CATHERINE J. MURPHY

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Positions:

2020-	Head, Department of Chemistry, University of Illinois Urbana-Champaign (UIUC)
2017-	Larry R. Faulkner Endowed Chair in Chemistry, Department of Chemistry, UIUC
2009-2017	Peter C. and Gretchen Miller Markunas Professor of Chemistry, Department of Chemistry, UIUC
2009-	Professor, Department of Chemistry, UIUC
2003-2009	Guy F. Lipscomb Professor of Chemistry, Department of Chemistry and Biochemistry, University of South Carolina (USC)
2002-2009	Professor, Department of Chemistry and Biochemistry, USC
1998-2002	Associate Professor, Department of Chemistry and Biochemistry, USC
1993-1998	Assistant Professor, Department of Chemistry and Biochemistry, USC

Education:

1990-1993	NSF & NIH Postdoctoral Fellow, California Institute of Technology, with J. K. Barton
1990	Ph.D. Chemistry, University of Wisconsin, Madison, with A. B. Ellis
1986	B. S. Chemistry, University of Illinois at Urbana-Champaign, with T. B. Rauchfuss
1986	B. S. Biochemistry, University of Illinois at Urbana-Champaign

Secondary Appointments:

2018-	Professor, Carle Illinois College of Medicine
2017-2023	Deputy Director, Illinois Materials Research Science and Engineering Center
2017-	Professor, Center for Advanced Study, UIUC
2016-	Affiliate, Department of Bioengineering, UIUC
2012-2020	Associate Director, Materials Research Laboratory, UIUC
2012	Visiting Professor, Laboratory of Biomaterials and Polymers, University of Paris XIII, Paris, France
2010-	Affiliate, Materials Research Laboratory, UIUC
2010-	Affiliate, Department of Materials Science and Engineering, UIUC
2010-	Affiliate, Micro and Nano Technology Laboratory, UIUC
2010-	Affiliate, Beckman Institute for Advanced Science and Technology, UIUC
2000	Visiting Researcher, Department of Chemistry, University of Bristol, UK

Honors and Awards:

2023	Outstanding Achievement Award in Nanoscience, American Chemical Society, Division of Colloid & Surface Chemistry, Colloidal Nanoparticle Synthesis and Assembly Symposium
2022	Centenary Prize, Royal Society of Chemistry
2020	ACS Award in Inorganic Chemistry, American Chemical Society
2020	PROTEOMASS Scientific Society Career Award, Portugal
2019	MRS Medal, Materials Research Society (shared with Haimei Zheng, LBNL)
2019	Linus Pauling Medal, American Chemical Society, Oregon/Portland/Puget Sound sections
2019	Elected Member, American Academy of Arts and Sciences
2019	Remsen Award, American Chemical Society, Maryland Section
2017	Fellow, Materials Research Society
2016	Research Excellence Award, Nano/Bio Interface Center, University of Pennsylvania
2015	Elected Member, U. S. National Academy of Sciences
2015	*INSIGHT into Diversity* 2015 Inspiring Women in STEM Award

2015	Langmuir Lecturer, American Chemical Society, Div. of Colloid & Surface Chemistry
2015	TREE (Transformational Research and Excellence in Education) Award, Research Corporation for Science Advancement
2014	Fellow, Royal Society of Chemistry
2013	Carol Tyler Award, International Precious Metals Institute
2011	Fellow, American Chemical Society
2011	Inorganic Nanoscience Award, American Chemical Society, Div. of Inorganic Chemistry
2008	Fellow, American Association for the Advancement of Science
2008	Nanotech Briefs Nano 50 Award, Innovator Category
2005	Russell Award for Research in Science, Mathematics & Engineering, U. South Carolina
2003	Outstanding Undergraduate Research Mentor Award, U. South Carolina
2002	Siemens-Westinghouse High School Science Mentor Award
2001	Michael J. Mungo Undergraduate Teaching Award, U. South Carolina
1998	Golden Key Faculty Award for Creative Integration of Research and Undergraduate Teaching, U. South Carolina
1998	Camille Dreyfus Teacher-Scholar Award, Dreyfus Foundation
1998	National Science Foundation Award for Special Creativity
1997	Fellow, Alfred P. Sloan Foundation
1996	University of South Carolina Mortar Board Excellence in Teaching Award
1996	Cottrell Scholar Award, Research Corporation
1995-98	National Science Foundation CAREER Award
1993	National Institutes of Health Postdoctoral Fellow
1990-92	National Science Foundation Postdoctoral Fellow
1989-90	W. R. Grace & Co. Fellow, University of Wisconsin
1989	Summer Energy Research Fellow, Electrochemical Society
1986-87	Wisconsin Alumni Research Foundation Fellow
1986-87	University of Wisconsin McElvain Scholar
1986	University of Illinois Bronze Tablet
1986	University of Illinois Merck Award in Biochemistry

Named Lectures:

2021	Frost Future of Chemistry Lecturer, University of Miami
2019	Walton Lecturer, Department of Chemistry, Purdue University
2019	Glenn T. Seaborg Lecturer in Inorganic Chemistry, University of California, Berkeley
2019	Haines Lecture, Department of Chemistry, University of South Dakota
2018	Jess Hensley Lectureship, University of Oklahoma Health Sciences Center
2017	62nd Phillips Lecturer, Department of Chemistry, University of Pittsburgh
2017	Frank C. Mathers Distinguished Lecturer, Department of Chemistry, Indiana University
2017	Sigma-Aldrich Lecturer, Department of Chemistry and Biochemistry, UCLA
2016	Gomberg Lecturer, Department of Chemistry, University of Michigan
2016	Hovey Lecturer, Department of Chemistry, Wabash College
2016	McGavock Lecturer, Department of Chemistry, Trinity University
2014	John B. Derieux Lecturer, Department of Physics, North Carolina State University
2012	James D. & Julia P. Morrison Lectureship, Carleton College
2011	Lucy W. Pickett Lecturer, Mount Holyoke College
2010	Harold McMaster Visiting Scientist, College of Arts & Sciences, Bowling Green State U.
2009	Kolthoff Lecturer in Chemistry, University of Minnesota

Data-Driven Metrics:

current	h-index: 90 (Web of Science), 102 (Google Scholar); total citations ~48,000 (WoS)
2021	Ranked in top 0.02% of most influential scientists in *PLOS Biology* study (#1648 of all scientists who published at least 5 papers since the 1990's, out of 8 million authors, https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000918)
2018	Highly Cited Researcher, Clarivate Analytics
2016	Highly Cited Researcher, Chemistry, Thomson Reuters
2014,5	Highly Cited Researcher, Thomson Reuters, for both Chemistry and Mater. Sci.

2011 Ranked #32 in Thomson Reuters Sciencewatch List of "Top 100 Chemists for the Decade 2000-2010"
2011 Ranked #10 in Thomson Reuters Sciencewatch List of "Top 100 Materials Scientists for the Decade 2000-2010"

Research Interests: Synthesis, properties, chemical sensing, biological applications and environmental implications of colloidal inorganic nanomaterials, especially gold nanorods; optical probes of DNA and protein nanoscale structure and dynamics; sustainability; inorganic and materials chemistry

Teaching Experience: *Undergraduate courses:* Honors (Accelerated) General Chemistry I and II; Honors (Accelerated) General Chemistry Laboratory I and II; General Chemistry I and II; Chemical Instrumentation Systems Laboratory; Physical Chemistry Laboratory I and II; Materials Chemistry; Inorganic Chemistry; co-instructor for Fundamentals of Inquiry in the Sciences freshman seminar; co-instructor for Cancer Nanotechnology advanced undergraduate/graduate course; guest lecturer for Introduction to Nanoscience, Concepts and Connections in Science, Technology and Engineering. *Graduate courses*: Inorganic Chemistry Seminar; Main Group Chemistry; Introduction to Materials Chemistry; Advanced Inorganic Chemistry**;** Special Topics in Inorganic Chemistry; Physical Methods of Materials Chemistry; Materials Chemistry Seminar; Preparing Graduate Fellowships; guest lecturer for Professional Development for Chemists (responsible conduct of research/publication ethics portion).

Industrial Experience: Amoco Research Center, Naperville, IL; 1986 summer intern

Diversity, Equity, Inclusion, Climate, Mentoring Efforts and Firsts: First woman hired on tenure track in Department of Chemistry and Biochemistry, University of South Carolina, 1993; Officer and member of local South Carolina chapter of Association for Women in Science, 1994-2008; Mentor, numerous undergraduate research programs for underrepresented students, 1998-present; Member, various panels for women in chemistry sponsored by local graduate students, 2010-2019; Mentor, two campuswide programs for young faculty and within department, 2010-2020; Member, Advisory Board, OXIDE (Open Chemistry Collaborative in Diversity Equity), 2016-2019; Member, selection committees, Research Experience for Undergraduate programs for NSF Center for Sustainable Nanotechnology and Illinois Materials Research Science and Engineering Center, 2017-present; Keynote speaker, Midwest Retreat for Diversity in Chemistry, 2019; Diversity/Wellness Committee member (2020-) and chair (2020-2021), NSF Center for Sustainable Nanotechnology; Member, Chemistry Diversity Canvassing Committee, National Academy of Sciences, 2020-present; first woman Head of Department of Chemistry, University of Illinois Urbana-Champaign, 2020; first woman to win the ACS Award in Inorganic Chemistry, 2020; Eliminated GRE requirement for admission to Department of Chemistry Graduate Program as Department Head, 2020; numerous Town Hall events and inclusive programming for department as Head, 2020-present; Panelist, 2021 Midwest Women in Science Conference; ChemWMN Mentor, 2023-present; National Academy of Sciences, Temporary Nominating Group for Class I, 2023-2025.

Research Publications in Print / in Press:

288. Gole, M. T.; Dronadula, M. T.; Aluru, N. R.; Murphy, C, J. "Immunoglobulin Adsorption and Film Formation on Mechanically Wrinkled and Crumpled Surfaces at Submonolayer Coverage," *Nanoscale Adv.* **2023**, *5*, 2085-2095.

287. Nunes, A. M.; Falagan-Lotsch, P.; Roslend, A.; Meneghetti, M. R.; Murphy, C. J. "Cytotoxicity of Mini Gold Nanorods: Intersection with Extracellular Vesicles," *Nanoscale Adv.* **2023**, *5*, 733-741.

286. Hoang, K. N. L.; McClain, S. M.; Meyer, S. M.; Jalomo, C. A.; Forney, N. B.; Murphy, C. J. "Site-Selective Modification of Metallic Nanoparticles," *Chem. Commun*. **2022**, *58*, 9728-9741.

285. Meyer, S. M.; Murphy, C. J. "Anisotropic Silica Coating on Gold Nanorods Boosts Their Performance as SERS Sensors," *Nanoscale* **2022**, *14*, 5214-5226.

284. Alkilany, A. M.; Rachid, O.; Alkawareek, M. Y.; Billa, N.; Daou, A.; Murphy, C. J.; "PLGA-Gold Nanocomposite: Preparation and Biomedical Applications," *Pharmaceutics* **2022**, *14*, 660. doi: 10.3390/pharmaceutics14030660.

283. Hoang, K. N. L.; Wheeler, K. E..; Murphy, C. J. "Isolation Methods Influence Protein Corona Composition on Gold-Coated Iron Oxide Nanoparticles," *Anal. Chem*. **2022**, *94*, 4737-4746.

282. Zhu, Q.; Murphy, C. J.; Baker, L. R. "Opportunities for Electrocatalytic CO_2 Reduction Enabled by Surface Ligands," *J. Am. Chem. Soc*. **2022**, *144*, 2829-2840.

281. Foreman-Ortiz, I. U.; Ma, T. F.; Hoover, B. M.; Wu, M.; Murphy, C. J.; Murphy, R. M.; Pedersen, J. A. "Nanoparticle Tracking Analysis and Statistical Mixture Distribution Analysis Allows Quantification of Binding Interactions," *J. Coll. Interfac. Sci*. **2022**, *615*, 50-58.

280. Medeghini, F.; Pettine, J.; Meyer, S. M.; Murphy, C. J.; Nesbitt, D. J. "Regulating and Directionally Controlling Electron Emission from Gold Nanorods with Silica Coatings," *Nano Lett.* **2022**, *22*, 644-651.

279. Turner, J. G.; Murphy, C. J. "How Do Proteins Associate with Nanoscale Metal-Organic-Framework Surfaces?" *Langmuir* **2021**, *37*, 9910-9919.

278. Meyer, S. M.; Pettine, J.; Nesbitt, D. J.; Murphy, C. J. "Size Effects in Gold Nanorod Light-to-Heat Conversion under Femtosecond Illumination," *J. Phys. Chem. C* **2021**, *125*, 16268-16278.

277. Shang, H.; Kim, D.; Wallentine, S. K.; Kim, M.; Hofmann, D. M.; Dasgupta, R.; Murphy, C. J.; Asthagiri, A.; Baker, L. R. "Ensemble Effects in Au/Cu Ultrasmall Nanoparticles Control the Branching Point for C1 Selectivity During CO_2 Electroreduction," *Chem. Sci*. **2021**, *12*, 9146-9152.

276. Gole, M. T.; Yin, Z.; Wang, M. C.; Lin, W.; Zhou, Z.; Leem, J.; Takekuma, S.; Murphy, C. J.; Nam, S. "Large Scale Self-Assembly of Plasmonic Nanoparticles on Deformed Graphene Templates," *Sci. Rep.* **2021**, *11*, art. no. 12232.

275. Hatfield, K.; Gole, M. T.; Schorr, N.; Murphy, C. J.; Rodriguez-Lopez, J. "SERS-SECM: Real-Time Observation of Electrochemically-Triggered Perturbations via Surface-Sensitive pH Measurement," *Anal. Chem*. **2021**, *93*, 7792-7796.

274. Henke, A.; Laudadio, E.; Hedlund-Orbeck, J.; Tamijani, A.; Hoang, K. N. L.; Mason, S.E.; Murphy, C. J.; Feng, Z. V.; Hamers, R. J. "Reciprocal Redox Interactions of Nicotinamide Adenine Dinucleotide (NADH) and Glutathione (GSH) with Lithium Cobalt Oxide Nanoparticles:

Toward a Mechanistic Understanding of Nanoparticle-Biological Interactions," *Environ. Sci.: Nano* **2021**, *8*, 1749-1760.

273. Gari, M. K.; Lemke, P.; Lu, K. H.; Laudadio, E. D.; Henke, A. H.; Green, C. M.; Pho, T.; Hoang, K. N. L.; Murphy, C. J.; Hamers, R. J.; Feng, Z. V. "Dynamic Aqueous Transformations of Lithium Cobalt Oxide Nanoparticles Induce Distinct Oxidative Stress Responses of *B. subtilis*," *Environ. Sci.: Nano* **2021**, *8*, 1614-1627.

272. Zhang, X.; Falagan-Lotsch, P.; Murphy, C. J. "Nanoparticles Interfere with Chemotaxis: An Example of Nanoparticles as 'Molecular Knockouts' at the Cellular Level," *ACS Nano* **2021**, *15*, 8813-8825.

271. Pettine, J.; Meyer, S. M.; Medeghini, F.; Murphy, C. J.; Nesbitt, D. J. "Controlling the Spatial and Momentum Distributions of Plasmonic Carriers: Volume versus Surface Effects," *ACS Nano* **2021**, *15*, 1566-1578.

270. Zhi, B.; Yao, X.; Wu, M.; Mensch, A.; Cui, Y.; Deng, J.; Duchimaza-Heredia, J. J.; Trerayapiwat, K. J.; Niehaus, T.; Nishimoto, Y.; Frank, B. P.; Zhang, Y.; Lewis, R. E.; Kappel, E. A.; Hamers, R. J.; Fairbrother, D. H.; Orr, G.; Murphy, C. J.; Cui, Q.; Haynes, C. L. "Multicolor Polymeric Carbon Dots: Synthesis, Separation and Polyamide-Supported Molecular Fluorescence," *Chem. Sci*. **2021**, *12*, 2441-2455.

