center, Dr. David Robichaud and Dr. Bryon Donohoe.

It is my goal to develop a high-quality research group with interests in technology that contribute to a more sustainable planet (e.g., catalysis, nanotechnology, medicine, environmental science, plant science, policy), and I am interested in a joint appointment as a federal employee.

ENVR

24. Vasileios A. Anagnostopoulos, Applied Research Center, Florida International University, 10555 W. Flagler St., EC 1231, Miami, FL. vanagnos@fiu.edu, 305-348-6732; University of Patras, Greece (B.Sc., honors in chem, 2005); University of Patras, Greece (M.Sc., distinction in envr analysis, 2012), Dr. Basil D. Symeopoulos (Chem) and Dr. Kyriakos Bourikas (Chem Technol), U(VI) complex formation and speciation under the presence of inorganic and organic ligands in different profile aquatic systems and the impact on environmental mobility; University of Patras, Greece (Ph.D., Envr Radiochem, 2012), Dr. Basil D. Symeopoulos (Chem) and Dr. Petros G. Koutsoukos (Chem Eng), Physico-chemical factors affecting U(VI) and trivalent actinides retention by natural substrates with emphasis given on the determination of thermodynamic parameters and kinetic laws; Postdoctoral training at Applied Research Center, Florida International University (2014–present), Study of fate and transport of radionuclides at DOE sites (Hanford and Savannah River) and development and evaluation of remediation techniques for the immobilization of radionuclides. <http://www.arc.fiu.edu/staff/vasileios-anagnostopoulos/>, <https://www.linkedin.com/in/vasileios-a-anagnostopoulos-3078383a>

My research focuses on the mechanisms that determine the fate of contaminants in soil and aquatic systems, speciation modeling, and the development of innovative techniques for pollution abatement. I am currently leading tasks related to the fate and transport of radionuclides in groundwater and the vadose zone for DOE's Savannah River and Hanford Sites, in collaboration with scientists from SRNL and PNNL. My studies have resulted in 12 publications and an elaborate reviewing record. Moreover, I have taken the lead in proposal writing as part of multidisciplinary scientific teams. I was presented with the "DOE Mentor of the Year" award, while students under my supervision have won scholarships and awards in national conferences. I am interested in teaching and directing the research of undergraduate and graduate students at doctorate- and master's degree-granting universities.

ENVR, NUCL, GEOC

25. Hilary P. Emerson, ARC at FIU, 10555 W. Flagler Ave., Miami, FL 33174. hemerson@fiu.edu; UCF (B.S., 2009); Clemson (M.S., 2014; Ph.D., 2014), Brian Powell (Env Eng), Experimental evidence for colloid-facilitated transport of plutonium on iron oxide; Postdoctoral Researcher at Clemson (Jan–May 2015), Drs. Brian Powell and Lawrence Murdoch, Modeling and instrumentation design for field lysimeter experiments investigating the fate of radionuclides; Postdoctoral Researcher at FIU (May 2015–present), Drs. Yelena Katsenovich and David Roelant (ARC), Batch experiments investigating the effect of ammonia gas injection on uranium in the Hanford vadose zone.

My focus area is the chemical fate of actinides within the subsurface with a primary interest concerning plutonium redox chemistry. The novelty of my work is in the incorporation of laboratory- and field-scale studies and the use of radio-labeling for enhanced detection limits in interdisciplinary projects. I have experience mentoring students in the laboratory and as part of the FIU NRC Scholars and DOE Fellows programs. I am interested in teaching courses in environmental/aquatic chemistry, actinide chemistry, introduction to radiation principles, and environmental radiochemistry laboratory. I hope to teach and direct research from the undergraduate to the Ph.D. level.

GEOC, NUCL, ENVR

27. Patrick S. Barber, Department of Chemistry, Williams College, 47 Lab Campus Dr., Williamstown, MA 01267. patrick.s.barber@williams.edu; The University of West Florida (B.S., Chem; B.A., Music Performance, 2007); The University of Nevada–Reno (Ph.D., 2011), Dr. rer. nat. Ana de Bettencourt-Dias, New derivatives of pyridine-2,6-bis(oxazoline) for the sensitization of visible and near infrared emitting lanthanide ions; Postdoctoral Research Associate at The University of Alabama (2011–2014), Dr. Robin D. Rogers, Utilization of ionic liquids for separations and for development and preparation of functional biomaterials for f-element coordination. <https://patrickbarber.wordpress.com/>

I am committed to undergraduate education and research and excitedly seeking an assistant professor position at a primarily undergraduate institution. My interests in education lie in developing student-centered approaches to understanding fundamental concepts in lecture and laboratory. Additionally, I'm interested in training students to work effectively within scientific collaborations through discussion of personal and group dynamics. My research interests lie in the design, development, and application of luminescent lanthanide ion complexes for imaging in environmental and biological systems where molecular-level control and understanding support macro-scale properties. I believe the research lab is the ideal location to use the knowledge learned in the classroom and get students excited about chemistry.

INORG, ANYL, ORGN

28. Steven M. Boyer, Department of Chemistry, Binghamton University, 4400 Vestal Pkwy. E., Binghamton, NY 13902. Sboyer2@binghamton.edu; Elizabethtown College (B.S., 2012); Binghamton University (Ph.D., anticipated May 2017), Dr. Wayne E. Jones, Jr., Fabrication of solid state dye-sensitized solar cells using vapor phase PEDOT as a hole-transport layer. <https://binghamton.digication.com/smboyer>

My research is focused on the interaction of inorganic dye molecules in solid state dye-sensitized solar cells. I have assisted with general chemistry and intermediate inorganic courses and received the University Excellence in Graduate Teaching Award (2016). I am also experienced with organizing outreach events. For more information on my research, teaching, and outreach experiences, please visit my e-portfolio. I would like to teach and direct the research of undergraduates at a four-year college.

INOR

29. Juyao Dong, Department of Chemical Engineering, Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, MA 02139. juyao@mit.edu; Nanjing University, China (B.S., with great honor, 2009); UCLA (M.S., 2012; Ph.D., dissertation award, 2014), Dr. Jeffrey I. Zink, Physical properties of mesoporous silica nanoparticles for stimuli-responsive drug delivery; Postdoctoral associate at MIT (2015–present), Dr. Michael S. Strano, Label-free single wall carbon nanotube microarray for protein detection and profiling. <https://www.linkedin.com/in/juyaodong>

My research scope is on synthesizing and optimizing nano materials for biomedical use, such as molecular sensing and therapeutic delivery. More specifically, my Ph.D. work focuses on functionalized mesoporous silica nanoparticles for controlled delivery, especially on the integration with magnetic and upconversion nanocrystals. I am interested in both optimizing biological performances and studying fundamental spectroscopic properties. My postdoc research emphasizes fluorescent carbon nanotube facilitated biomolecular recognition and multiplexing various detection capacities into a microarray for diagnosis and product-control purposes. I have taught undergraduate courses and mentored both undergraduate and graduate students. Ideally, I would like to teach and direct research at a doctoral university. I am also open to regional comprehensive and four-year undergraduate universities.