269. Shang, H.; Wallentine, S.; Hofmann, D. M.; Zhu, Q.; Murphy, C. J.; Baker, L. R. "Effect of Surface Ligands on Gold Nanocatalysts for CO_2 Reduction," *Chem. Sci*. **2020**, *11*, 12298-12306.

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268. Liang, D.; Dahal, U.; Wu, M.; Murphy, C. J.; Cui, Q. "Ligand Length and Surface Curvature Modulate Nanoparticle Surface Heterogeneity and Electrostatics," *J. Phys. Chem. C* **2020**, *124*, 24513-24525.

267. Ortiz-Foreman, I. U.; Liang, D.; Laudadio, E. D.; Calderin, J. D.; Wu, M.; Keshri, P.; Zhang, X.; Schwartz, M. P.; Hamers, R. J.; Rotello, V. M.; Murphy, C. J.; Cui, Q.; Pedersen, J. A. "Anionic Nanoparticle-Induced Perturbation to Phospholipid Membranes Affects Ion Channel Function," *Proc. Natl. Acad. Sci. USA* **2020**, *117*, 27854-27861.

266. Falagan-Lotsch, P.; Murphy, C. J. "Network-based Analysis Implies Critical Roles of microRNAs in the Long-term Cellular Responses to Gold Nanoparticles," *Nanoscale* **2020**, *12*, 21172-21187.

**Editor's Choice*

265. McClain, S. M.; Ojoawo, A.; Lin, W.; Rienstra, C. M.; Murphy, C. J. "Interaction of Alpha-Synuclein and its Mutants with Rigid Lipid Vesicle Mimics of Varying Surface Curvature," *ACS Nano* **2020**, *14*, 10153-10167.

264. Sinclair, W. E.; Chang, H-H.; Dan, A.; Kenis, P. J. A.; Murphy, C. J.; Leckband, D. E. "Gold Nanoparticles Disrupt Actin Organization and Pulmonary Endothelial Barriers," *Sci. Rep.* **2020**, *10*, art. no. 13320.

263. Turner, J. G.; Og, J. H.; Murphy, C. J. "Gold Nanorod Impact on Mechanical Properties of Stretchable Hydrogels," *Soft Matter* **2020**, *16*, 6582-6590.

262. Chang, H.-H.; Gole, M. T.; Murphy, C. J. "A Golden Time for Nanotechnology," *MRS Bulletin* **2020**, *45*, 387-393.

261. Daley, C. A.; Allen, C. R.; Rozanov, N. D.; Chong, G.; Melby, E. S.; Kuech, T. R.; Lohse, S. E.; Murphy, C. J.; Pedersen, J. A.; Hernandez, R. "Surface Coating Structure and Its Interaction with

Cytochrome *c* in Eg6 Coated Nanoparticles Varies with Surface Curvature," *Langmuir* **2020**, *36*, 5030-5039.

260. Chong, G.; Foreman-Ortiz, I. U.; Wu, M.; Bautista, A.; Murphy, C. J.; Pedersen, J. A.; Hernandez, R. "Defects in Self-Assembled Monolayers on Nanoparticles Prompt Phospholipid Extraction and Bilayer Curvature-Dependent Deformations," *J. Phys. Chem. C* **2019**, *123*, 27951-27958.

259. Janicek, B. E.; Hinman, J. G.; Hinman, J. J.; Bae, S. H.; Wu, M.; Turner, J. G.; Chang, H-H.; Park, E.; Lawless, R.; Suslick, K. S.; Murphy, C. J.; Huang, P. Y. "Quantitative Imaging of Organic Ligand Density on Anisotropic Inorganic Nanocrystals," *Nano Lett*. **2019**, *19*, 6308-6314.

**Editor's Choice*

258. Murphy, C. J.; Chang, H-H.; Falagan-Lotsch, P.; Gole, M. T.; Hofmann, D. M.; Hoang, K. N. L..; Meyer, S.M.; McClain, S. M.; Turner, J. G.; Unnikrishnan, M.; Wu, M.; Zhang, X.; Zhang, Y. "Virus-Sized Gold Nanorods: Plasmonic Particles for Biology," *Acc. Chem. Res*. **2019**, *52*, 2124-2135.

257. Hofmann, D. M.; Fairbrother, D. H.; Hamers, R. J.; Murphy, C. J. "Two-phase Synthesis of Gold-Copper Bimetallic Nanoparticles of Tunable Composition: Toward Optimized Catalytic CO_2 Reduction," *ACS Appl. Nano Mater.* **2019**, *2*, 3989-3998.

256. Tollefson, E.J.; Allen, C. R.; Chong, G.; Zhang, X.; Rozanov, N. D.; Bautista, A.; Cerda, J. J.; Pedersen, J.A.; Murphy, C. J.; Carlson, E.E.; Hernandez, R. "Preferential Binding of Cytochrome c to an Anionic Ligand-Coated Gold Nanoparticle: A Complementary Computational and Experimental Approach," *ACS Nano* **2019**, *13*, 6856-6866.

255. Abtahi, S. M. H.; Trevisan, R.; Di Giulio, R.; Murphy, C. J.; Saleh, N. B.; Vikesland, P. J. "Implications of Aspect Ratio on the Uptake and Nanotoxicity of Gold Nanomaterials," *NanoImpact* **2019**, *14*, 100153.

254. Wu, M.; Vartanian, A. M.; Chong, G.; Kumar, A.; Hamers, R. J.; Hernandez, R.; Murphy, C. J. "Solution NMR Analysis of Ligand Environment in Quaternary Ammonium-Terminated Self-Assembled Monolayers on Gold Nanoparticles: The Effect of Surface Curvature and Ligand Structure," *J. Am. Chem. Soc.* **2019**, *141*, 4316-4327.

253. Hinman, J. G.; Hinman, J. J.; Janicek, B. E.; Huang, P. Y.; Suslick, K. S.; Murphy, C. J. "Ultrasonic Nebulization for TEM Sample Preparation on Single-Layer Graphene Grids," *Nano Lett.* **2019**, *19*, 1938-1943.

252**.** Alkilany, A. M.; Abulateefeh, S. R.; Murphy, C. J. "Facile Functionalization of Gold Nanoparticles with PLGA Polymer Brushes and Efficient Encapsulation into PLGA Nanoparticles: Toward Spatially Precise Bio-imaging of Polymeric Nanoparticles," *Part. Part. Syst. Charact.* **2019**, *36*, 1800414.

251. Zhang, X.; Pandiakumar, A. K.; Hamers, R. J.; Murphy, C. J. "Quantification of Lipid Corona Formation on Colloidal Nanoparticles from Lipid Vesicles," *Anal. Chem*. **2018**, *90*, 14387-14394.

250. Chong, G.; Laudadio, E.; Wu, M.; Murphy, C. J.; Hamers, R. J.; Hernandez, R. "Density, Structure, and Stability of $Citrate^{3-}$ and $H_2Citrate^-$ on Bare and Coated Gold Nanoparticles," *J. Phys. Chem. C* **2018**, *122*, 28393-28404.

249. Rasskazov, I. L.; Wang, L.; Murphy, C. J.; Bhargava, R.; Carney, P. S. "Plasmon-Enhanced Upconversion: Balancing Between Enhancement and Quenching at Nano and Macro Scales," *Opt. Mater. Express* **2018**, *8*, 3787-3804.

248. Olenick, L. L.; Troiano, J. M.; Vartanian, A.; Melby, E. S.; Mensch, A. C.; Zhang, L.; Hong, J.; Mesele, O.; Qiu, T.; Bozich, J.; Lohse, S.; Zhang, X.; Kuech, T. R.; Millevolte, A.; Gunsolus, I.; McGeachy, A. C.; Dongangun, M.; Li, T.; Hu, D.; Walter, S. R.; Mohaimani, A.; Schmoldt, A.; Torelli, M. D.; Hurley, K. R.; Dalluge, J.; Chong, G.; Feng, Z. V.; Haynes, C. L.; Hamers, R. J.; Pedersen, J. A.; Cui, Q.; Hernandez, R.; Klaper, R.; Orr, G.; Murphy, C. J.; Geiger, F. M. "Lipid Corona Formation from Nanoparticle Interactions with Bilayers," *Chem* **2018**, *4*, 2709-2723.

247. Hinman, J. G.; Turner, J. G.; Hofmann, D. M.; Murphy, C. J. "Layer-by-Layer Synthesis of Conformal Metal-Organic Framework Shells on Gold Nanorods," *Chem. Mater*. **2018**, *30*, 7255-7261.

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245. Melby, E. S.; Allen, C.; Foreman-Ortiz, I. U.; Caudill, E. R.; Kuech, T. R.; Vartanian, A. M.; Zhang, X.; Murphy, C. J.; Hernandez, R.; Pedersen, J. A. "Peripheral Membrane Proteins Facilitate Nanoparticle Binding at Lipid Bilayer Interfaces," *Langmuir* **2018**, *34*, 10793-10805.

244. Chang, H-H.; Murphy, C. J. "Mini Gold Nanorods with Tunable Plasmonic Peaks beyond 1000 nm," *Chem. Mater*. **2018**, *30*, 1427-1435.

243. Metch, J. W.; Burrows, N. D.; Murphy, C. J.; Vikesland, P. J.; Pruden, A. "Metagenomic Analysis of Microbial Communities Yields Insight into Impacts of Nanoparticle Design," *Nature Nanotechnol.* **2018**, *13*, 253-259.

242. Buchman, J. T.; Rahnamoun, A.; Landy, K. M.; Zhang, X.; Vartanian, A. M.; Jacob, L. M.; Murphy, C. J.; Hernandez, R.; Haynes, C. L. "Using an Environmentally-Relevant Panel of Gram-Negative Bacteria to Assess the Toxicity of Poly(allylamine) hydrochloride-wrapped Gold Nanoparticles," *Environ. Sci.: Nano* **2018**, *5*, 279-288.

241. Lohse, S. E.; Abadeer, N. S.; Zoloty, M.; White, J. C.; Newman, L. A.; Murphy, C. J. "Nanomaterial Probes in the Environment: Gold Nanoparticle Soil Retention and Stability as a Function of Surface Chemistry," *ACS Sustainable Chem. Eng.* **2017**, *5*, 11451-11458.

240. Lin, W.; Murphy, C. J. "A Demonstration of LeChatelier's Principle on the Nanoscale," *ACS Central Science* **2017**, *3*, 1096-1102.

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239. Dennison, J. M.; Zupancic, J.; Lin, W.; Dwyer, J.; Murphy, C. J. "Protein Adsorption to Charged Gold Nanospheres as a Function of Protein Deformability," *Langmuir* **2017**, *33*, 7751-7761.

238. Hinman, J. G.; Eller, J. R.; Lin, W.; Li, J.; Li, J.; Murphy, C. J. "Oxidation State of Capping Agent Affects Spatial Reactivity on Gold Nanorods," *J. Am. Chem. Soc*. **2017**, *139*, 9851-9854.

237. Melby, E. S.; Lohse, S. E.; Park, J. E.; Vartanian, A. M.; Putans, B. A.; Abbott, H. B.; Hamers, R. J.; Murphy, C. J.; Pedersen, J. A. "Cascading Effects of Nanoparticle Coatings: Surface Functionalization Dictates the Assemblage of Complexed Proteins and Subsequent Interaction with Model Cell Membranes," *ACS Nano* **2017**, *11*, 5489-5499.

236. Alkilany, A. M.; Mansour, S.; Amro, H. M.; Pelaz, B.; Soliman, M. G.; Hinman, J.; Dennison, J.; Parak, W. J.; Murphy, C.J. "Introducing Students to Surface Modification and Phase Transfer of Nanoparticles with a Laboratory Experiment," *J. Chem. Educ*. **2017**, *94*, 769-774.

235. Moore, K. A.; Pate, K. M.; Solo-Ortega, D. D.; Lohse, S.; van der Munnik, N.; Lim, M.; Jackson, K. S.; Lyles, V. D.; Jones, L.; Glassgow, N.; Napumecheno, V. M.; Mobley, S.; Uline, M. J.; Mahtab, R.; Murphy, C. J.; Moss, M. A. "Influence of Gold Nanoparticle Surface Chemistry and Diameter upon Alzheimer's Disease Amyloid-β Protein Aggregation," *J. Biol. Eng*. **2017**, *11*, 5: DOI: 10.1186/s13036-017-0047-6.

234. Burrows, N. D.; Harvey, S.; Idesis, F. A.; Murphy, C. J. "Understanding the Seed-Mediated Growth of Gold Nanorods through a Fractional Factorial Design of Experiments," *Langmuir* **2017**, *33*, 1891-1906.

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233. Abtahi, S.M.H.; Burrows, N. D.; Idesis, F. A.; Murphy, C. J.; Saleh, N. B.; Vikesland, P. J. "Sulfate Mediated End-to-End Assembly of Gold Nanorods," *Langmuir* **2017**, *33*, 1486-1495.

232. Qiu, T. A.; Nguyen, T.H. T.; Hudson-Smith, N. V.; Clement, P. L.; Forester, D.; Frew, H.; Hang, M.N.; Murphy, C. J.; Hamers, R. J.; Feng, Z. V.; Haynes, C. L. "Growth-Based Bacterial Viability Assay for Interference-free and High-Throughput Toxicity Screening of Nanomaterials," *Anal. Chem.* **2017**, *89*, 2057-2064.

231. Qiu, T. A.; Torelli, M. D.; Vartanian, A. M.; Rackstraw, N. B.; Buchman, J. T.; Jacob, L. M.; Murphy, C. J.; Hamers, R. J.; Haynes, C. L. "Quantification of Free Polyelectrolytes Present in Colloidal Suspension Reveals Source of Toxic Responses for Polyelectrolyte-wrapped Gold Nanoparticles," *Anal. Chem*. **2017**, *89*, 1823-1830.

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228. Burrows, N. D.; Lin, W.; Hinman, J. G.; Dennison, J. M.; Vartanian, A. M.; Abadeer, N. S.; Grzincic, E. M.; Jacob, L. M.; Li, J.; Murphy, C. J. "Surface Chemistry of Gold Nanorods," *Langmuir* **2016**, *32*, 9905-9921.

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25. Murphy, C. "Electrocuting a Pickle: Demonstrating Major Concepts in Science," Sustainable Nano blog post: http://sustainable-nano.com/2017/09/07/electrocuting-pickle/

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5. Schatz, G. C.; McCoy, A. B.; Hammes-Schiffer, S.; Murphy, C. J. “Editorial: New Deputy Editors for The Journal of Physical Chemistry A, B and C, “ *J. Phys. Chem. A* **2011**, *115*, 6319-6320; *J. Phys. Chem. B* **2011**, *115*, 7711-7712; *J. Phys. Chem. C* **2011**, *115*, 11889-11890.

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3. Murphy, C. J. Book Review of *Advances in Photochemistry*, Vol. 23. Ed. by Douglas C. Neckers (Bowling Green St. Univ.), David H. Volman (Univ. of California – Davis), & Gunther von Bunau (Univ. of Siegen). Wiley-VCH: New York, 1997. $125.00. ix+362 pp. ISBN 0-471-19289-9; reviewed by CJM in *Journal of the American Chemical Society* **1999**, *121*, 1996.

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Rassakov, I.; Moroz, A.; Murphy, C.; Krauss, T.; Carney, P. S. “Metal-Dielectric-Enhanced Upconversion: Going ‘Meso’,” arXiv (https://arxiv.org/abs/2207.01132).

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Tanjil, M. R.-E.; Gupta, T.; Gole, M. T.; Suero, K. P.; Yin, Z.; McCleary, D. J.; Douglas, O. R. T.; Rudawski, N. G.; Anderson, A. B.; Murphy, C. J.; Zhao, H.; Wang, M. C. “Nanoscale Goldbeating: Solid-State Transformation of 0D and 1D Gold Nanoparticles to Anisotropic 2D Morphologies,” submitted.