INOR, ANYL, COLL, PHYS

30. Robert J. Gilliard, Jr. robertjgilliard@gmail.com; Clemson University (B.S., 2009); The University of Georgia (Ph.D., 2014); Postdoc at ETH Zürich, Prof. Dr. H. Grützmacher and Case Western Reserve University, Prof. Dr. J. Protasiewicz (2014–present); currently UNCF/Merck and Ford Foundation Postdoctoral Fellow. www.robertjgilliard.com

My education, training, and research have involved various aspects of synthetic inorganic, organic, organometallic, and polymer chemistry. Thus far, I have coauthored 16 publications and my current research projects are a part of a collaborative postdoctoral plan (supported by postdoctoral fellowship awards from UNCF/Merck & Co. Inc. and the Ford Foundation). My postdoctoral work involves the utilization of sodium phosphoethynolate, Na[OCP], to synthesize novel pi-conjugated phosphorus species. For my independent career, I'm interested in the synthesis, structure, and reactivity of novel main group molecules with unique structural features having implications in bioactive, materials, and energy research. In 2016, I was featured in *Forbes* magazine's list of "30 Under 30" in science and received Scifinder's Future Leaders in Chemistry Award.

INOR, ORGN, POLY

31. Douglas Ryan Gisewhite, Department of Chemistry, Bryn Mawr College, 101 N. Merion Ave., Bryn Mawr, PA 19010. dgisewhite@brynmawr.edu, 814-290-9030; Clarion University of Pennsylvania, Clarion, PA (B.S., cum laude, honors track, 2011), Dr. Daniel Clark, Olfactory discrimination of an isomeric series of esters: A structural activity relationship investigation; Bryn Mawr College (M.A., 2014), Dr. Sharon Burgmayer, Probing steric effects in a pyranopterin dithiolene model of the molybdenum cofactor; Bryn Mawr College (Ph.D., bioinorganic chem, anticipated 2017), Dr. Sharon Burgmayer, The molybdenum cofactor: Modeling the Swiss army knife of metabolic diversity. France Allison Scholarship (2010), Undergrad student research grant (2010–2011), 1st Place poster in YCC's 15th Annual Student Poster Session (2015), Helen Schaeffer Huff Memorial Fellowship (2015), Dept. Chem. research fellowship (2016). [linkedin.com/in/dgisewhite](https://www.linkedin.com/in/dgisewhite)

I am interested in the study of non-innocent ligands and their use in tuning the redox potential of metal cofactors. I propose to design synthetic models with the ability to mimic biological activity. This research will expose interested students to both inorganic and organic synthesis with a biophysical focus. I have assisted in teaching organic and general chemistry laboratories, and I am interested in teaching courses in inorganic, bioinorganic, spectroscopy, organometallics, and general chemistry while directing the research of undergraduate (and perhaps master's degree) students at a primarily undergraduate institution.

INOR

32. Haixiang Han, Department of Chemistry, University at Albany, State University of New York, 1400 Washington Ave., Albany, NY 12222. hhan2@albany.edu, 518-898-0771; Shandong Agricultural University, China (B.S., Appl Chem, 2011), Shiyun Ai, Effective photocatalytic disinfection of *S. aureus* using silver vanadate nanocomposite photocatalyst irradiated by solar light; Lecturer at University at Albany, State University of New York (Ph.D., anticipated May 2017), Professor Evgeny V. Dikarev, Volatile heterometallic molecular precursors for low-temperature preparation of cathode materials for lithium ion batteries.

I have been a TA in General Chemistry Laboratory I and II and a lecturer in Organic Chemistry Laboratory II. I have a manuscript in progress, "A novel single-source precursor for low-temperature preparation of a new lithium manganese spinel as cathode materials for lithium ion batteries." Under Shiyun Ai, I previously researched Effective photocatalytic disinfection of *E. coli* and *S. aureus* using polythiophene/MnO₂ nanocomposite photocatalyst irradiated by solar light. I have three publications and have attended several ACS national meetings, made an oral presentation at an ACS regional meeting, and given a poster presentation at XII International Conference on Nanostructured Materials (NANO 2014), Moscow.

INOR

33. Feng Li, Department of Chemistry, B50 Hutchison Hall, University of Rochester, Rochester, NY 14627. fli17@ur.rochester.edu, cell: 574-302-2922; Nanjing University, China (B.S., 2010); University of Notre Dame (Ph.D., Inor Chem, 2015), Prof. Slavi C. Sevov, Functionalization of nine-atom germanium clusters with more than two substituents; Postdoctoral Associate at University of Rochester (Sep 2015–present), Prof. Ellen M. Matson, Polyoxovanadate alkoxide clusters as novel redox-active reservoir. https://www.researchgate.net/profile/Feng_Li118, <https://www.linkedin.com/in/feng-li-291822bb>

I would like to develop a research program building a direct relationship between main-group and transition metals with emphasis on material science and catalysis. My research will design and synthesize novel main-group clusters supported transition metal complexes as models for heterogeneous catalysts. Furthermore, I am also interested in designing the rational synthetic approaches for Group 14 frameworks with the potential application of tunable optical bandgaps. Courses I am interested in teaching include introductory chemistry, advanced inorganic chemistry, and organometallic chemistry, etc. I prefer a chemistry department offering a doctoral degree (departments with master's degrees are also of interest). I believe my strong background in synthetic inorganic chemistry with the knowledge of both main-group and transition metals will make me fit in a diverse chemistry department.

INOR

34. Jamie M. Neely, Department of Chemistry, Princeton University, Princeton, NJ 08544. jneely@princeton.edu, 314-452-9757; University of Missouri–Columbia (B.S., 2008); Colorado State University (Ph.D., 2014), Prof. Tomislav Rovis, Reaction development and mechanistic investigation of rhodium–catalyzed methods for N–heterocycle synthesis; Postdoctoral Researcher at Princeton University, (2014–2015), NIH Ruth L. Kirschstein postdoctoral fellow (2016–present), Prof. Paul Chirik, Fundamental and catalytic reactivity in base metal–catalyzed cross coupling; Princeton University, lecturer in chemistry (Fall 2015). Publication list: <http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/47779903>

I am interested in investigating new and challenging transition metal–catalyzed organic methods using organometallic/inorganic chemistry as a tool to guide reaction design and reveal mechanistic insights. A focus on catalytic methodology in my graduate research followed by a shift to fundamental transformations of transition metal complexes during my postdoctoral work have left me uniquely prepared for this approach to my independent career. My time as a graduate student and postdoc also gave me the opportunity to develop my skills as an educator, both in the classroom as a lecturer and in the laboratory as an undergraduate mentor. I hope to teach and build a research group of students and postdocs interested in both organic and organometallic/inorganic chemistry at a doctorate-granting university.

ORGN, INOR

36. Yagya N. Regmi, Center for Renewable Carbon, University of Tennessee Institute of Agriculture, 2506 Jacob Dr., Knoxville, TN 37996-4542. yregmi@gmail.com; Lyon College (B.S., Chem, Physics minor, 2005); University of Wyoming (Ph.D., Inor Chem, 2015), Dr. Brian M. Leonard, Electrocatalysis using transition metal carbide and oxide nanocrystals; Postdoctoral Research Associate at University of Tennessee (Jan 2016–present), Dr. Steven Chmely and Dr. Niki Labbé, Ex-situ catalytic fast pyrolysis of biomass using heterogeneous catalysts. <https://www.linkedin.com/in/yagya-regmi-226381a4?trk=hp-identity-name>

I will pursue an academic career in teaching and research involving renewable energy technologies. My research goal is to train students and professionals to design, characterize, and optimize materials that will aid in the impending transition from traditional fossil reserve–based energy and chemical sources to renewable sources such as solar, biomass, and wind. Teaching undergraduate chemistry courses to establish a sound fundamental chemistry base will form the basis of my teaching. Advanced courses to prepare graduate students for future challenges, particularly encompassing a comprehensive approach involving photoelectrocatalysis, electrocatalysis, and biomass utilization will be my contribution to prepare future scientists. Outreach projects to aid society in fathoming the possibilities scientific innovation can achieve will form the basic theme of my research career.

INOR

37. Kiara Taylor-Edinbyrd, 11111 Stanley Aubin Pl., Baton Rouge, LA 70816. msktaylor31@yahoo.com; Texas Southern University (B.S., magna cum laude, 2011); Louisiana State University (Ph.D., Phys Chem, anticipated Dec 2016), Dr. Revati Kumar, Metal organic frameworks as drug delivery vehicles.

I'm interested in fields relative to drug delivery of peptides and proteins along with site-specific interactions necessary to activate integrin-ligand binding. The majority of my graduate and undergraduate research has focused on drug delivery, principle interactions of biomolecules, or pharmacology of inorganic molecules. I'd like a position where I can further explore these areas while employing new and cutting-edge techniques to complete this task. I've taught chemistry and physics at the high school level, ACT Prep courses as well as chemistry laboratory courses for undergrads. I have a true passion for spreading my knowledge through teaching others, regardless of the content. I'd like to secure either a postdoc or teaching position where I perform research in my field of interest. I'm confident and most comfortable in teaching analytical and inorganic chemistry along with biology.

INOR, COMP, PHYS, BIOL

38. Shivaiah Vaddypally, Department of Chemistry, Temple University, Philadelphia, PA. shivaiah@temple.edu; Osmania University, India (BS., 1999); University of Hyderabad, India (M.S., 2001; Ph.D., 2007), Prof. Samar. K. Das, Interactions of metal ions, metal complexes, and organic ligands with polyoxometalates; Postdoctoral Researcher at Boston College (2007–2009), Prof. William Armstrong, Modeling bioinorganic clusters relevant to Photosystem II; Joint Postdoctoral Researcher at Temple University (2009–2014) with Dr. Zdilla; Synthesis, structure, and spectroscopic studies; Research Assistant Professor at Temple University (2014–present), Synthesis and reactivity of biological inspired metal clusters, high-energy materials, and nano-chemistry. <http://astro.temple.edu/~mzdilla/people.html>

I am seeking a teaching and research position at an undergraduate or graduate, or both, research in a Department of Chemistry. My research projects involve synthesizing bioinorganic models mimicking enzyme systems, high-energy materials, and nano-chemistry. I have been training undergraduates and graduates whose work resulted in research publications in prestigious journals. Collaborative research proposals will help gain knowledge in multidisciplinary areas and help students in their personal career development. I will benefit the department with skills such as operating an X-ray machine and solving crystal structures.

INOR, BIOL, PMSE

39. Andrew William Knight, E373 Chemistry Building, University of Iowa, 231 Madison St., Iowa City IA 52245. Andrew-knight@uiowa.edu; Luther College, Decorah, IA (B.A., Chem, minors: Sociology, Spanish, May 2012); University of Iowa (Ph.D., anticipated Dec 2016), Dr. Tori Z. Forbes (Chem) and Dr. Michael K. Schultz (Free Radical Radiation Bio), Radiochemical analysis of protactinium speciation and their applications to nuclear forensics, nuclear energy, and environmental radiochemistry. Eichrom Grad Scholar (Jan 2014–Jan 2015), NSF Grad Research Fellowship Program Hon Mention (Mar 2014), U Iowa Graduate College Scholarly Excellence Fellowship (May 2014), U Iowa Nuclear Regulatory Commission Fellowship (Aug 2014–Aug 2015), U Iowa Research Foundation 2014 Inventor Award (2015), DOE Office of Science Grad Student Research Award (Aug 2015–Aug 2016), U Iowa Office of the VP for Research and Economic Development Student Innovator (Mar 2016), U Iowa Ballard and Seashore Dissertation Fellowship (Aug 2016–Dec 2016).

I am interested in understanding the role of trace metals in the environment and their applications for industrial purposes. At UIOWA and Argonne National Laboratory I have engaged the fundamental chemistry of actinide and lanthanide elements at trace concentrations; I aim to use that knowledge and apply it to environmental chemistry and nuclear forensics. I have developed a tenacious curiosity about the interconnectivity of research disciplines and believe in collaboration as a means for scientific progress. Also, I hope to instill curiosity so students seek creatively ways to approach difficult scientific questions. I have assisted in teaching Principles of Chemistry as well as tutored numerous students in all the introductory level courses in chemistry at UIOWA. I would like the opportunity to direct research and teach undergraduate students at a four-year college.

INOR

40. Dennis Buckley, Department of Medical Oncology, Dana-Farber Cancer Institute. DennisL_Buckley@dfci.harvard.edu; SUNY Geneseo, (B.S., 2008); Yale University (Ph.D., 2013), Dr. Craig Crews, Development of ligands for the von Hippel-Lindau E3 ligase and their use in PROTACs, Small molecule inducers of protein degradation; Damon Runyon Fellowship at Dana-Farber Cancer Institute, Harvard Medical School (2013–present), Dr. James Bradner (2013–present) and Dr. Nathanael Gray (co-mentor, 2016–present), Small molecule modulators of bromodomains. <https://www.linkedin.com/in/dennis-buckley-34b6ba11>

I am interested in the design and synthesis of small molecules capable of selectively inducing the degradation of protein targets. I aim to develop novel biochemical and cellular assays to measure the efficacy of these small molecule degraders, and use this data to develop a better understanding of the mechanism of degradation, which can then be used to improve the activity of these molecules on a diverse set of targets. Once they are designed, I aim to use these molecules as chemical probes to gain better understanding of the target biology, and to share the selective probes widely using an open-access model of drug discovery. I hope to lead an interdisciplinary laboratory at a research institution, incorporating synthetic chemists, biochemists, and molecular biologists.

MEDI, BIOL, ORGN

41. Ijaz Ahmed, 20 Jacaranda Ct., Penfield, NY 14526. ijaz01ahmed@gmail.com; University at Buffalo (B.S., 2008); Rochester Institute of Technology (M.S., 2010), Dr. Jeremy A. Cody, Studies toward the total synthesis of eltefine; Syracuse University (Ph.D., 2015), Dr. Daniel A. Clark, Development of improved methodologies toward the formation of C–C and C–N bonds; Intern at GlaxoSmithKline (2014–2015), Kenneth McNulty, Department of Oncology, Cancer epigenetics; Postdoctoral Researcher at Worcester Polytechnic Institute (2015–present), Dr. Marion H. Emmert, Selective and sustainable separation of rare earth elements. <https://www.linkedin.com/in/ijaz-ahmed-43677b14>

The quest to improve reaction capabilities of C–H activation methods by reducing catalyst loading, reaction temperatures, and utilizing abundantly available transition metals is the cornerstone of my research interests. The applications of such research will arguably find much use in the area of drug discovery. I find method development beneficial for students to gain a broad experience working in the lab, while medicinal chemistry offers an opportunity to appreciate the purpose of their work. I have assisted with organic courses during my graduate studies and will be teaching organic laboratory at Worcester State University this fall, in tandem with my postdoctoral research position. I would be interested in teaching and mentoring undergraduate and graduate students at a four-year college or university.