Patents:

Murphy, C. J.; Sau, T. K.; Orendorff, C. J.; Gole, A. M. Surface enhanced Raman spectroscopy using shaped gold nanoparticles. **U.S. patent # 8,129,199**, issued March 6, 2012; **U. S. patent #8,241,922**, issued August 14, 2012.

Murphy, C. J.; Lohse, S. E.; Eller, J. R. Continuous Flow Reactor and Method for Nanoparticle Synthesis. **U.S. patent # 9,375,790 B2**, issued June 28, 2016.

Illinois Research Group (in order of their appearance; current place of employment):

Postdoctoral Research Associates/Senior Research Personnel:

1. Thompson, Lucas	10/09-8/11	Postdoctoral researcher (current: Gettysburg College, PA)
2. Lohse, Samuel	6/11-6/14	Postdoctoral researcher (current: Central Washington U., WA)
3. Burrows, Nathan	2/13-7/16	Postdoctoral researcher (current: SLAC, Stanford, CA)
4. Liu, Ran	3/13-2/14	Postdoctoral researcher (current: Lam Research, CA)
5. Falagan-Lotsch, Priscila	10/13-1/14	Visiting researcher (Nat. Inst. Metrology, Quality, & Tech., Brazil)
	5/15-7/17	Postdoctoral researcher
	7/17-8/20	Research scientist (current: Auburn U., AL)
6. Dennison, Jordan	5/18-11/18	Postdoctoral researcher (current: KBI Biopharma)
7. Hinman, Joshua	5/18-7/18	Postdoctoral researcher (current: Intel)
8. Chang, Huei-Huei	8/19-8/21	Postdoctoral researcher (current: job hunting)
9. Hofmann, Daniel	5/20-9/20	Postdoctoral researcher (current: U.S. Army Center, Natick, MA)
10. Zhang, Xi	5/20-6/21	Postdoctoral researcher (current: Fujian Medical University, China)
11. Wu, Meng	5/20-7/20	Postdoctoral researcher (current: DuPont)
12. Powderly, Kelly	8/22-	Postdoctoral researcher
	8/23-	Beckman-Brown Interdisciplinary Postdoctoral Fellow

Senior Visitors

1. Bentley, Anne	6/10-12/10	Visiting professor (Lewis & Clark College, Portland, OR)
2. Ye, Zhibin	9/10-2/11	Visiting professor (Laurentian University, Ontario, Canada)
3. Alkilany, Alaaldin	6/12-7/12	Visiting professor (University of Jordan, Amman, Jordan)
	6/14-8/14	
	1/21-8/21	
4. Li, Jianjun	7/13-7/14	Visiting professor (Xi'an Jiaotong University, China)
5. Sau, Tapan	5/18-7/18	Visiting professor (International Institute for Info. Tech., India)
6. Jana, Nikhil	6/18-7/18	Visiting professor (Indian Inst. Cultivation of Science, India)
7. Zeiri, Offer	7/23-	Visiting researcher (Nuclear Research Center Negev, Israel)

Graduate Students (chemistry unless otherwise stated, with current affiliation):

1. Sisco, Patrick	8/09-9/10	(transfer from USC; current: USDA)
2. Alkilany, Alaaldin	8/09-9/10	(transfer from USC; current: Qatar University)
3. Boulos, Stefano	8/09-8/13	(transfer from USC; current: Intel)
4. Sivapalan, Sean	9/09-1/13	(transferred in, Materials Sci&Engineering (MatSE); current: Intel)
5. Yang, Jie An	10/09-11/13	(current: Davies Collison Cave law firm, Singapore)
6. Chernak, Davin	11/09-5/12	(current: software engineer)
7. Huang, Jingyu	12/09-8/14	(current: BASF, China)
8. Eller, Jonathan	10/10-5/15	(current: GHD)
9. Walker, Meredith	2/11-5/12	(transferred in, MatSE; current: Magic Leap)
10. Abadeer, Nardine	11/11-5/16	(*NSF Fellow*; current: Owens-Corning)
11. Grzincic, Elissa	11/11-6/16	(current: AbbVie)
12. Vartanian, Ariane	1/12-4/16	(transferred in; joint with S. Zimmerman; current: *Nature Reviews Materials)*
13. Tomita, Kentaro	1/12-3/12	(visiting scholar from Kyushu University, Japan)
14. Grillo (nee Glesner), Bethany	7/12-5/14	(transferred in, MatSE; current: Carlisle Interconnect Technologies)
15. Lin, Wayne	10/12-7/17	(current: Intel)
16. Jacob, Lisa	11/12-6/13, 1/14-12/15	(current: Codiakbio, Inc.)
17. Dennison, Jordan	10/13-5/18	(current: KBI Biopharma)
18. Hinman, Joshua	10/13-5/18	(current: Intel)
19. Li, Ji (Ricky)	8/14-5/16	(transferred in; current: software engineer, Amazon)
20. Gu, Peng	3/15-7/15	(visiting scholar from U. Strathclyde, UK)
21. Chang, Huei-Huei	6/15-8/19	(transferred in; current: job hunting)
22. Wu, Meng	10/15-5/20	(current: DuPont)
23. Zhang, Xi (Cassie)	10/15-5/20	(current: Fujian Medical University, China)

24. Hofmann, Daniel 10/15-5/20 (current: postdoc, U.S. Army CCDC Soldier Center, Natick, MA)
25. Turner, Jacob 10/16-7/21 (current: Henkel Corporation)
26. Gole, Matthew 10/16-8/22 (current: DuPont)
27. Zhang, Yishu 10/17-5/18, 8/18-8/20 (current: Computer Science/Crop Science MS program)
28. Meyer, Sean 10/17-5/22 (current: Minutia, LLC)
29. Hoang, Nikki 11/18-
30. Unnikrishnan, Mahima 11/18- (joint with M. Gruebele)
31. McClain, Sophie 12/18- (*NSF Fellow*, *Springborn Fellow, CBI Training Grant Fellow*)
32. Nunes, Abner Magalhaes 9/19-1/23 (visiting student, Federal University of Alagoas, Brazil)
33. Wo, Anita 10/19-
34. Greskovich, Katie 12/19-8/21 (joint with L. Mirica)
1/22-
35. Kabanov, Vladimir 1/20-3/20 (visiting student, University of Calgary, Canada)
36. Tetrick, Max 3/20- (transferred in; *NSF Fellow*)
37. Jalomo, Catherine 11/20- (*Sloan UCEM Fellow*; joint with S. Zimmerman)
38. Forney, Nathan 11/20-
39. Marcellus, Marsophia (Sophia) 10/21- (*CBI Training Grant Fellow*)
40. Shiau, Amos 11/21-
41. Kincanon, Maegen 5/22- (transferred in)
42. Cook, Emily 10/22- (*NSF Fellow*)

Undergraduate Students (UIUC unless otherwise noted; "participant-observers" are non-science students who shadow science students to learn how science happens, and then produce a "work of art" based on their experience and major at the end of the term; "on-ramp to science" participants are STEM majors with no research experience who shadow students in the lab to learn how science works, with the expectation that they will become active researchers later):

1. Lee, Robert 9/09-8/10
2. Weiner, Rebecca 9/09-5/11
3. Doner, Caryn 9/09-5/11
4. Kurley, James 10/09-8/10 (joint with Angus Rockett, MatSE)
5. Ali, Hannie 1/10-8/11
6. McCune, Matthew 9/10-12/10 (participant observer)
7. Guadagnoli, Leah 9/10-12/10, 9/11-5/12 (participant observer)
8. Suter, Colby 9/10-12/10 (participant observer)
9. Lindquist, Alicia 9/10-12/10 (participant observer)
10. Koparkar, Kimeya 10/10-5/11
11. Breidenbach, Emily 2/11- 5/11 (participant observer)
12. Sturchio, Maria 2/11- 5/11 (participant observer)
13. Walrath, Maureen 2/11- 5/11 (participant observer)
14. Zidek, Juliette 2/11- 5/11 (participant observer)
15. Allison, Evan 6/11-12/11
16. Yang, Timothy K. 6/11-12/12
17. Phan, Binh 6/11-8/11 (Vietnam program participant)
18. Jackson, Kaliah 6/11-8/11 (Snyder Scholar, South Carolina State U)
19. Johnson, Brittany 6/11-8/11 (3M Summer Fellow, Chicago State U)
20. Zoloty, Michael 9/11-5/12
21. Wu, Sway 9/11-5/12, 8/12-5/13
22. Koehler, Justina 9/11- 5/12 (joint with Romana Nowak, Animal Sciences)
23. Song, Geunho 9/11-12/11 (participant observer)
24. Torrey, Joshua 1/12-5/12 (participant observer)
25. Lee, Ah Reum 1/12-12/12
26. Plews, Michael 5/12- 9/12 (UIUC exchange student, U. Manchester, UK)
27. Phan Tri, Hoa 5/12- 8/12 (Vietnam program participant)
28. Venable, Frances 5/12- 8/12 (REU, Park University)

29. Dziedzic, Rafal 5/12- 8/12 (REU, U. Wisconsin)
30. Choi, Seo Woo (Daniel) 1/13-5/13
31. Mitchell, Hillary 5/13- 8/13 (REU, Missouri State)
32. Dewing, Beth 5/13- 8/13 (REU, U Texas – Austin)
33. Rowland, Kendrith 6/13- 8/13 (volunteer; Kalamazoo College)
34. Park, Ji Eun 8/13-5/14, 7/14-12/14 (as research associate after B.S. degree)
35. Choudhury, Naima 8/13-5/14
36. Ou, Nathan 8/13-5/15
37. Sherrill, Patrick 1/14-8/14 (CSN REV)
38. Norville, Travis 1/14-5/14 (participant-observer)
39. Giannatis, Athanasia 1/14-5/14 (participant-observer)
40. Chang, Delia 1/14-5/14 (participant-observer)
41. Harvey, Samantha 5/14-8/14 (REU, Indiana U.)
42. Medero, Nelliza 5/14-8/14 (nanoREU, Puerto Rico Polytech)
43. Wang, Andrew 5/14-8/14 (nanoREU, UC Berkeley)
44. Ortiz, Jennifer 5/14-8/14 (CSN REU, SUNY Binghamton)
45. Idesis, Fred 5/14-5/15, 5/15-2/16 as research technician
46. Murphy, Robert 8/14-7/15
47. Hollingsworth, Lauren 8/14-12/14
48. Ritchhart, Andrew 9/14-5/15
49. Stork, Andy 1/15-5/15, 6/15-5/17
50. Moore, Trevor 1/15-5/15 (participant observer)
51. Chi, Ming 1/15-5/15 (participant observer)
52. Yao, Yuqi 1/15- 5/15 (participant observer)
53. Lott, Jennifer 5/15-7/15 (nanoREU, Carnegie Mellon)
54. Dwyer, Jonathan 6/15-8/15 (REU, U. Arizona)
55. Pechvjitra, Pimpisa 8/15-5/16, 8/16-5/17
56. Frankowicz, Zoe 8/15-2/16
57. Zupancic, Jennifer 8/15-5/17, 8/17-5/18
58. Andreev, Andrei 8/15-5/16
59. Li, Junheng 8/15-5/16
60. Senak, Alex 10/15-5/16, 8/16-5/17
61. Cheng, Benjamin 11/15-7/17
62. Carnow, Donna 1/16- 5/16 (participant observer)
63. Cho, Ester 1/16- 5/16 (participant observer)
64. McNish, Reika 1/16- 5/16 (participant observer)
65. Flavin, Peggy 1/16- 5/16 (participant observer)
66. Moehring, Nicole 5/16-8/16 (CSN REU, UW-Stout)
67. Franco, Christian 5/16-7/16 (nanoREU, Fredonia U.)
68. Owczarek, Jakub 9/16-12/16
69. Montiel, Catherine 1/17- 5/17 (participant observer)
70. Heiberger, Samantha 1/17- 5/17 (participant observer)
71. Grape, Erik 1/17- 5/17 (UIUC exchange student, Stockholm University)
72. Krongauz, Danielle 5/17-5/18, 8/18-5/19
73. Ide, Benjamin 6/17- 8/17 (ChemREU, U. Tennessee-Martin)
74. Baxter, Claire 8/17-5/18, 8/18-12/19
75. Sarvaiya, Namya 8/17-12/20
76. Og, Jun Hyup 1/18- 5/19
77. Coplan, Caitlin 5/18- 8/18 (MRSEC REU, U. Utah)
78. Short, Michaela 5/18- 8/18 (Chem REU, U. Tennessee-Martin)
79. Shockey Lopez, Anaeli 6/18- 8/18 (CSN REU, U. Puerto Rico)
80. Nkansah, Abbey 9/18-12/18
81. Chen, Lihan 1/19-12/19 (exchange student from ShanghaiTech University, China)
82. De La Torre, Kathy 5/19- 7/19 (REACH scholar, College of Medicine)
83. Brink, James 5/19-8/19 (CSN REU)
84. Conner, Jennifer 5/19-8/19 (MRSEC REU)
85. Wo, Anita 7/19-8/19 (pre-grad-school rotation)

86. Roslend, Ayman	10/20-7/22	
87. Lopez-Colon, Alondra	6/21-8/21	(CSN REU, U. Puerto Rico)
88. Southey, Nicole	6/21-5/22	(SURETOX REU for summer 2021, UIUC BioE)
89. Sowlat, Max	8/21-5/22	
90. Gandrapu, Jason	1/22-	
91. Phillips, Joshua	1/22-5/22	(On-Ramp to Science participant)
92. Hernandez, Ehmely	1/22-8/22	(On-Ramp to Science participant, then C^2 participant)
	5/23-	(On-Ramp to Science participant)
93. Veres, Sarah	5/22-8/22	(MRSEC REU, U. Alabama)
94. Anand, Taneeka	5/22-8/22	(CSN SURE, Pasadena City College, Pasadena, CA)
95. Guardado, Isabella	6/22-8/22	(SURETOX REU, U. Maryland Baltimore County)
96. Rashid, Suaad	1/23-	(On-Ramp to Science participant)
97. Ramanathan, Valli	1/23-	(On-Ramp to Science participant)
98. Gossman, Lindsey	1/23-	(MERIT Program participant in spring 2023)

High School Students:

1. Wu, Yulun	5/11-12/11	
2. Vaidya, Shruti	5/11-6/11	
3. Yang, Chloe	9/13-5/14	

High School Teachers:

1. Malik, Shabana	6/16-7/16	
2. Roberts, Kenneth	6/17-8/17	

South Carolina Research Group (in order of their appearance):

Postdoctoral Research Associates:

1. Yeung, Lee	9/97-6/99	Postdoctoral research associate (current: US Gypsum, IL)
2. Huang, Jinman	7/98-7/99	Postdoctoral research associate (current: Stion, Inc., CA)
3. Jana, Nikhil	10/99-9/01	Postdoctoral research associate (current: Indian Association for the Cultivation of Science, Kolkata, India)
4. Obare, Sherine	5/02-6/02	Postdoctoral research associate (current: UNC Greensboro)
5. Gearheart, Latha	5/01-8/01	Postdoctoral research associate (current: Presbyterian College, SC)
6. Caswell, K. Kenneth	1/04-5/04	Postdoctoral research associate (current: U. South Florida)
7. Sau, Tapan	5/03-12/04	Postdoctoral research associate (current: International Institute for Information Technology, Hyderabad, India)
8. Gole, Anand	11/03-10/05	Postdoctoral research associate
	12//06-12/08	Research Assistant Professor (current: Coromandel International, India)
9. Orendorff, Christopher	11/03-2/06	Postdoctoral research associate (current: Sandia NL, NM)

Visiting Professors:

1. Mahtab, Rahina	10/93-12/95	Visiting professor (U. Dhaka, Bangladesh)
	6/97-8/97, 6/98-7/99, 8/00-3/02	
	5/02-7/02	Visiting professor (South Carolina State U.)
	5/03-8/03, 6/04-8/04, 5/05-8/06, 6/08-8/08	
2. Nanaie, Hossein	5/98-7/98	Visiting professor (Morris College) (current: Claflin U., SC)
3. Bender, Christopher	5/02-8/02	Visiting professor (USC-Upstate)
	6/04-8/04	
4. Gearheart, Latha	6/02-8/02	Visiting professor (Presbyterian College, SC)
	5/04-7/04	

Graduate students:

1. Drane, Wendy	1/94-12/95	(current: Dept. Geological Sciences, USC)
2. May, Bryan	1/94-5/96	(current: Central Carolina Technical College, SC)
3. Singleton, Chainey	5/94-5/98	(transferred in; current: Chalker Flores law firm, Dallas, TX)
4. Sooklal, Kelly	1/95-10/98	(current: Virtuox, Coral Springs, FL)
5. Nair, Rajesh	1/95-11/98	(current: attorney, U.S. Department of Commerce)

6. Brauns, Eric 4/96-12/97 (transferred to Berg group; current: University of Idaho)
7. Gearheart, Latha 6/96-5/01 (transferred in; current: Presbyterian College, SC)
8. Wildeson, Jessi 1/98-5/00 (current: Boehringer-Ingelheim, CT)
9. Obare, Sherine 12/98-5/02 (current: Dean, Joint School of Nanoscience and Nanoengineering, UNC Greensboro)
10. Caswell, K. Kenneth 2/00-12/03 (current: U. South Florida)
11. Gao, Jinxin 4/01-5/05 (current: Eli Lilly, Indianapolis, IN)
12. Gou, Linfeng 7/01-8/05 (current: Chemetall, a division of BASF, NJ)
13. Zuo, Yu (Jenny) 1/02-5/03
14. Mwamuka, Judith 1/02-5/04 (current: teaching high school, Columbia, SC)
15. Sledge, Brooke 6/03-8/03 (summer rotation student)
16. Hunyadi, Simona 7/03-5/07 (current: Savannah River National Laboratory, SC)
17. Stoudemayer, Chris 12/03-5/04
18. Li, Tan 11/04-8/06 (transferred to statistics graduate program, USC; current, Department of Biostatistics, Florida International University)
19. Stone, John 1/06-6/08 (transferred in; current: ThermoFisher)
20. Sisco, Patrick 3/06-8/09 (transfer to Illinois)
21. Alkilany, Alaaldin 12/06-8/09 (transfer to Illinois)
22. Faulkner, Austin 10/07-5/09 (joined Army Special Forces)
23. Bandlamudi, Elisha 5/08-1/09 Professional Masters Biotechnology student
24. Boulos, Stefano 11/08-8/09 (transfer to Illinois)

Undergraduate Students (all USC students unless otherwise noted):
1. Barnette, Laura 9/93-12/93
2. Rogers, Jessica 6/94-8/94, 5/95-8/95, 7/96-8/96 (Yale University)
3. Hammami, Susan 7/96-8/96, 8/97-12/97
4. Keller, Caroline 8/94-5/97
5. Strobel, Michael 8/94-12/94
6. Baten, Tony 8/94-5/95
7. Reeves, Steve 1/95-5/95
8. Kirkland, Shalawn 8/95-5/96
9. Teng, Emily 5/96-12/96
10. McKenzie, Leary 5/96-5/96, 8/97-5/98
11. Whitaker, Askia 1/97-5/97
12. Nanaie, Mahtab 5/98-8/98
13. Frushour, Brian 1/98-5/98
14. Morris, Ben 1/98-7/98, 5/99-5/00
15. Johnson, Angela 5/98-7/98, 5/99-5/00
16. Davis, Donica 5/98-7/98 (Morris College, SC)
17. Price, Michelle 1/99-5/99
18. Sudarshan, Sushupta 1/99-5/99
19. Badr, Monica 1/99-5/99
20. Rivers, Evan 5/99-7/99, 5/02-8/02
21. Hammami, Samyah 5/99-12/99, 5/00-8/00, 1/01-5/01
22. Wachter, Kimberly 6/99-8/99 (REU - U. California, Santa Cruz)
23. Rockford, Jean 6/00-8/00 (REU – College of Charleston)
24. Best, Derek 6/00-8/00, 6/01-8/01 (REU – Michigan State)
25. Denig, Tobias 1/01-5/01
26. Mallin, Michael 1/01-5/02, 5/02-8/02
27. Waller, Chad 6/01-8/01 (REU – Mary Washington College)
28. Hartney, Mark 8/01-5/02
29. Hollowell, Rachel 1/02-5/02
30. Busbee, Brantley 1/02-5/02, 6/02-8/02 (REU – USC), 1/03-5/03
31. Woodfaulk, Courtney 5/02-7/02 (South Carolina State U.)
32. Stevenson, Daniel 5/03-8/03
33. Lee, Keira 5/03-7/03, 6/04-7/04 (South Carolina State U.)
34. Sealey, Sheldon 5/03-7/03, 6/04-7/04 (South Carolina State U.)

35. Elliot, Monica 6/03-7/03 (Claflin College)
36. Brennan, Julie 6/03-8/03 (REU – University of Pittsburgh)
37. Kabisatpathy, Saswat 9/03-5/04
38. Bechtold, Michael 1/04-5/05
39. Coleman, Paul 5/04-7/04 (Presbyterian College, SC)
40. Vignone, Kathryn 6/04-7/04 (REU - USC)
41. Kinard, Brian 9/05-5/08
42. Ray, Tyler 9/05-5/06, 8/06-5/07
43. Baird, Ian 6/06-5/07
44. Snipes, Jennifer 6/06-10/06
45. Raker, Kyle 8/06-5/07
46. Hankins, Patrick 8/06-5/09
47. Kumar, Nidhi 8/06-5/07
48. Agarwal, Nalini 6/07-5/09
49. Jenkins, Heather 8/07-12/07
50. Gothe, Oliver 8/07-5/08
51. Dale, Raleigh 9/07-12/07
52. Flake, Kelsey 5/19/08-8/15/08
53. Lyles, Venetia 6/08-8/08 (South Carolina State U.)
54. Mobley, Shanee 6/08-8/08 (South Carolina State U.)
55. Jones, Lemeisha 6/08-8/08 (South Carolina State U.)

High school students:

1. Hammami, Susan 6/94-7/94
2. Lebioda, Konrad 5/95-7/95
3. Pleune, Carrie 6/95-7/95, 6/96-8/96
4. Lee, Min 7/95-8/95
5. Pollard, Charlie 6/96-7/96, 6/97-8/97
6. Nanaie, Mahtab 6/97-8/97
7. Harden, Hydrick 6/97-8/97, 6/98-8/98
8. Balazs, Amanda 6/98-7/98
9. Hess, Rusty 6/98-8/98
10. Kustin, Mary Ellen 6/01-8/01
11. Warshauer-Baker, Gabriel 8/02-8/03
12. Pharr, Jasmeen 6/03-7/03 (Upward Bound)
13. Hankins, Patrick 10/03-7/04
14. Hearn, George 6/05-7/05

Illinois Graduate Theses Supervised:

2022 Matthew Thomas Gole, Ph.D., Chemistry. “Nanomaterial and Molecular Adsorption onto Complex Surfaces”

2022 Sean M. Meyer, Ph.D., Chemistry. “Expanding the Potential of Gold Nanorods: From Size Effects to Intrinsic Anisotropy”

2021 Jacob G. Turner, Ph.D., Chemistry. “Synthesis of Colloidal Inorganic Nanomaterials and their Interactions with Soft Matter”

2020 Yishu Zhang, M.S., Chemistry. “Nanoparticle Effects on Cell Migration”

2020 Xi Zhang, Ph.D., Chemistry. “Quantification of Molecular-Level Events at Nanoparticle-Biological Interfaces”

2020 Daniel M. Hofmann, Ph.D., Chemistry. “Synthesis and Transformation of Multimetallic Nanoparticles”

2020 Meng Wu, Ph.D., Chemistry. “Hard and Soft Coatings on Gold Nanoparticles at the Nano-Bio Interface”

2019 Huei-Huei Chang, Ph.D., Chemistry. “Investigating the Impact of Gold Nanoparticles on Pulmonary Cells: From 2D to 3D Culture Systems”

2018 Joshua G. Hinman, Ph.D., Chemistry. “Surface Engineering of Gold Nanorods”

2018 Jordan M. Dennison, Ph.D., Chemistry. “Chemistry and Measurement at Aqueous Nanoscale Interfaces”

2017 Wayne Lin, Ph.D., Chemistry. “The Surface Chemistry of Gold Nanoparticles: Towards Biological and Engineering Applications”

2016 Ji Li, M.S., Chemistry. “Gold Nanorod Surface Functionalization: Construction of Dynamic Surfaces and Heterogeneous Silica Coating”

2016 Nardine S. Abadeer, Ph.D., Chemistry. “Harnessing the Optical Properties of Gold Nanorods: Fluorescence Enhancement, Biosensing and Photothermal Therapy”

2016 Elissa M. Grzincic, Ph.D., Chemistry. “Investigating the Impact of Gold Nanoparticles on Cells: From Transcription to Behavior”

2016 Ariane M. Vartanian, Ph.D., Chemistry. “Nuclear Magnetic Resonance Studies of Complex Materials Systems: From Amplification to Anisotropy”

2015 Lisa M. Jacob, M.S., Chemistry. “Investigating Lipid Corona Formation onto Polystyrene Nanoparticles through Fluorescence Correlation Spectroscopy”

2015 Jonathan R. Eller, Ph.D., Chemistry. “Toward Spatial Control of Gold Nanorod Surface Functionalization”

2014 Jingyu Huang, Ph.D., Chemistry. “Photothermal Properties and Applications of Gold Nanorods”

2014 Bethany Grillo, M. S., Materials Science and Engineering. “Synthesis and Alignment of Gold Nanorods for Optical Applications”

2013 Jie An Yang, Ph.D., Chemistry. “Studies at the Nanoparticle-Biomolecular Interface and Beyond”

2013 Stefano P. Boulos, Ph.D., Chemistry. “Investigations of the Interaction of Gold Nanoparticles with Proteins, Cells, and Tissues”

2013 Sean T. Sivapalan, Ph.D., Materials Science and Engineering. “Structural and Plasmonic Properties of Gold Nanocrystals”

2012 Meredith Ragan Walker, M.S., Materials Science and Engineering. “Synthetic Routes to Silica-Coated Gold Nanorods”

2010 Patrick N. Sisco, Ph.D., Chemistry. “Gold Nanorods: Applications in Chemical Sensing, Biological Imaging, and Effects on Three-Dimensional Tissue Culture”

2010 Alaaldin M. Alkilany, Ph.D., Chemistry. “Molecular Engineering of Gold Nanorod Surfaces: Towards Improved Physical Properties and Understanding Nanoparticle-Cell Interactions”

South Carolina Graduate Theses Supervised (all in chemistry):

2008 John W. Stone, Ph.D. “Gold Nanorods: Their Properties and Applications as Biomarkers and Photothermal Therapeutic Agents”

2007 Simona E. Hunyadi, Ph.D. “Nanoengineered Materials: Synthesis, Design, Functionalization and Chemical Sensing Applications”

2005 Linfeng Gou, Ph.D. “Inorganic Nanoparticles: Synthetic Shape Control and Catalytic Properties”

2005 Jinxin Gao, Ph.D. “Directed Synthesis of Metal Nanoparticles by Dendrimers and Surfactants”

2004 Judith N. Mwamuka, M.S. “Control of Inorganic Crystal Growth for Magnetic and Biological Applications”

2003 K. Kenneth Caswell, Ph.D. “Synthesis and Reactivity of Inorganic Nanoparticles for Biological Applications”

2002 Sherine O. Obare, Ph.D. “Optical Sensing Strategies for the Development of Novel Chemical Probes”

2001 Latha Gearheart, Ph.D. “Inorganic Nanoparticles: Novel Synthesis and Biological Applications”

2000 Jessi Wildeson, M. S. “Sequence Specific DNA Bending in Oligonucleotides as Probed by Fluorescence Resonance Energy Transfer and Hydroxyl Radical Cleavage”

1998 Rajesh B. Nair, Ph.D. “Dipyridophenazine Complexes of Ruthenium(II) as Optical Sensors”

1998 Kelly Sooklal, Ph.D. “Control of Physical and Optical Properties of II-VI Quantum Dots”

1998 Chainey P. Singleton, Ph.D. “Fluorescence Resonance Energy Transfer and Hydroxyl Radical Cleavage as Probes of DNA Bending in Oligonucleotides”

1996 Bryan Wagner May, M. S. "Size Control of Quantum-Confined CdS"

1995 Wendy Drane Plessinger, M. S. "$[Ru(CN)_4dppz]^{2-}$: A Novel Ruthenium Complex for Optical Sensing"

Invited Talks (all university talks in Departments of Chemistry unless otherwise stated)

Upcoming: Arizona, SMU, Michigan State NanoMedicine, Centenary UK tour, Thinking Institute, Texas A&M, UIC

459. 2023 Carbon to Metal Coating Institute, Queen's University, Kingston, Ontario, Canada: "On the Surface of Things: Ligand Display and Dynamics on Gold Nanocrystal Surfaces"

458. 2023 University of Virginia, Charlottesville, VA: "On the Surface of Things: Ligand Display and Dynamics on Gold Nanocrystal Surfaces"

457. 2023 Spring 2023 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Colloidal Nanoparticle Synthesis and Assembly, Indianapolis, IN: "Surface Engineering of Gold Nanocrystals"

456. 2023 Spring 2023 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium in honor of Younan Xia, winner of the 2023 National Award for Creative Invention, Indianapolis, IN: "Youth and Age in the World of Nano"

455. 2022 2022 National Science Foundation Nanoscale Science and Engineering Grantees Conference, keynote address (prerecorded webinar with roundtable discussion via Zoom): "Nanotechnology for the Environment and Social Justice"

454. 2022 Northwestern University, ACS Inorganic Chemistry Award Symposium, Evanston, IL: "Inorganic Finally Goes Nano"

453. 2022 Department of Chemical and Materials Engineering, Concordia University, Montreal, Canada: "The Golden Frontiers of Nanotechnology"

452. 2022 Lehigh University, Bethlehem, PA: "Gold Nanocrystals: Physics, Chemistry, Biology, Ecology"

451. 2022 Fall 2022 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium on Advances in Single-Particle Imaging: From Single Molecules to Nanomaterials, Chicago, IL: "Quantitative Measurement of Atoms and Electrons at Single Gold Nanorods"

450. 2022 Queen's University, Kingston, Ontario, Canada (via Zoom): "Gold Nanocrystals: Physics, Chemistry, Biology, Ecology"

449. 2022 Gordon Research Conference on Plasmonics and Nanophotonics, Grand Summit Hotel at Sunday River, Newry, ME: "Advances in Plasmonic Nanoparticle Synthesis and Applications"

448. 2022 Thinking Institute, University of Vigo, Spain (via Zoom): "The Latest Adventures with Gold Nanocrystals: Looking Backward and Thinking Ahead"

447. 2022 Wuhan University of Technology, State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan, China (via Zoom): "Synthesis, Properties and Surface Chemistry of Gold Nanocrystals"

446. 2022 University of Wisconsin, Analytical Chemistry seminar series, Madison, WI: "The Golden Frontiers of Nanotechnology"

445. 2022 Spring 2022 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium on Multiscale Chemistry and Dynamics at Surfaces and

Interfaces, San Diego, CA: “Ligand Dynamics on Colloidal Gold Surfaces: From NMR to Stretchable Composites”

444. 2022 Spring 2022 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Frontiers and Challenges in Nanoparticle-Mediated Chemical Transformations, San Diego, CA: “Mixing It Up in Colloidal Gold Nanocrystals: Some Minor Catalytic Insights”

443. 2022 Colorado School of Mines, Golden, CO: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

442. 2022 Department of Chemistry and Biochemistry, Swarthmore College, Swarthmore, PA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

441. 2022 Miniature Brain Machinery lecture series, Beckman Institute, University of Illinois, Urbana, IL: “Nanoparticles (Potentially) On the Brain: Towards Detection or Therapy of Neurodegenerative Diseases with Gold Nanocrystals”

440. 2022 Frontiers of Materials Research seminar series, University of Southern California, Los Angeles, CA: “A Golden Intersection of Chemistry, Physics, Biology, Materials Science, and Nanotechnology”

439. 2021 Pacifichem (The International Congress of Pacific Basic Societies) 2021, Symposium on Frontiers of Plasmon Enhanced Spectroscopy II, Honolulu, HI (via Zoom): “SERS at the End of Gold Nanorods”

438. 2021 Pacifichem (The International Congress of Pacific Basic Societies) 2021, Symposium on Understanding and Designing Safe Nano-Bio Interfaces for Materials, Medicine, and the Environment, Honolulu, HI (via Zoom): “Who Deforms Who(m)? Studies of Alpha Synuclein Binding to Rigid Nanoscale Vesicle Mimics”

437. 2021 Pacifichem (The International Congress of Pacific Basic Societies) 2021, Symposium on Experimental and Computational Analysis of the Nano-Bio Interface for Sustainable Nanotechnology, Honolulu, HI (via Zoom): “What Do Molecules Really Look Like on Gold Nanocrystal Surfaces?”