ORGN, MEDI

42. Magnus W. P. Bebbington, School of EPS-Chemical Science, Heriot-Watt University, Edinburgh, EH14 4AS, U.K. magnus.bebbington@gmail.com; University of Durham, U.K. (M.S., 1999); University of Oxford (Ph.D., 2003), Prof. David. M. Hodgson, Nitrogen-directed free radical rearrangements; Postdoctoral Researcher at The Pennsylvania State University (2003–2005), Prof. Steven M. Weinreb, Studies on a total synthesis of FR901483; Postdoctoral Researcher at Université Paul Sabatier, Toulouse, France (2005–2007), Dr. Didier Bourissou, Studies on bifunctional phosphine-boranes; Assistant Professor at School of EPS-Chemical Science, Heriot-Watt University, Edinburgh, UK (present). <http://www.hw.ac.uk/schools/engineering-physical-sciences/staff-directory/mb.htm>

My research interests are in heterocyclic chemistry, including macrocyclic aromatics for photodynamic therapy, and in asymmetric synthesis and catalysis. I have been teaching and running a research group for nine years and have successfully supervised my first two Ph.D. students. A third will be graduating later this year. I would like to expand my program in the United States, preferably at a Ph.D.-awarding institution. I have published my independent work in international journals and have had three externally funded research grants so far. I have taught a number of core organic chemistry courses, including carbonyl chemistry, basic and advanced heterocyclic chemistry, and stereoselective synthesis.

ORGN

43. Juliet Hahn, Lecturer, Department of Chemistry, Southern Illinois University, Carbondale, IL 62901. JulietHahnPHD@aol.com, 618-534-2145; University of South Carolina, Columbia (B.S., magna cum laude, Phi Beta Kappa); State University of New York, Stony Brook (Ph.D., Orgn Chem), Prof. William leNoble (Orgn), Stereoselectivity in heterocyclic amine; Postdoctoral Research (1) Columbia University, NY, NY (Organometallic), Prof. Gerard Parkin, Transition metal organometallic pyrazoylborates, Cp metallocenes, & salen complexes of interest as metalloenzyme models & polymerization catalysts; (2) University of Wisconsin, Madison (Orgn), Prof. Richard Hsung, Synthetic organic chemistry—heterocyclic amine & pyrone synthesis, enamides and nonnatural amino acid chiral auxiliary of natural products of pharmaceutical interest. More information available on website: <http://JulietHahn.com>

I am a former tenure track professor who has not yet achieved tenure. I am an excellent educator & principal investigator researcher. Teaching: I have documentation of excellent college-level teaching (teaching evaluations) & documentation of increasing enrollment. My teaching experience includes freshman/sophomore General & Organic Chemistry lecture & lab as well as graduate level classes (Organometallic, Bioorganic, Advanced Organic). I have experience with diverse students & class size up to 300. Research: My independent research from my former faculty positions as PI to continue into new faculty position includes: (a) Carbon nanotube - materials, solar energy (b) Photodimerization of DNA-bioorganic skin cancer (c) Stereoselective synthetic methodology - Alzheimer's pharmaceuticals. I would like to teach at a primarily undergraduate four-year college.

ORGN, INOR

44. Matthew C. O'Reilly, Department of Chemistry, University of Wisconsin–Madison, 1101 University Ave., Madison, WI 53703. moreilly@chem.wisc.edu; Xavier University (B.S., 2009); Vanderbilt University (Ph.D., 2014), Dr. Craig Lindsley, (1) Application of asymmetric organocatalysis to the synthesis of biologically relevant heterocycles, and (2) Discovery of isoform selective phospholipase D inhibitors, ACS Division of Medicinal Chemistry Predoctoral Fellow, Vanderbilt Institute of Chemical Biology Predoctoral Fellow; Arnold O. Beckman Postdoctoral Fellow at University of Wisconsin–Madison, Dr. Helen Blackwell, Chemistry and biology of synthetic non-lactone modulators of quorum sensing, Declined the Ruth L. Kirschstein National Research Service Award. <https://www.linkedin.com/in/matthew-o-reilly-9294a92b>

I am seeking a tenure-track position at a four-year, primarily undergraduate institution. Regarding research, I plan to establish an active group focused on the asymmetric synthesis of biologically interesting chemical motifs and the evaluation of small molecules with novel antimicrobial or antivirulence mechanisms. These projects will appeal to a broad array of undergraduate or master's students interested in organic chemistry, chemical biology, biochemistry, and microbiology. Concerning teaching, I am excited to teach organic chemistry, biochemistry, and general chemistry, and I hope to teach upper-level organic synthesis, medicinal chemistry, and chemical biology classes. Beyond my experience as a teaching assistant, study group leader, and peer tutor, I have taught general chemistry courses as the instructor of record, earned a certificate in college teaching, and studied pedagogy.

ORGN, BIOL

45. Michael T. Otley, Department of Chemistry, Northwestern University, 2145 N. Sheridan Rd., Evanston, IL 60208. michael.otley@northwestern.edu; University of Hartford (B.S., Chem and Bio, 2009); University of Connecticut (Ph.D., Orgn Chem, 2015), Prof. Gregory A. Sotzing, Design and synthesis of electrochromic and highly conductive polymers for flexible and stretchable electronics; Postdoctoral Fellow at Northwestern University (2015–present), Prof. Sir J. Fraser Stoddart, Self-assembly of organic macrocycles into porous three-dimensional structures by means of radical cationic interactions for energy storage applications. 2015 ACS Excellence in Graduate Polymer Research Award. <https://www.linkedin.com/in/michaelotley>

I am an organic chemist and materials scientist planning to apply my synthetic expertise to develop and synthesize challenging molecules for the next generation of flexible/stretchable organic electronic materials and devices. My expertise consists of synthetic chemistry, organic electronics, and supramolecular chemistry, where my research has produced 10 publications to date with the same number currently in review. I would like to obtain a faculty position at an R-1 institution where I can train and mentor future scientists in a multidisciplinary research group. Students in my lab will benefit from an interdisciplinary setting and be exposed to organic chemistry, analytical techniques, materials characterization, electrochemistry, and device fabrication. I am excited for the opportunity to teach organic chemistry, polymer chemistry, and special topics courses in organic electronics.

ORGN, POLY, PMSE

46. Neeraj N. Patwardhan, Department of Chemistry, Duke University, 3203A French Family Science Center, Duke University, Durham NC 27708.
neeraj.patwardhan@duke.edu; University of Pune, India (B.S. 2004; M.S. 2006); Virginia Tech (Ph.D., 2012), Dr. Paul R. Carlier, Study of synthesis, reactions, and enantiomerization of C α -chiral Grignard reagents; Postdoctoral Fellow at Virginia Tech (2012–2014), Dr. Webster L. Santos, Design and synthesis of isoform selective inhibitors of sphingosine kinases; Postdoctoral Associate at Duke University (May 2014–present), Dr. Amanda E. Hargrove, Design, synthesis, and biological evaluation of small molecule probes for studying structure and functions of therapeutically relevant RNAs.
<https://www.linkedin.com/in/neerajpatwardhan>

I am interested in developing a rigorous research program in chemistry and chemical biology at a Ph.D.-granting institution or a regional comprehensive college. My research will focus on the development of small molecule and peptide nucleic acid architectures as probes to understand and target antibiotic resistance in gram negative pathogens. My research will particularly attract students who are interested in interdisciplinary research at the interface of chemistry and biology. I intend to involve both graduate and undergraduate students in my research and train them on organic synthesis, medicinal chemistry, and chemical biology. I am interested in teaching organic chemistry and biochemistry at both beginning and advanced levels and have prior experience teaching laboratory courses in organic chemistry to both undergraduate majors and nonmajors.

ORGN, MEDI, BIOL

48. Brian P. Woods, Department of Chemistry, Princeton University, Princeton, NJ 08544. bpwoods@princeton.edu; Whitman College (B.A., 2008); University of Minnesota (M.S., 2011; Ph.D., 2014), Dr. Thomas Hoye, Spontaneity to serendipity: From an enediyne core biosynthetic hypothesis to the hexadecahydro-Diels–Alder reaction; NIH Postdoctoral Research Fellow at Princeton University (2014–present), Dr. Abigail Doyle, Nickel-catalyzed enantioselective cross-coupling of aziridines.

I have a passion for teaching and chemistry that I believe will manifest itself to the greatest extent at a four-year college or regional comprehensive university. For my graduate work, I investigated new organic reactions, developing valuable skills in synthesis, purification, and characterization. My current work in nickel-catalyzed cross-coupling has taught me strategies for investigating mechanisms of organometallic transformations. I have also pursued teaching opportunities available to me, both at Minnesota as the Head Organic TA and with the Mentorship Program for Aspiring Chemistry Teachers, or at Princeton with the McGraw Center for Teaching and Learning. My independent research will focus on new transition metal-catalyzed reactions for the synthesis of both privileged molecular scaffolds and fluorescent molecules for potential use in organic materials.

ORGN

49. Jefferson E. Bates, Physics Department, 1925 N. 12th St., Philadelphia, PA 19122. jeb@temple.edu; The College of William and Mary (B.S., 2008); University of California, Irvine (Ph.D., 2013), Prof. Filipp Furche, Random phase approximation renormalization: Theory, implementation, and applications to lanthanide chemistry; Postdoctoral Researcher at Northwestern University (2014), Prof. T. Shiozaki, Efficient treatment of spin-orbit coupling through fully relativistic MCSCF for large molecules; Postdoctoral Researcher at Temple University (Physics, 2015), Profs. A. Ruzsinszky and J. P. Perdew, RPA renormalization applied to solids and surfaces and pushing the accuracy limit of semilocal DFT through non-empirical meta-GGA functionals. Pedagogical Fellow at University of California, Irvine (2011–2012); E. K. C. Lee Award, Jacqueline Smitrovitch Award, and Outstanding Contributions to the Chemistry Department, U. C. Irvine (2013). <https://www.linkedin.com/in/jeb272>

My current research interests focus on the development of electronic structure methods for molecules, surfaces, and solids with applications to develop future energy sources and improve predictions of chemical reactions. I plan to create novel methods to study molecular properties related to magnetism, as well as double excitations in molecules and materials in my future work. Collaborations with experimental groups will be actively pursued to push advances in small molecule and materials chemistry with a focus on catalysis. Building on my experience as a Pedagogical Fellow, grade school outreach tutor, and undergraduate mentor, I am committed to creating a student-centered learning environment and making chemistry accessible to a broad audience via visualization and analogy. I plan to build an externally funded research group for students and postdocs at a research university.

PHYS, COMP

50. Matthew K. Daddysman, Institute for Biophysical Dynamics, University of Chicago, 929 E. 57th St., Chicago, IL 60637. mdaddysman@gmail.com; Alderson Broaddus University (B.S., 2009); University of North Carolina at Chapel Hill (Ph.D., 2013), Dr. Christopher Fecko, Fluorescent microscopy in the nucleus: Investigating protein diffusion and binding in live cells; Postdoctoral Scholar at University of Chicago (2014–present), Dr. Norbert Scherer, Statistical mechanical analysis of insulin transport in clonal MIN6 sublines. www.linkedin.com/in/mdaddysman

My research goal is to interest students in studying biological phenomena using quantitative methods. My graduate research studied how DNA binding proteins find short, specific DNA target sequences within the genome by developing live cell microscopy methods. As a postdoc, my research analyzes insulin transport in beta cells using the tools of statistical mechanics. My teaching experience includes instructor of record of Chem 481L at UNC (senior-level computational chemistry), tutoring 15+ students, and four semesters of TA for which I received an Albert R. Ledoux teaching award from the Chemistry department. My goal is teaching and mentoring undergraduates in classroom and research environments at a four-year college. I want to teach general and physical chemistry along with special topics courses in optics and microscopy, quantum mechanics and spectroscopy, and biophysics.

PHYS, ANYL

51. Andrew F. DeBlase, Purdue University, Department of Chemistry, 560 Oval Dr., West Lafayette, IN 47907. adeblase@purdue.edu, 765-494-7792; Marist College (B.S., 2009); Yale University (Ph.D., 2014), Mark A. Johnson, Charge accommodation in organic motifs: Using vibrational predissociation spectroscopy of cold gas phase ions to unravel structures of reactive intermediates; Postdoctoral Researcher at Purdue University (2014–present), Scott A. McLuckey and Timothy S. Zwier, Structural elucidation of cold gas-phase peptide and lignin ions using UV action and IR-UV double resonance spectroscopies. <http://www.chem.purdue.edu/mcluckey/>

My primary goal is to develop an approach to spectroscopically interrogate reactive condensed phase intermediates at a Ph.D.-granting institution. These intermediates will be extracted and isolated in the gas phase, preserving solvent when necessary to retain biological or catalytic function. The targets will be ionic species generated by electrospray ionization and are relevant to CO₂ activation and peptide fragmentation. These species will be cooled to 10 K in a cryogenic ion trap to assure state-of-the-art resolution in their UV and IR action spectra. To obtain spectroscopic “snapshots” of the intermediates, we will (1) synthesize the intermediates via ion–ion/ion–molecule reactions and (2) acquire electronic and vibrational spectra in real time using advanced tools in ion-beam imaging. Students will become skilled in instrument construction and spectral interpretation.

PHYS, ANYL

52. Alessandra Ferzoco, The Rowland Institute at Harvard University, 100 Edwin H. Land Blvd., Cambridge MA 02142. ferzoco@rowland.harvard.edu; The University of California, Santa Barbara (B.S., 2004); The University of North Carolina at Chapel Hill (Ph.D., 2012), Prof. Gary L. Glish, Understanding MS approaches to peptide characterization; Rowland Junior Fellowship at the Rowland Institute at Harvard University (2011–present), five-year fully funded independent position.
www.coldions.org

My lab is building tools to understand the role of the structure and dynamics of solvent networks on reaction mechanisms. We are particularly fascinated with organocatalytically driven multi-electron/multi-proton reactions, for example: the reduction of carbon dioxide to methanol catalyzed by methyl viologen. With foundations in mass spectrometry and developing skills in spectroscopy and electrochemistry, I am often attracted to problems suffering in obscurity for want of a new measurement. I love teaching most when it is through work in the lab and seek a research-intensive university. Thermodynamics is my favorite classroom course to teach. I am also interested in teaching measurement science, both from historical and quantitative perspectives, and am puzzling out a course in error analysis that I would love to put to the test!