436. 2021 Department of Physics, Auburn University, Auburn, AL (via Zoom): “The Physical Chemistry of Gold Nanocrystals”

435. 2021 11th Annual Nano Ontario Conference & Exhibition, Keynote Lecture, Toronto, Canada, (via Gather): “Golden Nanotechnology: Intersections with Physics, Chemistry, Biology, Ecology”

434. 2021 IEEE Research and Applications of Photonics in Defense (RAPID) Conference, Symposium on Hybrid Organic-Inorganic Materials and Devices (via Zoom): “Stretchy and Aligned Colloidal Plasmonics”

433. 2021 Future of Biotechnology Workshop, NSF MPS Advisory Committee, National Science Foundation, Alexandria, VA (via Zoom): “The Nanotech-Biotech-Human Interface”

432. 2021 Plenary Lecture, 95th ACS Colloid and Surface Science Symposium, Houston, TX (via Zoom): “Surfing the Surface of Gold Nanocrystals”

431. 2021 School of Chemistry and Chemical Engineering, Nanjing University, China (via Voov): “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

430. 2021 Western Washington University, Bellingham, WA (via Zoom): “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

429. 2021 Materials Research Society Spring Meeting, Symposium EL06 on Molecular and Colloidal Plasmonics: Synthesis and Applications (April 2021, via Zoom): “Plasmonic Gold Nanorods: Tuning Absolute Dimensions and Properties”

428. 2021 Spring National Meeting of the American Chemical Society (April 2021, via Zoom), Symposium in honor of Teri Odom, 2020 winner of the ACS Award in Surface Chemistry: “What are Ligands Like on Gold Nanocrystals?”

427. 2021 Frost Institute of Chemistry and Molecular Science Future of Chemistry lecture, University of Miami (via Zoom): “Chemistry and Nanotechnology: A Golden Road”

426. 2021 Spring National Meeting of the American Chemical Society (April 2021, via Zoom), Symposium in honor of Bruce Bursten, 2020 winner of the ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: “Heavy Metal Inspiration”

425. 2021 Spring National Meeting of the American Chemical Society (April 2021, via Zoom), Award Address, 2020 ACS Award in Inorganic Chemistry: “Inorganic Chemistry on the Nanoscale”

424. 2021 University of Illinois at Urbana-Champaign Archives, Women in Science lecture series (via Zoom): “A Golden Time for Nanotechnology”

423. 2021 University of Utah, Salt Lake City, UT (via Zoom): “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

422. 2021 Brandeis University, Waltham, MA (via Zoom): “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

421. 2020 SmartMat Academic Seminar, Tianjin University, China (via Voov): “A Golden Time for Nanotechnology”

420. 2020 International Institute of Nanotechnology, Northwestern University, Frontiers in Nanotechnology Virtual Mini-Conference (via Zoom; 650 registered attendees): “Golden Opportunities at the Nano-Bio Interface”

419. 2020 PittCon, Symposium in honor of Milan Mrksich, Chicago, IL: “Quantification of Molecular Ligands on Gold Nanoparticles by Two Different Methods”

418. 2020 IV International Symposium on Nanoparticles/Nanomaterials and Applications (ISN2A), Caparica, Portugal: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

417. 2020 BP Institute, University of Cambridge Research Park, Cambridge, UK: “Nanotechnology, Biology, and Sustainability: Intersections with Gold Nanocrystals”

416. 2020 Athena SWAN lecture, University of Cambridge, Cambridge, UK: “Small Things Make Big Differences”

415. 2020 University of Cambridge, BP Sustainability Lecture, Cambridge, UK: “The Golden Road: Synthesis and Surface Chemistry of Gold Nanocrystals”

414. 2019 Materials Research Society Fall Meeting, Boston, MA: “A Golden Time for Nanotechnology”

413. 2019 Georgia State University, Atlanta, GA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

412. 2019 Walton Lecture in Inorganic Chemistry, Purdue University, West Lafayette, IN: “Golden Opportunities: Gold Nanoparticles for Biomedical Applications”

411. 2019 University of Minnesota – Duluth (student-invited), Duluth, MN: “Optimizing the Graduate School Experience”

410. 2019 University of Minnesota – Duluth (student-invited), Duluth, MN: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

409. 2019 Linus Pauling Medal Award Symposium, Oregon State University, Corvallis, OR: “Chemical Bonding at Nanoparticle Surfaces”

408. 2019 Department of Agricultural and Biological Engineering, UIUC, Urbana, IL: “Biological Applications and Environmental Implications of Colloidal Nanomaterials”

407. 2019 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium on Surface Chemistry & Structure in Ligand Protected Nanoparticles, San Diego, CA: “How Many Organic Molecules Are There on Gold Nanocrystals? Results from Both Imaging and NMR”

406. 2019 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Symposium on Exploration of the Nano-Bio Interface with Analytical Tools, San Diego, CA: “Don’t Forget the Lipids: Biomolecular Coronas on Nanoparticles”

405. 2019 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium in honor of Delia Milliron, winner of the Inorganic Nanoscience Award, San Diego, CA: “Details of Ligands on Nanocrystal Surfaces”

404. 2019 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Symposium on Nanotechnology & Single Cell Analysis in Biology and Medicine, San Diego, CA: “Cellular Adaptability to Nanoparticle Stress”

403. 2019 ICBIC-19, International Conference on Bioinorganic Chemistry, Interlaken, Switzerland: “Cascading Biological Effects and Impacts from Gold Nanocrystals”

402. 2019 Midwest Retreat for Diversity in Chemistry, Luther College, Decorah, IA: “A Few Notes on Pathways, Diversity, and Making the Most of Your Chemistry Career”

401. 2019 International Conference on Enhanced Spectroscopies, London, Ontario, Canada: “Anisotropic Chemistry on Gold Nanorods: Cool Materials for Hot Measurements?”

400. 2019 Gordon Research Conference on Environmental Nanotechnology, Jordan Hotel at Sunday River, Newry, ME: “Effects of Gold Nanoparticle Surface Chemistry: Biomolecular to Ecological Impacts”

399. 2019 Mid-Atlantic Regional Meeting, American Chemical Society Maryland Section, Remsen Award Symposium, Baltimore, MD: “On the Surface of Things: Molecular Display on Gold Nanocrystals”

398. 2019 Beckman Institute for Advanced Science and Technology, Molecular Design seminar series, UIUC, Urbana, IL: “Synthesis, Surface Chemistry and Applications of Gold Nanocrystals”

397. 2019 University of California, Berkeley, Seaborg Lecture, Berkeley, CA: “The Golden Light: Plasmonic Gold Nanocrystal Interactions with Biomolecules, Cells, and Living Communities”

396. 2019 University of California, Berkeley, Seaborg Lecture, Berkeley, CA: “The Golden Road: Synthesis and Surface Chemistry of Gold Nanocrystals”

395. 2019 Cancer Center at Illinois, Beckman Institute, UIUC, Urbana, IL: “Golden Nanotechnology for Cancer Diagnostics and Therapy”

394. 2019 Foster Colloquium, University at Buffalo, Buffalo, NY: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

393. 2019 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Understanding the Inorganic-Organic Interface in Colloidal Nanomaterials, Orlando, FL: “Ligand Density and Conformation on Gold Nanoparticles Inferred by NMR”

392. 2019 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, ACS Award in Colloid Chemistry: Symposium in Honor of Naomi Halas, Orlando, FL: “Next-Generation Anisotropic and Optical Materials: Imaging”

391. 2019 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Francis P. Garvan - John M. Olin Medal Symposium in Honor of Lisa McElwee-White, Orlando, FL: “Looking for Inspiration in Colloidal Solutions from the Ages: Synthesis of Plasmonic Nanomaterials”

390. 2019 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Colloidal Nanoparticle Synthesis & Assembly, Orlando, FL: “Organizing Nanorods End to End”

389. 2019 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Symposium on Interdisciplinary Chemistry for New Frontiers in Biology & Medicine, Orlando, FL: “Nano Plus Bacteria: How Do They Connect?”

388. 2019 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Surface Chemistry of Colloidal Nanocrystals, Orlando, FL: “Porous Shells on Gold Nanorods”

387. 2019 Haines Lecture, University of South Dakota, Vermillion, SD: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

386. 2019 Illinois State University, Bloomington, IL: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

385. 2019 Leibniz Institute for New Materials, Saarbrucken, Germany: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

384. 2019 NanoSafety Workshop, Materials Research Laboratory, University of Illinois, Urbana, IL: “Nanoparticles and the Environment: The Good, The Bad, and The Ugly”

383. 2019 Ohio State University, Columbus, OH: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

382. 2019 University of Washington, Chemistry Colloquium (student-invited), Seattle, WA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

381. 2019 University of Central Florida, Orlando, FL: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

380. 2018 End2Cancer (Emerging Nanotechnology & Drug Delivery Applications for Cancer) Symposium, University of Oklahoma Health Sciences Center, Oklahoma City, OK: “Golden Opportunities: Gold Nanocrystals for Biomedical Applications”

379. 2018 Materials Research Society Fall 2018 International Meeting, Boston, MA: “Controlling Absolute Dimensions of Gold Nanorods”

378. 2018 Pre-SAAC (Scientific and Academic Advisory Committee) Symposium on Recent Progress in Chemistry and Advanced Materials, Weizmann Institute of Science, Rehovot, Israel: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

377. 2018 Ted Brown 90th Birthday Celebration and Research Symposium on Confronting the Challenges of Climate Change, Beckman Institute of Advanced Science and Technology, UIUC, Urbana, IL: “Can Nanotechnology Save the World?”

376. 2018 Webinar with EPA Office of Chemical Safety and Pollution Prevention, Office of Pesticide Programs, Antimicrobials Division, Arlington VA: “Inorganic Nanoparticles: The Good, The Bad, and The Ugly for Biological Applications”

375. 2018 University of Cincinnati, Cincinnati, OH: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

374. 2018 National Meeting of the American Chemical Society, Multidisciplinary Program Planning Group, Symposium on New Advances in 3D Nanoprinting, Boston, MA: “Gold Nanorods and Cells in 3D”

373. 2018 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Symposium on Molecular Interactions of Synthetic Nanoparticles with Membranes, Boston, MA: “Making Gold Nanoparticles Look Like Lipid Vesicles and Biological Impacts Thereof”

372. 2018 National Meeting of the American Chemical Society, Multidisciplinary Program Planning Group, Symposium on Nanophotonics, Boston, MA: “Mini Gold Nanorods and Their Plasmonic Properties”

371. 2018 National Meeting of the American Chemical Society, Division of Chemical Toxicology, Symposium on Nanomaterials in Drug Delivery: Efficacy and Toxicity, Boston, MA: “What Exactly is Toxic about Colloidal Nanoparticle Formulations? Results from the Molecular Level to the Cellular Level”

370. 2018 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Symposium on Nanotechnology and Single Cell Analysis in Biology and Medicine: The Next Frontier, Boston, MA: “Big Data from Little Objects: Omics Results from Nanoparticle/Cell Systems”

369. 2018 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium on Women in Nanotechnology, Boston, MA: “Nanoscale Colors: The Art and Science of Colloidal Gold”

368. 2018 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Understanding Nano-Bio Interactions, Boston, MA: “Initial Surface Chemistry of Nanoparticles has Cascading Impacts on Biological Systems”

367. 2018 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Heating with Colloidal Nanoparticles: Physical Mechanisms and Applications in the Life Sciences, Boston, MA: “LeChatelier on the Nanoscale”

366. 2018 ACS Publications Symposium on Innovations in Materials Science, Shanghai Tech University, Shanghai, China: “The Nano/Bio/Eco Interface”

365. 2018 GOLD 2018, Paris, France: “Photothermal Properties of Gold Nanorods: LeChatelier on the Nanoscale”

364. 2018 Gordon Research Conference on Noble Metal Nanoparticles, Mount Holyoke College, South Hadley, MA: “Latitude and Longitude: Interfacial Chemistry on Gold Nanorods”

363. 2018 Electrochemical Society Meeting, Seattle, WA: “Surfactant and Halide Control in Gold Nanorod Synthesis”

362. 2018 University of Calgary, Calgary, Canada: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

361. 2018 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium on Understanding the Complexity of the Nano/Bio Interface with Experiments and Computations, New Orleans, LA: “Proteins on Particles”

360. 2018 University of California, San Diego, Department of Nanoengineering, San Diego, CA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

359. 2018 OneChemistry Symposium on Designing Environmentally Sustainable Nanomaterials, Johns Hopkins University, Baltimore, MD: “Gold Nanoparticle Surface Chemistry for Mechanistic Insights into Biocompatibility and Sustainability”

358. 2017 Waterloo Institute of Nanotechnology, University of Waterloo, Waterloo, Ontario, Canada: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

357. 2017 2017 Frontiers of Inorganic and Organometallic Chemistry, Keynote Lecture, ACS NY Local Section, New York, NY: “Growth, Form and Reactivity of Anisotropic Gold Nanostructures”

356. 2017 61st Welch Conference, Houston, TX: “Growth, Form and Reactivity of Anisotropic Gold Nanostructures”

355. 2017 Montana State University, Bozeman, MT: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

354. 2017 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Photoresponsive Nanoparticles: From Fundamentals of Excitation to Applications, Washington, DC: “Plasmonic Fields and Heat from Gold Nanorods”

353. 2017 National Meeting of the American Chemical Society, Committee on Science, Symposium on Transformative Research & Excellence in Education Awards, Washington, DC: “Colors and Shapes: Science and Education at the Interface of Inorganic Chemistry and Nanotechnology”

352. 2017 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Colloidal Metal & Semiconductor Nanostructures, Washington, DC: “Chemistry at the Ends of Gold Nanorods”

351. 2017 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium in honor of Shana Kelley, winner of the ACS Inorganic Nanoscience Award, Washington, DC: “Tuning Protein Display with Nanoparticle Surface Chemistry”

350. 2017 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Noble Metal Nanoparticles for Bioimaging, Sensing & Actuation, Washington, DC: “How Much Variability Do We Have in Nanoparticle Synthesis?”