PHYS, ANYL

53. Oscar Herrera, Department of Chemistry, Northeastern Illinois University, 5500 North St. Louis Ave., Chicago, IL, 60625. oherrera@neiu.edu; Northeastern Illinois University (B.S., 2013); Northeastern Illinois University (M.S., Dec 2016), Dr. Stefan Tsonchev. EPA Internship at Northwestern University through the Chicago Botanic Garden REU (2011), Dr. Yun Wang, Investigating the over-sporulation effect of *A. fumigatus* induced by *P. aeruginosa*; NSF Internship at Northwestern University through the Chicago Botanic Garden REU (2012), Dr. Yun Wang, Inhibition effects of *P. aeruginosa* on *A. fumigatus* through secondary metabolites production; Graduate Assistant at Northeastern Illinois University (2015–present), Dr. Stefan Tsonchev, Electrochemical etching of platinum-iridium tips for scanning tunneling microscopy; Laboratory Technician at Northeastern Illinois University (2015–present), Dr. Stefan Tsonchev, Investigating the electromagnetic effects of copper and metal-alloy coils on electrochemical etching of platinum-iridium tips. www.linkedin.com/in/oscar-herrera-3a103157

I am interested in the development of electrochemical etching techniques of Pt-Ir tips for STM, considering the innovation of electrochemical instruments that are cost-efficient and waste-reducing. I currently research the electromagnetic effects of different metal coils used for the etching of Pt-Ir tips. I believe that within the field of nanotechnology, such a project can be used to expose students at all levels to gaining research skills, thus preparing them for industry. I have assisted in teaching physical chemistry lab sessions and mentored undergraduate students to develop research projects. I would like to instruct students and perform research projects within the field of physical chemistry to enhance students' understanding of nanomaterials and its mathematical theory.

PHYS, INOR

55. John R. Swierk, Energy Sciences Institute and Department of Chemistry, Yale University, 225 Prospect St., New Haven, CT 06511. jrswierk@gmail.com; University of Pennsylvania (cum laude, B.A., 2008, B.S.E. 2008), The Pennsylvania State University (Ph.D., 2014), Dr. Thomas E. Mallouk, Electron transfer kinetics in water-splitting dye-sensitized photoelectrochemical cells; Postdoctoral Chemist at the Joint Center for Artificial Photosynthesis, Lawrence Berkeley National Lab (2014–2015), Dr. T. Don Tilley, Molecular precursors for heterogeneous water oxidation catalysts; Postdoctoral Associate at Yale University Energy Sciences Institute and Department of Chemistry (2015–Jun 2016), Dr. Charles Schmittenmaer, Spectroscopic characterization of ultrafast processes in dye-sensitized energy conversion systems. Associate Research Scientist at Yale University Energy Sciences Institute and Department of Chemistry (Jul 2016–present), Dr. Charles Schmittenmaer, Spectroscopic characterization of ultrafast processes in dye-sensitized energy conversion systems. Johnswierk.com

Interfacial electron transfer between bulk solids and molecules underlie numerous aspects of energy conversion. My research focuses on characterizing these electron transfer events and then developing material strategies to enhance or retard a given step. I aim to develop a dynamic research program at a Ph.D.-granting institution that will draw upon my expertise with time-resolved spectroscopies, electrochemistry, and materials synthesis to address fundamental questions in photochemical energy conversion and catalysis. As a GK-12 Fellow, I received formal pedagogical training and would be comfortable teaching a broad cross-section of courses from the introductory levels to graduate seminars. I will draw upon my extensive experience mentoring undergraduate and graduate researchers to create a supportive, professional environment that provides regular feedback and clear expectations.

PHYS, INOR, ANYL

56. Vindya K. Thilakarathne, Department of Chemistry, Trinity College, Hartford, CT 06106. vindya.thilakarathne@trincoll.edu, 860-771-0886; University of Peradeniya, Sri Lanka (B.S., 2006); University of Connecticut, (Ph.D., 2013), Prof. Challa Kumar, Chemically modified proteins as functional biomaterial; Visiting Assistant Professor at Trinity College, Hartford (2014–present). Faculty page: <http://internet2.trincoll.edu/facProfiles/Default.aspx?fid=1479887>
Group page: <https://sites.google.com/site/thilakarathneresearchgroup/>

I am teaching physical and biophysical chemistry courses at Trinity College and am actively involved in an undergraduate research program. My research group utilizes computational tools to identify novel antibiotics against Gram-negative bacteria and also to design molecular imprinting polymers for biosensor development. I plan to combine computational tools and experimental biophysical techniques to study protein–ligand and protein–protein interactions. I would like to utilize my experience in undergraduate teaching and research at a four-year college or a regional comprehensive university.

COMP, PHYS, BIOL

57. Chen Wang, Department of Chemistry, Northwestern University, K342 Technology Institute 2145 Sheridan Rd., Evanston, IL 60208. chen1_wang@northwestern.edu, 858-699-9937; Fudan University, China (B.S., Applied Chem, 2004); Fudan University (M.S., Phys Chem, 2007), Dr. Weiming Hua, Layered metal phosphate materials: Synthesis and catalytic application; University of California, San Diego (Ph.D., Phys Chem, 2014), Dr. Michael J. Tauber, Spectroscopic studies of triplet excited states in conjugated organic dyes, and the Singlet fission process; Postdoctoral Researcher at Northwestern University (2015–present), Dr. Emily A. Weiss, Spatial-separated resonance energy transfer and Quantum cutting in semiconductor quantum dots.

My research will focus on studying excitonic dynamics in organic and inorganic materials using optical spectroscopy. I will combine both electronic transition (absorption and photoluminescence) and vibrational (IR and Raman) spectroscopies. Knowledge learned in the materials can be employed for rational designing of functional materials that can be applied in optoelectronics, photovoltaics, photocatalysis, and light-emitting devices, etc. I can teach basic undergraduate physical chemistry courses and would like to develop a senior curriculum to inspire students to approach researching photochemistry and photophysics. I also have a plan to systematically teach students how to apply different spectroscopic tools to solve general problems in chemistry and biochemistry studies. I want to direct research of graduate (including Ph.D. and master's degree) students at a research institute.

PHYS, COLL, FUEL

58. Alexander J. White, Theoretical Division, Los Alamos National Laboratory, CNLS MS B258, Los Alamos, NM 87544. alwhite@lanl.gov; California Polytechnic State University, San Luis Obispo (B.S., 2008); University of California, San Diego (M.S., 2011; Ph.D., 2014), Prof. Michael Galperin, Electron transport, energy transfer, and optical response in single molecule junctions (theoretical and computational studies); Postdoctoral Research Associate at Los Alamos National Laboratory (2014–present), (i) Dr. Sergei Tretiak and Dr. Dmitry Mozysky, Semiclassical methods for non-adiabatic molecular dynamics (2014–present), (ii) Dr. Lee Collins and Dr. Christopher Ticknor, Molecular dynamics of warm dense matter (2016–present).
http://cnls.lanl.gov/External/people/Alex_White.php

I am interested in manipulation of quantum effects (interference, fluctuations, etc.) in the electronic and nuclear dynamics of molecular and interfacial molecule–metal systems. I hope to pursue both the development and application of novel methods for atomistic modeling of these systems. My research has earned multiple awards including the APS Division of Chemical Physics Doctoral Thesis Award (2015) and the Chancellor's Dissertation Medal–Physical Sciences (UCSD 2014). At UCSD, I assisted in teaching the physical chemistry series and lab, and I am interested in teaching general and physical chemistry and quantum mechanics. My desire is to teach and to perform and direct research at either the graduate (Ph.D.) or four-year undergraduate level. My expertise and planned research align with both Chemistry and Physics departments.