349. 2017 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Symposium on Nanotechnology & Single Cell Analysis in Biology & Medicine, Washington, DC: “Changing Cell Behavior with Colloidal Gold Nanoparticles”

348. 2017 International Conference on Advances in Functional Materials, Keynote Lecture, Los Angeles, CA: “Going for the Gold”

347. 2017 7th International Colloids Conference, Sitges, Barcelona, Spain: “The Growth, Surface Chemistry, and Biological Properties of Gold Nanorods”

346. 2017 CECAM Workshop: Tackling Complexity of the Nano/Bio Interface – Computational and Experimental Approaches, Bremen, Germany: “Seed-Mediated Growth of Gold Nanocrystals and Biomolecular Display on Their Surfaces”

345. 2017 Vanderbilt University, Department of Chemical and Biomolecular Engineering, Nashville, TN: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

344. 2017 Phillips Lecture, University of Pittsburgh, Pittsburgh, PA: “Growth and Surface Chemistry of Gold Nanorods”

343. 2017 Phillips Lecture, University of Pittsburgh, Pittsburgh, PA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

342. 2017 Materials Research Society Spring Meeting, Symposium on Colloidal Plasmonics: Synthesis and Applications, Phoenix, AZ: “Surface Chemistry of Gold Nanorods”

341. 2017 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium on Frontiers in Heavy Element Electronic Structure, San Francisco, CA: “Give It Some Thought: Inorganic Chemistry and Nanotechnology”

340. 2017 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium on Chemistry is Central to Applied Materials, San Francisco, CA: “Interactions at the Nano-Bio Interface”

339. 2017 University of California Chemistry Symposium, Lake Arrowhead, CA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

338. 2017 University of Maryland, Baltimore County, Baltimore, MD: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

337. 2017 CNST Seminar on Nanobiomedicine, NIST, Gaithersburg, MD: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

336. 2017 PittCon 2017, Symposium on Analytical Advances in Safe and Sustainable Nanotechnology, Chicago, IL: “Biomolecular Coronas on Nanoparticles”

335. 2017 Mathers Lecture, Indiana University, Bloomington, IN: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

334. 2017 University of California, Los Angeles, Los Angeles, CA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

333. 2017 University of Colorado, Boulder, CO: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

332. 2016 University of Jordan, Faculty of Pharmacy, Amman, Jordan: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

331. 2016 King Abdullah University of Science and Technology, Thuwal, Saudi Arabia: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

330. 2016 Materials Research Society Fall Meeting, Symposium BM2, Boston, MA: “Surface Engineering of Gold Nanorods for Biology”

329. 2016 University of Chicago, Chicago, IL: “Surface (Bio)Engineering of Gold Nanorods”

328. 2016 MRL Fall Biology Conference 2016, Urbana, IL: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

327. 2016 University of Wisconsin-Eau Claire, Materials Science Program, Eau Claire, WI: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

326. 2016 University of Pennsylvania, Nano-Bio Interface Center, Philadelphia, PA: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

325. 2016 Augsburg College, Minneapolis, MN: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

324. 2016 University of Connecticut, Storrs, CT: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

323. 2016 Gomberg Lecture, University of Michigan, Ann Arbor, MI: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

322. 2016 School of Molecular Sciences, Arizona State University, Tempe, AZ: “Surface Bioengineering of Gold Nanorods”

321. 2016 Hovey Lecture, Wabash College, Crawfordsville, IN: “Surface Chemistry of Gold Nanocrystals: Understanding the Nano-Bio Interface”

320. 2016 Hovey Lecture, Wabash College, Crawfordsville, IN: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

319. 2016 Hope College, Holland, MI: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

318. 2016 Calvin College, Grand Rapids, MI: “Gold Nanocrystals: Physics, Chemistry, Biology, Ecology”

317. 2016 Plenary Lecture, NanoKorea 2016, Seoul, South Korea: “A Golden Age for Colloidal Nanotechnology”

316. 2016 Faraday Discussion on Nanoparticles with Morphological and Functional Anisotropy, Glasgow, Scotland, UK: “Introductory Lecture: Seed-Mediated Growth of Gold Nanorods: Towards Nanorod Matryoshkas”

315. 2016 McGavock Lectures, Trinity University, San Antonio, TX: “Surface Chemistry of Gold Nanorods”

314. 2016 McGavock Lectures, Trinity University, San Antonio, TX: “Gold Nanocrystals: Physics, Chemistry, Biology, and Ecology”

313. 2016 6th ZING Conference on Nanobiomaterials, Varna, Bulgaria: “The Nanobiotechnology of Gold”

312. 2016 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Colloids for Medical Imaging, San Diego, CA: “Imaging Gold Nanoparticles In and Around Cells”

311. 2016 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium in Honor of Mostafa El-Sayed, San Diego, CA: “Gold Nanocrystals: Past, Present and Future”

310. 2016 National Meeting of the American Chemical Society, Division of Chemical Education, Symposium on the Cottrell Scholar Collaborative, San Diego, CA: “Integrating Nanomaterials In and Across the Undergraduate Curriculum”

309. 2016 University of Notre Dame, Notre Dame, IN: “Gold Nanocrystals: Physics, Chemistry, Biology, and Ecology”

308. 2015 PacifiChem 2015, Symposium on Organic, Inorganic, and Hybrid Nanoparticles: Synthesis, Characterization, and Applications, Honolulu, HI: “Biomolecules on Gold Nanocrystals: Form and Function”

307. 2015 PacifiChem 2015, Symposium on Plasmonic Materials for Chemical Analysis, Honolulu, HI: “Surface-Enhanced Raman Scattering Tags and SHINERS”

306. 2015 PacifiChem 2015, Symposium on Frontiers of Plasmon Enhanced Spectroscopy, Honolulu, HI: “Plasmon-Enhanced Properties of Molecules Near and Far From Gold Nanorods”

305. 2015 Northwestern University, Evanston, IL: “Gold Nanocrystals: Physics, Chemistry, Biology, and Ecology”

304. 2015 Baylor University, Waco, TX: “Gold Nanocrystals: Physics, Chemistry, Biology, and Ecology”

303. 2015 Reed College, Portland, OR: “Gold Nanocrystals: Physics, Chemistry, Biology, and Ecology”

302. 2015 Lewis & Clark College, Portland, OR: “Gold Nanocrystals: Physics, Chemistry, Biology, and Ecology”

301. 2015 Ripon College, Ripon, WI: “Molecular Engineering at Gold Nanoparticle Surfaces”

300. 2015 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Langmuir Lecture, Boston, MA: “A Golden Age of Colloids and Surfaces”

299. 2015 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium for the 30th Anniversary of Langmuir…Looking Back and Looking Forward, Boston, MA: “Longing for Langmuir”

298. 2015 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium on Protein-Nanomaterial Interfaces and Protein Coronas: Physical Properties, Biocompatibility, and Biological Impact, Boston, MA: “Nanoparticle-Lipid Coronas”

297. 2015 2015 NanoBiotechnology Summer Institute, UIUC, Urbana, IL: “A Golden Age for Colloidal Nanoparticles”

296. 2015 Gold 2015 (7th International Gold Conference), Plenary Lecture, Cardiff, Wales, UK: “A Golden Age for Colloidal Nanoparticles”

295. 2015 Research Corporation for Science Advancement, Cottrell Scholar Conference, TREE Award Presentation, Tucson, AZ: “My 15+15 Minutes of Fame, or, Gold Nanoparticles: Connecting Science, Society and Art”

294. 2015 University of New Mexico, Albuquerque, NM: “Surface Engineering of Gold Nanocrystals”

293. 2015 ASME 2015 4th Global Conference on Nanoengineering for Medicine and Biology, Keynote Lecture, Minneapolis MN: “The Environmental Impact of Engineered Inorganic Nanocrystals: A Chemical Perspective”

292. 2015 Materials Research Society Spring Meeting, Symposium PP: Gold-Based Materials and Applications, San Francisco, CA: “Chemical Influences of Gold Nanostructures”

291. 2015 Materials Research Society Spring Meeting, Symposium GG: Foundations of Bio/Nano Interfaces – Synthesis, Modeling, Design Principles and Applications, San Francisco, CA: “The Chemical Nature of the Gold Nanoparticle-Biomolecule Interface”

290. 2015 Google[x], Mountain View, CA: “Heat and Light from Plasmonic Nanoparticles and Their Biochemical Implications”

289. 2015 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium in honor of Jacqueline K. Barton, Priestley Medalist, Denver, CO: “Controlling Molecular Display and Cell Behavior with Nanocrystals”

288. 2015 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium on Probing Nano-Plasmonic Phenomena at the Single Molecule, Single Electron, & Single Photon Level, Denver, CO: “Shape and Surface Control of Plasmonic Particles”

287. 2015 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Complex Nanosurfaces, Denver, CO: “Functionalization of Gold Nanorods”

286. 2015 Center for the Environmental Implications of Nanotechnology, Workshop on Implementing Environmentally-Relevant Exposures for Improved Interpretation of Laboratory Toxicology Studies of Manufactured and Engineered Nanomaterials (M&ENMs), Los Angeles, CA: “Measurement and Modeling Challenges for Inorganic Engineered Nanomaterials”

285. 2015 Highlands in Chemistry Seminar Series, Virginia Tech, Blacksburg, VA: “Molecular Engineering of Gold Nanorod Surfaces”

284. 2015 New Horizons Seminar Series, Institute for Critical Technology and Applied Science/Sustainable Nanotechnology Group, Virginia Tech, Blacksburg, VA: “Gold Nanocrystals: Applications in Biology and Environmental Impact”

283. 2014 Materials Research Society Fall Meeting, Symposium C: Medical Applications of Noble Metal Nanoparticles, Boston, MA: “Gold Nanoparticles In, On and Around Cells”

282. 2014 North Carolina State University, Department of Physics, Raleigh, NC: “Light and Heat from Plasmonic Nanoparticles and Their Chemical Implications”

281. 2014 Pennsylvania State University, State College, PA: “The Chemistry, Physics, and Biology of Gold Nanocrystals”

280. 2014 International Conference on Nanoscience and Environment, University of Paris Diderot, Paris, France: “Gold Nanorods: Applications in Biology and Environmental Impact”

279. 2014 Sustainable Nanotechnology Organization, Workshop on NanoEHS: Fundamental Science Needs, Boston, MA: “Nanomaterials are Not Just Small: Fundamentals of Size Dependent Behavior/Properties”

278. 2014 Air Force Office of Scientific Research, Organic Materials Program Review, Arlington, VA: “Optical Limiting Based on Gold Nanoparticles”

277. 2014 University of Illinois at Chicago, Chicago, IL: “Interfacial Chemistry at Nanoparticle Surfaces”

276. 2014 Georgia Institute of Technology, School of Materials Science and Engineering, Atlanta, GA: “Interfacial Chemistry at Nanoparticle Surfaces”

275. 2014 Oklahoma State University, Stillwater, OK: “Molecular Engineering of Gold Nanorod Surfaces”

274. 2014 University of South Carolina, Columbia, SC: “Molecular Engineering of Gold Nanorod Surfaces: From Physics to Ecology”

273. 2014 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Control, Characterization, and Impact of Nanocrystal Surface Chemistry, San Francisco, CA: “Looking at Biomolecules on Gold Nanocrystal Surfaces”

272. 2014 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium in Honor of Song Jin, San Francisco, CA: “The Song Remains the Same”

271. 2014 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium on the Chemistry of Inorganic Nanocrystals and Clusters: Structural Characterization and Mechanisms of Growth, San Francisco, CA: “Growing Up Gold”

270. 2014 Gordon Research Seminar on Noble Metal Nanoparticles, Keynote Lecture, South Hadley, MA: “Adventures in Nanoland”

269. 2014 University of California – Merced, Merced, CA: “Plasmonic Properties of Gold Nanorods”

268. 2014 University of North Carolina – Charlotte, Charlotte, NC: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

267. 2014 University of South Alabama, Mobile, AL: “Biological Applications and Implications of Gold Nanoparticles”

266. 2014 BASF McIntosh Chemical Plant, McIntosh, AL: “An Introduction to Gold Nanotechnology”

265. 2014 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium in honor of Sara Skrabalak, 2014 ACS Award in Pure Chemistry, Dallas, TX: "Searching for Algorithms of Reaction Anisotropy"

264. 2014 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium in honor of Paul Alivisatos, 2014 ACS Award in the Chemistry of Materials, Dallas, TX: "Inspirational Nanocrystals"

263. 2014 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Interactions of Nanoparticles with Cells, Dallas, TX: "Interactions of Gold Nanoparticles with Cells"

262. 2014 New York University, New York, NY: "Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating"

261. 2014 Inter-American Photochemical Society Winter Meeting, Lido Beach, FL: "Multifunctional Plasmonic Nanomaterials for Biology"

260. 2013 NSF-EPA-USDA Nanoscale Science and Engineering Grantees Conference, Arlington, VA: "Going for the Gold in the Environment"

259. 2013 College of William and Mary, Williamsburg, VA: "Biological Applications and Implications of Gold Nanoparticles"

258. 2013 Southeastern Regional Meeting of the American Chemical Society, Symposium in Honor of Mostafa El-Sayed's 80th Birthday, Atlanta, GA: "Mostafa and the Golden Age"

257. 2013 Carle Cancer Research Update Meeting, Mills Breast Cancer Center, Carle Clinic, Urbana IL: "Gold Nanorods: Potential Diagnostics, Imaging Agents, and Therapeutics for Cancer"

256. 2013 Cornell University, Ithaca, NY: "Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating"

255. 2013 University of Nebraska, Lincoln, NE: "Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating"

254. 2013 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Synthesis, Fabrication, Assembly and Applications, Indianapolis, IN: "Growth and Form of Anisotropic Colloidal Gold Nanocrystals"

253. 2013 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Conjugation of Biomolecules to Interfaces and Nanomaterials, Indianapolis, IN: "Bioconjugation of Lipids and Proteins to Gold Nanocrystals"

252. 2013 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Multifunctional Nanoscience: Fundamentals and Applications, Indianapolis, IN: "Multifunctional Plasmonic Nanorods"

251. 2013 Washington University in St. Louis, Department of Mechanical Engineering and Materials Science, St. Louis, MO: "Biological Applications and Implications of Gold Nanoparticles"

250. 2013 Gordon Research Conference on Photochemistry, Stonehill College, Easton, MA: "Heat and Light from Plasmonic Nanomaterials: The Intersection with Biology"

249. 2013 Argonne National Laboratory, NanoScience and Technology Division, Argonne, IL: "Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating"

248. 2013 Air Force Research Laboratory, Materials and Manufacturing Directorate, Wright-Patterson Air Force Base, Dayton, OH: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

247. 2013 Rice University, Houston, TX: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

246. 2013 University of Missouri – St. Louis, St. Louis, MO: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

245. 2013 National Meeting of the American Chemical Society, Symposium in Honor of Younan Xia, winner of the 2013 ACS Award in the Chemistry of Materials, New Orleans, LA: “Gold Nanorods: Their Ins and Outs”

244. 2013 Materials Research Society Spring Meeting, Symposium HH, Materials for High Performance Photonics II, San Francisco, CA: “Distance Dependence of Plasmon-Molecule Interactions”

243. 2013 Boston University, Boston, MA: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

242. 2012 Stevens Institute of Technology, Nanotechnology Graduate Program, Hoboken, NJ: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

241. 2012 University of New Orleans, New Orleans, LA: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

240. 2012 University of Alabama, Tuscaloosa, AL: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

239. 2012 Rutgers University, New Brunswick, NJ: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

238. 2012 University of California – Santa Barbara, Professional Development Series, California Nanosystems Institute, Santa Barbara, CA: “A Need for More Mentoring”

237. 2012 University of California – Santa Barbara, California Nanosystems Institute, Santa Barbara, CA: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

236. 2012 University of Arkansas, Fayetteville, AR: “Surface Chemistry of Gold Nanorods: Wrapping, Stitching, Exchanging and Coating”

235. 2012 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Inorganic Surfaces and Colloids: Environment, Health and Toxicity, Philadelphia, PA: “Molecular Display on Nanoparticle Surfaces”

234. 2012 University of Paris XIII, Paris, France: “Surface Bioengineering of Gold Nanorods”

233. 2012 University of Paris VI, Paris, France: “Surface (Bio)Engineering of Gold Nanorods”

232. 2012 Gordon Research Conference on Plasmonics, Waterville, ME: “Gold Nanoparticles In, On, and At Cells”

231. 2012 Argonne National Laboratory, 2012 User's Meeting, Workshop on Probing the Interface Between Biological Systems and the Environment, Argonne, IL: "Noble Metal Nanoparticles: A Platform for Studying Nano-Bio-Eco Interfaces at the Molecular Level"

230. 2012 10th Annual CNST Workshop, Urbana, IL: "Gold Nanoparticles In, On, and Around Cells"

229. 2012 Carleton College, Northfield, MN: "Surface Bioengineering of Gold Nanorods"

228. 2012 St. Olaf College, Northfield, MN: "Surface Bioengineering of Gold Nanorods"

227. 2012 California Institute of Technology, BartonFest 2012, Pasadena, CA: "The Nano-Bio Interface"

226. 2012 Laurentian University, Department of Chemical Engineering, Sudbury, Ontario, Canada: "Three Short Stories About Gold Nanorods"

225. 2012 Indiana University-Purdue University at Indianapolis, Indianapolis, IN: "Three Short Stories About Gold Nanorods"

224. 2012 University of Florida, Gainesville, FL: "Three Short Stories About Gold Nanorods"

223. 2011 Zing Conference on Coordination Chemistry, Xcaret, Mexico: "Coordination Chemistry at Nanoparticle Surfaces"

222. 2011 Ohio State University, Columbus, OH: "Three Short Stories About Gold Nanorods"

221. 2011 Northwest University, Xi'an, China: "Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods"

220. 2011 Nanjing University, Nanjing, China: "Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods"

219. 2011 Boston College, Chestnut Hill, MA: "Three Short Stories About Gold Nanorods"

218. 2011 Midwest Regional American Chemical Society Meeting, Sigma-Aldrich Symposium on Nanomaterials, St. Louis, MO: "Wrapping Up Nanorods"

217. 2011 Southern Illinois University, Carbondale, IL: "Three Short Stories About Gold Nanorods"

216. 2011 Lucy W. Pickett Lecturer, Mount Holyoke College, South Hadley, MA: "Thinking Big About Small Things: The Promise of Nanotechnology for Chemistry, Biology and Medicine"

215. 2011 West Virginia University, Morgantown, WV: "Three Short Stories About Gold Nanorods"

214. 2011 University of Central Florida, Orlando, FL: "Three Short Stories About Gold Nanorods"

213. 2011 University of Miami, Coral Gables, FL: "Three Short Stories About Gold Nanorods"

212. 2011 American Chemical Society National Meeting, Symposium on Functional Nanoparticles for Bioanalysis and Bioelectronic Devices, Division of Colloid and Surface Chemistry, Denver, CO: "Molecular Engineering of Cell-Nanoparticle Interactions"

211. 2011 Northwest Regional American Chemical Society Meeting, Portland, OR: "Gold and Silver Nanorods: Form and Function"

210. 2011 International Workshop on Nanoplasmonics for Energy and the Environment, Sanxenxo, Spain: “Plasmons in the Environment”

209. 2011 European Materials Research Society meeting (eMRS), Symposium O: Bionanomaterials for Imaging, Sensing and Actuating, Nice, France: “Interfacial Biochemistry of Gold Nanorods”

208. 2011 Auburn University, Auburn, AL: “Three Short Stories About Gold Nanorods”

207. 2011 Iowa State University, Ames, IA: “Three Short Stories About Gold Nanorods”

206. 2011 Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL: “Colloidal Gold and Silver Nanoparticles: Fabrication, Shape Control, and Surface Functionalization”

205. 2011 Case Western Reserve University, Cleveland, OH: “Three Short Stories About Gold Nanorods”

204. 2011 Department of Animal Sciences, University of Illinois at Urbana-Champaign, Urbana, IL: “Three Short Stories About Gold Nanorods”

203. 2011 University of Alberta, Edmonton, Canada: “Three Short Stories About Gold Nanorods”

202. 2010 PacifiChem 2010, Advances in Nanomedicine Symposium, Honolulu, HI: “Approaches to Understanding and Controlling Apparent Nanoparticle Toxicity”

201. 2010 University of Illinois at Urbana-Champaign, Center for Nanoscale Science and Technology, Champaign, IL: “Three Short Stories About Gold Nanorods”

200. 2010 Eastern Illinois University, Charleston, IL: “Three Short Stories About Gold Nanorods”

199. 2010 Colorado State University, Fort Collins, CO: “Three Short Stories About Gold Nanorods”

198. 2010 Materials Research Society, Functionalized Nanobiomaterials for Medical Applications Technology Development Workshop, Denver, CO: “Sensing, Imaging, and Photothermal Therapy with Gold Nanorods”

197. 2010 Bowling Green State University, Bowling Green, OH: “Manipulating the Surface Chemistry of Gold Nanorods”

196. 2010 Harold McMaster Visiting Scientist lecture, College of Arts and Sciences, Bowling Green State University, Bowling Green, OH: “Nano Eco Art”

195. 2010 American Chemical Society National Meeting, Division of Physical Chemistry, Symposium on Metals in Biology, Boston, MA: “Imaging and Influencing Cells with Metal Nanoparticles”

194. 2010 American Chemical Society National Meeting, Division of Colloid Chemistry, Symposium on *NanoLetters*: The Next Ten Years, Boston, MA: “Colloidal Inorganic Nanocrystals: Shape and Evolution”

193. 2010 Gordon Research Conference on Noble Metal Nanoparticles, Mount Holyoke College, South Hadley, MA: “Interfacial Chemistry on Gold Nanorods: From Fundamentals to Ecosystems”

192. 2010 Northern Illinois University, DeKalb, IL: “Inorganic Nanoparticle Fabrication and Functionalization”

191. 2010 NaNaX 4: Nanoscience with Nanocrystals, Munich – Tutzing, Germany: ”Surface Chemistry of Silver and Gold Nanorods”

190. 2010 Materials Research Society Spring Meeting, Symposium O, Multifunctional Nanoparticle Systems: Coupled Behavior and Applications, San Francisco, CA: “Complex Surfaces on Nanoparticles, Whether You Like It or Not”

189. 2010 National Meeting of the American Chemical Society, Division of Polymeric Materials Science and Engineering, Symposium on Synthesis and Self-Assembly Approaches to Nanostructured Materials, San Francisco, CA: “Till We Have Faces: Understanding Chemistry on Nanoparticle Surfaces”

188. 2010 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium on Fluorescent Probes in Biophysics and Chemistry, San Francisco, CA: “Gold Nanorods as Light-Scattering Imaging Agents for Cells”

187. 2010 Indiana University, Bloomington, IN: “Three Short Stories About Gold Nanorods”

186. 2010 PittCon, Symposium on Analytical Chemistry for the Study of Nanotoxcity, Orlando, FL: “Gold Nanorod Uptake by Cultured Cells and the Mechanisms of Cytotoxicity at High Doses”

185. 2010 University of Southern California, Los Angeles, CA: “Three Short Stories About Gold Nanorods”

184. 2010 University of California, Irvine, CA: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

183. 2010 Virginia Commonwealth University, Richmond, VA: “Three Short Stories About Gold Nanorods”

182. 2010 University of Kentucky, Lexington, KY: “Three Short Stories About Gold Nanorods”

181. 2010 Purdue University, Department of Biomedical Engineering, West Lafayette, IN: “Three Short Stories About Gold Nanorods”

180. 2010 University of California, Berkeley, CA: “Three Short Stories About Gold Nanorods”

179. 2009 University of Pittsburgh, Pittsburgh, PA: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

178. 2009 University of Rhode Island, Providence, RI: “Three Short Stories About Gold Nanorods”

177. 2009 ACS Midwestern Regional Meeting, Symposium on Nanoscience and Nanotechnology: Environmental and Health Aspects, Iowa City, IA: “Gold Nanoparticles: An Environmental Perspective”

176. 2009 Rensselaer Polytechnic Institute, Department of Materials Science and Engineering, Troy, NY: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

175. 2009 Gordon Research Conference on Inorganic Chemistry, Biddeford, ME: “Growth and Form of Gold and Silver Nanorods”

174. 2009 Kansas State University, Department of Chemical Engineering, Manhattan, KS: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

173. 2009 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Frontier Applications of Nanotechnology in Engineering Extracellular Matrices, Salt Lake City, UT: “Nanoparticles, Cells and Gels”

172. 2009 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Frontiers in Nanoparticle and Nanoporous Materials, Salt Lake City, UT: “Fabrication and Surface Modification of Metal-Based Nanoparticles of Well-Defined Sizes and Shapes”

171. 2009 National Meeting of the American Chemical Society, Society Committee on Education, Symposium on Advances in Nanotechnology, Salt Lake City, UT: “Gold and Silver on the Nanoscale: Science and Art”

170. 2009 University of Minnesota, Minneapolis, MN, Kolthoff Lecture III: “Three Short Stories About Gold Nanorods: Chemistry, Biology and Ecology”

169. 2009 University of Minnesota, Minneapolis, MN, Kolthoff Lecture II: “Synthesis, Assembly, Reactivity and Applications of Metallic Nanoparticles”

168. 2009 University of Minnesota, Minneapolis, MN, Kolthoff Lecture I: “Understanding the Nanoscale Structure and Dynamics of DNA with Nanoparticles and Ultrafast Photons”

167. 2009 Macalester College, St. Paul, MN: “Nano Eco Art”

166. 2009 3M, St. Paul, MN: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

165. 2009 McGill University, Montreal, Canada: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

164. 2008 University of Massachusetts – Lowell, Lowell, MA: “Three Short Stories About Gold Nanorods”

163. 2008 Materials Research Society Fall Meeting, Boston, MA, Symposium PP: “Wet Chemical Synthesis of Gold and Silver Nanowires”

162. 2008 University of Delaware, Newark, DE: “Three Short Stories About Gold Nanorods”

161. 2008 Georgia Institute of Technology, Atlanta, GA: “Three Short Stories About Gold Nanorods”

160. 2008 Texas A&M University, College Station, TX: “Three Short Stories About Gold Nanorods”

159. 2008 Clemson University, Institute of Environmental Toxicology, Clemson, SC: “Three Short Stories About Gold Nanorods”

158. 2008 Savannah River National Laboratory, Aiken, SC: “Three Short Stories About Gold Nanorods”

157. 2008 Nanotechnology and the Environment Conference, sponsored by Purdue University, Indianapolis, IN: “Surface Chemistry of Gold and Silver Nanomaterials: Environmental Implications”

156. 2008 Argonne National Laboratory, Center for Nanoscale Materials, Argonne, IL: “Three Short Stories About Gold Nanorods”

155. 2008 ACS Colloid and Surface Science Symposium, Raleigh, NC: “Colloidal Synthesis of Noble Metal Nanoparticles”

154. 2008 University of Utah, Salt Lake City, UT: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

153. 2008 University at Buffalo, State University of New York, Department of Visual Studies, Nanotechnology Symposium: Art, Science, Media, Architecture; Buffalo, NY: “Silver and Gold on the Nanoscale: Science and Art”

152. 2008 University at Buffalo, State University of New York, Buffalo, NY: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

151. 2008 Materials Research Society Spring Meeting, San Francisco, CA: “Controlled Synthesis of Gold and Silver Nanocrystals of Various Shapes: A Detective Story and A Mystery”

150. 2008 University of Arkansas, Fayetteville, AR: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

149. 2008 Brown University, Providence, RI: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

148. 2007 University of North Carolina, Chapel Hill, NC: “Chemical Sensing and Imaging with Metallic Nanostructures”

147. 2007 University of Pennsylvania, Philadelphia, PA: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

146. 2007 University of Maryland-Baltimore County, MD: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

145. 2007 Yale University, New Haven, CT: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

144. 2007 University of Rochester, Rochester, NY: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

143. 2007 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Processes at Functional Plasmonic and Electronic Interfaces, Boston, MA: “Colloidal Plasmonic Particles for Optical Sensing and Imaging”

142. 2007 Center for Ethics, University of Montana, Missoula, MT: “Ethical Obligations of Scientists: Nanotechnology”

141. 2007 University of Illinois at Urbana-Champaign, IL: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

140. 2007 Wright-Patterson Air Force Base, Dayton, OH: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

139. 2007 Texas A&M University, special symposium honoring Cotton Medalist Jacqueline K. Barton, College Station, TX: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

138. 2007 Materials Research Society Spring Meeting, Symposium BB: Hybrid Functional Materials for Optical Applications, San Francisco, CA: “Elastic and Inelastic (Raman) Scattering from Anisotropic Metal Nanoparticles”

137. 2007 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Symposium on One-Dimensional Nanomaterials, Chicago, IL: “Colloidal synthesis of Metallic Nanorods and Nanowires in Water”

136. 2007 National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Nanoscience Fostered Advances in Sustainability, Chicago, IL: “Green and Biosafe Metal Nanoparticles”

135. 2007 University of South Carolina, Columbia, SC: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

134. 2007 Rice University, Houston, TX: “Synthesis, Assembly, Sensing and Imaging with Metallic Nanorods”

133. 2007 Pittcon 2007, ACS Division of Analytical Chemistry Symposium on Nanoscale Self-Assembled Systems, Chicago, IL: “Optical Properties of Metal Nanoparticle Assemblies”

132. 2006 University of Wisconsin, Materials Chemistry Program Seminar Series, Madison, WI: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

131. 2006 University of Michigan, Department of Materials Science and Engineering, Ann Arbor, MI: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

130. 2006 Rose-Hulman Institute of Technology, Terre Haute, IN: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

129. 2006 University of California, Davis, CA: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

128. 2006 Gordon Research Conference on Nanostructure Fabrication, Tilton, NH: “Lining Up Nanorods”

127. 2006 University of South Carolina NanoBiotechnology High School Summer Camp, Columbia, SC: “Metal Nanoparticles for Nanobiotechnology”

126. 2006 Wayne State University, Nano@Wayne Lecture Series, Detroit, MI: “Synthesis, Assembly, and Reactivity of Metallic Nanorods”

125. 2006 Materials Research Society Spring Meeting, San Francisco, CA, Symposium U: “Metallic Nanorods and Their Use as Templates for Hollow Nanotubes”

124. 2006 National Meeting of the American Chemical Society, Division of Industrial and Engineering Chemistry, Symposium on Nanotechnology and the Environment, Atlanta, GA: “Green Synthesis of Metallic Nanorods and Nanowires”

123. 2006 South Carolina Local Section of the American Chemical Society, Claflin University, Orangeburg, SC: “Introduction to Nanotechnology”

122. 2006 Stevens Institute of Technology, Hoboken, NJ: “Synthesis, Assembly, and Reactivity of Metallic Nanorods”

121. 2006 University of Georgia, Athens, GA: “Synthesis, Assembly, and Reactivity of Metallic Nanorods”

120. 2005 Materials Research Society Fall Meeting, Boston, MA, Symposium O: “Metal Nanoparticles for Optical Sensing, and Metal Oxide Nanoparticles for Catalysis”

119. 2005 Materials Research Society Fall Meeting, Boston, MA, Symposium CC: “Wet Chemical Functionalization of Metal Nanorods”

118. 2005 University of South Carolina, Biochemistry Division seminar series: “Colloidal Metal Nanoparticles for Biological Applications”

117. 2005 Purdue University, West Lafayette, IN: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

116. 2005 Western Michigan University, Kalamazoo, MI: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

115. 2005 Pennsylvania State University, State College, PA: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

114. 2005 National Meeting of the American Chemical Society, Colloid and Surface Division, Washington, DC: “Colloidal Metal Nanoparticles for Biological Applications”

113. 2005 DARPA Workshop SERS-Active Nanoparticles, Nanoparticle Assemblies, & Substrates for Chem/Bio Sensing, Redwood City, CA: “Which Nanoparticle Shape is Best for SERS?”