PHYS, COMP

59. Stephanie Jensen, Department of Chemistry, The University of South Dakota, 414 E. Clark St., Vermillion, SD 57069. Stephanie.Reed@usd.edu; The University of South Dakota (B.S., Math and Chem); The University of South Dakota (Ph.D., Materials Chem), Dr. Dmitri Kilin, Computational chemistry using DFT using density matrix theory to study relaxation dynamics in transition metal doped anatase after photo-excitation. <https://www.linkedin.com/in/stephaniejensensd>

I am interested in continuing spin unrestricted density matrix theory to study relaxation dynamics in anatase materials but also testing the theory for implementation on organo-metallics, polymers, MOFs, and other photo-excited materials. I have designed and taught a general chemistry course with lab for a small community college as part of an outreach program. I also served as a survey of chemistry lab teaching assistant. I am very drawn to primarily undergraduate institutions with an emphasis on research; I believe computational studies lends itself to undergraduate research very well as it is accessible, can span many topics of interest, and is a skill most scientists will need or want in their future endeavors.

COMP, PHYS, ENFL

60. Jovan Jose K. V., Department of Chemistry, Indiana University, Bloomington, IN 47405. jojkochu@indiana.edu, jovanjose@gmail.com, home phone: +1-812-391-4129; Kannur University, Kerala, India (B.S., 2001); University of Pune, Maharashtra, India (M.S., Phys Chem, 2003), Professor Shridhar P. Gejji, Theoretical study of the structure and energetics of lithium-polyethylene oxide based solid batteries; University of Pune, India (Ph.D., theoretical comp chem, 2009), Professor Shridhar R. Gadre, Exploring structures, energetics and properties of atomic and molecular clusters through electrostatics and molecular tailoring; Postdoctoral Researcher at Lehrstuhl für Theoretische Chemie, Ruhr-Universität Bochum, Germany (2010–2011), Dr. Jörg Behler, Construction of high-dimensional pair neural network potentials using environment dependent pair interactions; Postdoctoral Research Associate, Department of Chemistry, Indiana University, Bloomington, IN (2012–2016), Professor Krishnan Raghavachari, Development and implementation of analytical energy gradients in ONIOM charge transfer (ONIOM-CT) method, within Gaussian suite of programs, and Development of fast methods for evaluating higher energy gradients through molecules-in-molecules approach. Won the first prize in All Kerala Collegiate Science and Technology Quiz Competition held at St. Joseph College, Irinjalakkuda, Kerala, India (1998); Topped in B.S. degree in chemistry at Govt. College Kasargod, Kerala, India (2001); Awarded 7th rank in All India Entrance Examination for M.S. conducted by University of Pune (2001); Awarded 1st rank in All India Entrance Examination for M.S. conducted by Cochin University Science and Technology, Kerala, India (2001); Awarded National Chemical Laboratory Scholarship, NCL Pune, India (2001–2003); Awarded Graduate Aptitude Test for Engineers (GATE), New Delhi, India (2003); Awarded Council of Scientific and Industrial Research-National Eligibility Test (CSIR-JRF-NET) Scholarship, India (2003); Participated and represented India at the International Competition, Blind Test on Crystal Structure Prediction, coordinated by CCDC, University of Cambridge, United Kingdom, (2007); Participated in the International Competition of “Blind Test on Crystal Structure Prediction” coordinated by CCDC, University of Cambridge, United Kingdom, (2011); Awarded Emmy Noether postdoctoral research fellowship at Ruhr University Bochum, Germany (2010); Awarded National Science Foundation (NSF) postdoctoral research fellowship at Indiana University, Bloomington (2012).

I am working in theoretical computational chemistry and I have been involved in developing new quantum chemical methods and implementing them in Gaussian suite of packages. In this tenure at Indiana University, I have developed fast methods for evaluating analytic higher energy gradients through molecules-in-molecules approach, and implemented the analytical energy gradients of ONIOM charge transfer method within Gaussian suite of programs. My first postdoctoral research work at Ruhr University, Germany was on developing a machine learning algorithm for constructing high-dimensional neural network-based reactive potentials for carrying out meta-dynamics or molecular dynamic simulations. I have a keen passion to teach and to pursue research in the area of scientific algorithm development and applications related to material science.

PHYS

61. Xiaocun Lu, Box 24-5, MC 712, Department of Chemistry, University of Illinois at Urbana–Champaign, 600 S. Mathews Ave., Urbana, IL 61801. xcl@illinois.edu; Peking University (B.S., 2005); The University of Akron (Ph.D., Polymer Chem, 2013), Prof. George R. Newkome, Design and construction of terpyridine-based 2-D and 3-D supramolecular architectures; Postdoctoral Research Associate at Institute of Polymer Science and Polymer Engineering, The University of Akron (2013–2015), Prof. George R. Newkome, Coordination-driven, self-assembly of terpyridine-based supramolecular architectures; Postdoctoral Research Associate at Department of Chemistry, University of Illinois at Urbana–Champaign (2015–present), Prof. Jeffrey S. Moore, Encapsulation and triggered release of functional organic molecules for self-healing application. <http://www.xiaocunlu.com>

I am seeking a tenure-track position in a doctorate-granting institution. With extensive synthesis-based training and independent research on development of self-healing–related materials, my various research experiences have greatly enriched my background from organic/polymer synthesis, supramolecular structure design, to smart material development. My research interest includes design and synthesis of novel stimuli-responsive molecular structures, functional nano/supramolecular architectures and autonomous materials. I will keep my research, teaching, and service well-balanced, and I am confident of building a well-funded, continuously growing research program, not only introducing valuable research to the chemistry/material community on campus, but also providing great opportunities for undergraduate education, graduate research, and postdoc training.

POLY, PMSE, ORGN

62. Kathleen McEnnis, Biointerfaces Institute—Lahann Lab, NCRC, Bldg. 26, Rm. 127S, 2800 Plymouth Rd., Ann Arbor, MI 48109. kmcennis@umich.edu; Massachusetts Institute of Technology (B.S., 2007), Prof. Paula T. Hammond, Layer-by-layer polymer electrolytes for lithium batteries; University of Massachusetts Amherst (M.S., 2008; Ph.D., 2013), Prof. Thomas P. Russell, Particle behavior on anisotropically curved interfaces; Postdoctoral Research Fellow at University of Michigan (2013–present), Prof. Joerg Lahann, Electrohydrodynamic co-jetting of polymer particles for targeted drug delivery applications. www.linkedin.com/in/kmcennis

I intend to establish a research group to investigate the interaction of drug delivery vehicles and other materials with the biological environment (such as cells, blood, and proteins) using physical chemistry techniques in novel ways to design particles for drug delivery. My background in drug delivery and polymer physics will allow my lab to address issues with drug delivery vehicles in unique ways. I have mentored 10 students (high school, undergraduate, and master's degree) in the research lab and have taken several courses on teaching. I have guest-lectured in some graduate-level chemical engineering classes and taught chemistry to blind high school students at summer camps. I am interested in teaching and research at four-year undergraduate institutions and doctoral institutions.

PHYS, PMSE, ANYL, POLY

63. Linyue (Vicky) Tong, Materials Science and Engineering, Binghamton University, State University of New York, 4400 Vestal Pkwy. E., Binghamton, NY 13902. ltong1@binghamton.edu; Beijing University of Chemical Technology, Beijing, China. (B.S., 2009; M.S. 2012), Dr. Jianping Deng, Preparation and characterization of heat-resistant poly (*N*-substituted maleimide)s microspheres; Materials Science and Engineering at Binghamton University (2012–present), Dr. Wayne Jones, Jr., PEDOT-based composite materials as electrodes for supercapacitors.

My current research focus is developing conductive polymer-based composite materials as supercapacitor electrodes, and characterizing them by Raman spectroscopy, FTIR, UV-vis, SEM, TGA, DSC, CV, CD, and Impedance spectroscopy. I have experience teaching and mentoring undergraduates. My research interests are focused in developing materials for energy storage.

ENFL, PMSE

64. R. Helen Zha, Departments of Bioengineering and Materials Science and Engineering, University of California, Berkeley, Berkeley, CA 94720-1760. zharina@alum.mit.edu; Massachusetts Institute of Technology (B.S., 2007), Prof. Ned Thomas (Mat Sci), Epoxy network characterization and block copolymer self-assembly, Industrial internships at Schlumberger, IBM, and Boston Scientific; Northwestern University (Ph.D., 2013), Prof. Sam Stupp (Mat Sci, Chem, Med), Self-assembly of peptide-based nanomaterials for cancer therapy; Postdoctoral Fellow at Eindhoven University of Technology, Netherlands (Nov 2013–Jul 2016), Prof. Bert Meijer (Chem, Chem Eng) Supramolecular polymer self-assembly and synthesis of well-ordered nanomaterials with <5nm features; University of California, Berkeley (beginning Sep 2016), Prof. Phil Messersmith (Bioeng, Mat Sci) Mussel-inspired adhesives and nanomaterials for biomedical applications. Northwestern University Cabell Fellowship, \$60,000 (Sep 2007–Sep 2008); NSF Graduate Research Fellowship, \$175,000 (Sep 2008–Sep 2011).

My interests lie in molecular materials chemistry and self-assembly. I am particularly enthusiastic about synthesizing nanomaterials for human healthcare & sustainability applications through the use of bio-inspired and bio-derived components. My previous research with the groups of Ned Thomas (MIT), Sam Stupp (Northwestern), and Bert Meijer (TU Eindhoven) has given me broad experience in the chemistry, physics, and characterization of nano-scale soft matter. My research is well positioned to be at the interface among materials science, chemistry, and biology. Furthermore, I have significant experience with teaching courses in Chemistry, Materials Science, and Biomedical Engineering at both undergraduate and graduate levels. I seek to direct my own research group and teach at a doctorate-granting university or a primarily undergraduate institution with focus on undergraduate research.

PMSE

65. Fangming Xiang, U.S. Department of Energy, National Energy Technology Laboratory, 626 Cochran Mill Rd., Pittsburgh, PA 15236. fangming.xiang@netl.doe.gov, 713-291-3906; Southwest Jiaotong University, China (B.S., 2008; M.S., 2011), Dr. Yong Wang, Modification of immiscible HDPE/PA6 blends using carbon nanotubes; Texas A&M University (Ph.D., 2015), Dr. Jaime C. Grunlan, Improvements in processing and stretchability of super gas barrier multilayer thin films; ORISE Postdoctoral Research Associate at National Energy Technology Laboratory (2015–present), Dr. David Hopkinson, Layer-by-layer assemblies with advanced gas separation properties. fangmingxiang.weebly.com

I am interested in organic membranes for water purification, gas separation, and gas barrier applications. I look forward to improving existing properties and adding new capabilities (such as self-cleaning, self-healing, and sensing) by controlling the composition, structure, and chemical interaction at nanoscale using layer-by-layer assembly. I hope that my research will interest students in materials science and chemical engineering by allowing them to connect chemical concepts with physical properties of the novel materials they prepare in the laboratory. My experience as a materials science teaching assistant sparked my interest in teaching polymer science and materials science at the undergraduate level or above. I would also enjoy mentoring students in my research laboratory at a doctorate-granting research university or a masters-granting comprehensive university.

POLY, PMSE, COLL, ENVR, ENFL

66. Madalyn R. Radlauer, Department of Chemistry, University of Minnesota–Twin Cities, 207 Pleasant St. SE, Minneapolis, MN 55455. madrad@umn.edu, 612-624-5226, cell: 504-481-3732; Stanford University (B.S., honors, 2008); California Institute of Technology (Ph.D., 2014), Prof. Theodor Agapie, Bimetallic olefin polymerization catalysis: Mechanisms and applications of proximal effects; Postdoctoral Research Associate, University of Minnesota–Twin Cities (2014–present), Prof. Marc A. Hillmyer, (i) Synthesis of precision polyolefins, (ii) Design, synthesis, and characterization of ABC triblock and ABCA' tetrablock terpolymers, (iii) Charge mosaic membranes from block polymers for water purification. www.linkedin.com/in/madalynradlauer

I am interested in working at the interface of catalysis and polymer chemistry designing polymeric supports for organometallic catalysts as well as polymers with catalytically active domains. Having participated in research focused on organometallic catalysis as well as polymer chemistry, I am familiar with the techniques and instruments relevant to both. I have mentored five undergraduates and several graduate students in research, served as a teaching assistant for lecture and lab classes, participated in MPACT (mentoring program for aspiring chemistry teachers), led outreach efforts in my graduate lab, and co-led the Women in Science and Engineering Initiative for the College of Science and Engineering. I am interested in a position at an undergraduate, master's-granting, or Ph.D.-granting institution as long as both research and teaching are part of the job.

INOR, POLY, PMSE

67. Dustin A. Politica, Dept. of Chemistry, Vanderbilt University, 7300 Stevenson Ctr. Dr., Nashville, TN 37235. Dustin.A.Politica@Vanderbilt.edu; Metropolitan State University of Denver (B.A., summa cum laude, 2011); Vanderbilt University (Ph.D., anticipated, 2016), Dr. Michael P. Stone, Identification of structural changes to DNA induced by 3-nitrobenzanthrone: A potential carcinogen found within diesel exhaust.

I aim to help shape the future as an educator, scientific researcher, and STEM advocate. My background is in structural biology with considerable experience utilizing biochemical and bioanalytical tools. I have provided instruction at various levels in lecture and lab settings, gaining pedagogical knowledge and instructional skills. I want to continue to incorporate new teaching methods and technology in an environment that encourages active student-focused instruction. I will also draw on my experience in chemical toxicology and bioanalytical chemistry to initiate a research program appropriate for students at the undergraduate or master's-degree level, or both. This will focus on identification and analysis of potential carcinogens and other toxins found in environmental and food-borne sources.

TOXI, BIOL, ENVR