112. 2005 Gordon Research Conference on the Chemistry of Electronic Materials, New London, CT: “Nanoscale Metallic Rods, Wires, and Pods: Making Them, Poking Them, and Decorating Them”

112. 2005 Electrochemical Society International Meeting, Quebec City, Canada: “Surfactant-Directed Shape Control of Gold and Silver Nanoparticles”

111. 2005 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Symposium on Biosensors and Sensors: Nanostructures, San Diego, CA: “Metal Nanorods for Sensing and Imaging”

110. 2005 National Meeting of the American Chemical Society, Division of Physical Chemistry, Symposium on Nanophotonics and Biophotonics, San Diego, CA: “Colloidal Nanoparticles for Optical and Biological Applications”

109. 2005 University of Louisville, Louisville, KY: “Synthesis, Assembly, and Reactivity of Metallic Nanorods”

108. 2005 University of Kentucky, Department of Chemical and Materials Engineering, Lexington, KY: “Synthesis, Assembly, and Reactivity of Metallic Nanorods”

107. 2005 Gordon Research Conference on Electrochemistry, Ventura, CA: “Growth and Form of Metallic Nanorods From Wet Chemical Reduction of Metal Salts”

106. 2005 Columbia College, Columbia, SC: “What is Nanotechnology (and What is Happening in South Carolina)?”

105. 2004 University of California, Santa Cruz, Santa Cruz, CA: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

104. 2004 University of Alabama, Tuscaloosa, AL: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

103. 2004 University of Maryland, College Park, MD: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

102. 2004 Naval Research Laboratory, Surface Chemistry Branch, Washington, DC: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

101. 2004 Gordon Research Conference on Bioanalytical Sensors, Queen’s College, Oxford, UK: “Colloidal Nanoparticles for Optical Biosensing”

100. 2004 Center for Nanotechnology, University of Washington, Seattle, WA: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

99. 2004 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, Anaheim, CA: “Influence of Molecular Adsorbates on Growth and Form of Metal Nanoparticles”

98. 2004 National Meeting of the American Chemical Society, Division of Physical Chemistry, Anaheim, CA: “Metallic Nanorods and Nanowires: Synthesis, Physical Properties, and Their Use as Templates for Making Hollow Nanotubes”

97. 2004 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Anaheim, CA: “Inorganic Nanomaterials for Optical Sensing of Biological Molecules in Aqueous Solution”

96. 2004 National Meeting of the American Chemical Society, Division of Analytical Chemistry, Anaheim, CA: “Chemical Sensing with Gold and Silver Nanorods”

95. 2004 South Carolina Citizens’ School of Nanotechnology, Columbia, SC: “Nano 101 – A Gentle Introduction to Nanotechnology, From ‘Scopes to ‘Bots”

94. 2004 Northwestern University, Evanston, IL: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

93. 2004 Georgetown University, Washington, DC: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

92. 2003 Materials Research Society Fall Meeting, Boston, MA: “Assembly of Gold Nanorods”

91. 2003 Materials Research Society Fall Meeting, Boston, MA: “Seeded and Non-Seeded Methods to Make Metallic Nanorods and Nanowires in Aqueous Solution”

90. 2003 Argonne National Laboratory, Argonne, IL: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

89. 2003 Iowa State University, Ames, IA: “Synthesis, Assembly and Reactivity of Metallic Nanoparticles”

88. 2003 Winthrop College, Rock Hill, SC: “Synthesis, Assembly and Reactivity of Metallic Nanoparticles”

87. 2003 College of Charleston, Charleston, SC: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

86. 2003 Governor’s School for Science and Mathematics, Hartsville, SC: “What is Nanotechnology?”

85. 2003 Gordon Research Conference on Thin Film and Crystal Growth Mechanisms, Mount Holyoke College, South Hadley, MA: “Surfactant-Directed Growth and Assembly of Inorganic Nanorods and Nanocubes in Water”

84. 2003 International Workshop/Discussion Meeting on Self-Assembly of Nanocolloids, Delmenhorst, Germany: “Shape-Dependent Synthesis, Assembly and Reactivity of Metallic Nanoparticles”

83. 2003 Southeastern Microscopy Meeting, Columbia, SC: “Seed-Mediated Growth Approach to Metallic Nanorods and Nanowires in Aqueous Solution”

82. 2003 South Carolina State University, Orangeburg, SC: “Optical Probes of DNA Shape and Dynamics”

81. 2003 Materials Research Society Spring Meeting, San Francisco, CA: “Seed-Mediated Growth Approach to Metallic Nanorods and Nanowires in Aqueous Solution”

80. 2003 National Meeting of the American Chemical Society, Division of Inorganic Chemistry, New Orleans, LA: “Anisotropic Chemical Reactivity of Metallic Nanoparticles”

79. 2003 National Meeting of the American Chemical Society, Division of Physical Chemistry, New Orleans, LA: “Seed-Mediated Growth Approach to the Synthesis of Metallic Nanorods and Nanowires in Aqueous Solution”

78. 2003 Coastal Empire Local Section of American Chemical Society, Savannah, GA: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

77. 2003 Michigan State University, East Lansing, MI: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

76. 2003 Indiana University, Bloomington, IN: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

75. 2002 NSF-European Commission Workshop: From Nanomaterials to Nanotechnology, Cambridge, MA: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

74. 2002 Clemson University, Clemson, SC: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

73. 2002 University of North Carolina, Chapel Hill, NC: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

72. 2002 Hunter College, New York City, NY: “Synthesis, Assembly and Reactivity of Metallic Nanorods”

71. 2002 National Meeting of the American Chemical Society, Division of Physical Chemistry, Boston, MA: “Liquid Crystalline Nanorod Assemblies”

70. 2002 Georgia Institute of Technology, Atlanta, GA: “Synthesis, Assembly, and Reactivity of Metallic Nanorods”

69. 2002 Ohio University, Athens, OH: “Probing DNA with Nanomaterials – and – DNA as a Nanomaterial”

68. 2002 Bowling Green State University, Bowling Green, OH: “Photophysical Probes of DNA Structure and Dynamics”

67. 2002 Oklahoma State University, Stillwater, OK: “Liquid Crystalline Nanorod Assemblies”

66. 2002 DARPA/AMRI Symposium, New Orleans, LA: “Probing DNA with Nanomaterials – and – DNA as a Nanomaterial”

65. 2002 University of Georgia, Department of Physics, Athens, GA: “Photophysical Probes of DNA Structure and Dynamics”

64. 2001 Virginia Polytechnic Institute and State University, Blacksburg, VA, “Probing DNA with Nanomaterials – and – DNA as a Nanomaterial”

63. 2001 Federation of Analytical Chemistry and Spectroscopy Societies International Meeting, Detroit, MI: “Optical Sensing with Quantum Dots”

62. 2001 Southeastern Regional Meeting of the American Chemical Society, Savannah, GA: “Liquid Crystalline Metallic Nanorods”

61. 2001 Southeastern Regional Meeting of the American Chemical Society, Savannah, GA: “Optical Probes of Local DNA Structure and Dynamics”

60. 2001 American Chemical Society National Meeting, Division of Analytical Chemistry, Symposium on Design and Characterization of Nanostructured Materials, Chicago, IL: “Wet Chemical Synthesis of Colloidal Quantum Dots and Liquid Crystalline Metallic Nanorods”

59. 2001 James Madison University, Harrisonburg, VA, “Optical Properties of Inorganic Nanomaterials”

58. 2001 Gordon Research Conference on Organic Photochemistry, Connecticut College, New London, CT: “Organic and Inorganic Optical Probes of DNA Structure and Dynamics”

57. 2001 University of North Carolina – Charlotte, Charlotte, NC: “Probing DNA with Nanomaterials – and – DNA as a Nanomaterial”

56. 2001 University of South Carolina, Columbia, SC: “Probing DNA with Nanomaterials – and – DNA as a Nanomaterial”

55. 2001 American Chemical Society National Meeting, Division of Colloid and Surface Chemistry, Symposium on Molecular Electronics, San Diego, CA: “Understanding DNA Flexibility: Relevance to Molecular-Scale Devices Based on DNA”

54. 2001 American Chemical Society National Meeting, Division of Inorganic Chemistry, San Diego, CA: “Optical Sensing with Semiconductor and Metallic Nanoparticles”

53. 2001 SPIE International Biomedical Optics Symposium, San Jose, CA: “Inorganic Nanoparticles as Optical Sensors of DNA”

52. 2001 Lawrence Livermore National Laboratory, Livermore, CA: “Probing DNA with Nanomaterials – and - DNA as a Nanomaterial”

51. 2001 Tenth South Carolina Statewide Research Conference: Molecular Approaches to Biological Problems, Isle of Palms, SC: “Photophysical Probes of DNA Sequence-Directed Structure and Dynamics”

50. 2000 University of Manchester, Manchester, UK: “Nanomaterials as Probes of DNA”

49. 2000 Emory University, Atlanta, GA: “Inorganic Molecules and Nanomaterials for Optical Sensing: From Water Diffusion to DNA Dynamics”

48. 2000 Department of Energy Workshop on Emergent Properties and Functions in Nanoscale Chemistry, Santa Fe, NM: “Biological Applications of Inorganic Nanoparticles”

47. 2000 University of California, San Diego, San Diego, CA: “Inorganic Molecules and Nanomaterials for Optical Sensing: From Water Diffusion to DNA Dynamics”

46. 2000 California Institute of Technology, Pasadena, CA: “Inorganic Molecules and Nanomaterials for Optical Sensing: From Water Diffusion to DNA Dynamics”

45. 2000 Gordon Research Conference on Chemical Sensors and Interfacial Design, Ventura, CA: “Quantum Dots as Chemical Sensors”

44. 2000 SPIE International Biomedical Optics Symposium, San Jose, CA: “Detection of Unusual DNA Structures with Nanoparticles”

43. 1999 US-Japan Workshop on Supramolecular Photochemistry, sponsored by the National Science Foundation, New Orleans, LA: “Photophysical Properties of Inorganic Nanoparticle-DNA Assemblies”

42. 1999 FACSS Conference, Vancouver, British Columbia, Canada: “Novel Luminescent Markers Based on Inorganic Materials”

41. 1999 University of Illinois, Urbana-Champaign, IL: “Optical Sensing with Inorganic Molecules and Nanomaterials: From Water to DNA”

40. 1999 University of Minnesota, Minneapolis, MN: “Optical Sensing with Inorganic Molecules and Nanomaterials: From Water to DNA”

39. 1999 University of Wisconsin, Madison, WI: “Optical Sensing with Inorganic Molecules and Nanomaterials: From Water to DNA”

38. 1999 Furman University, Greenville, SC: “Optical Probes of DNA Bending”

37. 1999 University of Louisville, Louisville, KY: “Optical Probes of DNA Structure and Dynamics”

36. 1998 University of California, Berkeley, CA: “Optical Sensing with Inorganic Molecules and Nanomaterials: From Water to DNA”

35. 1998 Wake Forest University, Winston-Salem, NC: “Luminescent Probes of DNA Shape and Dynamics”

34. 1998 Georgia State University, Atlanta, GA: “Optical Probes of DNA Shape and Dynamics”

33. 1998 Clemson University, Department of Ceramic and Materials Engineering, Clemson, SC: “Inorganic Molecules and Nanomaterials for Optical Sensing”

32. 1998 University of North Carolina, Greensboro, NC, “Luminescent Probes of DNA Shape and Dynamics”

31. 1998 Utah State University, Logan, UT, “Optical Probes of DNA Shape”

30. 1998 University of Utah, Salt Lake City, UT, “Optical Probes of DNA Shape”

29. 1998 Biochemistry Seminar Series, University of South Carolina, Columbia, SC, “Inorganic Probes of DNA Structure”

28. 1998 Physical Chemistry Seminar Series, University of South Carolina, Columbia, SC, “Photonic Bandgap Materials”

27. 1998 Winthrop University, Rock Hill, SC, “Optical Probes of DNA Shape”

26. 1998 Texas A&M University, College Station, TX, “Photophysical Probes of DNA Shape”

25. 1998 Southern Methodist University, Dallas, TX, “Photophysical Probes of DNA Shape”

24. 1998 Texas Christian University, Fort Worth, TX, “Photophysical Probes of DNA Shape”

23. 1997 Columbia University, New York, NY, “Nanomaterials as Optical Sensors of Biopolymer Shape”

22. 1997 Johns Hopkins University, Baltimore, MD, "Optical Probes of DNA Bending"

21. 1997 University of Pennsylvania, Philadelphia, PA, "Optical Probes of DNA Bending"

20. 1997 Ohio State University, Columbus, OH, "Optical Probes of DNA Bending"

19. 1997 Georgia Institute of Technology, Atlanta, GA, "Optical Probes of DNA Bending"

18. 1997 Clemson University, Clemson, SC, "Optical Probes of DNA Bending"

17. 1997 Physical Chemistry Seminar Series, University of South Carolina, Columbia, SC "Green Fluorescent Protein"

16. 1997 Coastal Carolina University, Conway, SC, "Chemistry and Physics Join Forces for Biology: Using Light to Probe Weird DNA Structure"

15. 1997 Sixth South Carolina Statewide Research Conference, Wild Dunes Resort, Isle of Palms, SC, "Optical Probes of DNA Bending"

14. 1996 Northeastern University, Boston, MA, "Optical Probes of DNA Bending"

13. 1996 Association for Women in Science, South Carolina Chapter, Columbia, SC "Optical Probes of DNA Bending"

12. 1996 College of Charleston, Charleston, SC, "Optical Probes of DNA Bending"

11. 1996 University of Puerto Rico, San Juan, PR, "Optical Probes of DNA Bending"

10. 1996 University of North Carolina, Chapel Hill, NC, "Optical Probes of DNA Bending"

9. 1995 Symposium on "Recent Advances in the Chemistry of Polynuclear Metal Complexes Containing Thiolate and Thioether Ligands," at the 47th Southeast / 51st Southwest Joint Regional Meeting of the American Chemical Society, Memphis, TN, "Thiolate- and Thioether-Stabilized Semiconductor Quantum Dots"

8. 1995 Igen, Inc., Gaithersburg, MD, "Inorganic Probes of DNA Structure"

7. 1995 University of North Carolina, Charlotte, NC, "Inorganic Probes of DNA Structure"

6. 1994 Appalachian State University, Boone, NC, "Inorganic Probes of DNA Structure"

5. 1994 Francis Marion University, Florence, SC, "Inorganic Probes of DNA Structure"

4. 1994 Gordon Research Conference on Bioanalytical Sensors, New London, NH "Inorganic Probes of DNA Structure"

3. 1994 Department of Physics and Astronomy, University of South Carolina, Columbia, SC, "Quantum Dots"

2. 1993 Association for Women in Science, South Carolina Chapter, Columbia, SC, "Quantum Dots"

1. 1993 Division of Biochemistry of the Department of Chemistry and Biochemistry, University of South Carolina, Columbia, SC, "Luminescence as a Probe of Biopolymer Structure"

Professional Service:

Editorial Board member, *Proceedings of the National Academy of Sciences*, 2017-

Associate Editor for Chemistry, *Proceedings of the National Academy of Sciences*, 2020-

Deputy Editor, *Journal of Physical Chemistry C*, 2011-2020.

Senior (=Associate) Editor, *Journal of Physical Chemistry*, 2006-2011.

Editorial Advisory Board member, *Journal of Physical Chemistry A/B/C*, 2021-

Editorial Advisory Board member, *Chemical Reviews*, 2021-

Editorial Advisory Board member, *Nanoscale Advances*, 2019-

Editorial Advisory Board member, *ACS Materials Letters*, 2019-

Editorial Advisory Board member, *ACS Applied Nano Materials*, 2018-

Editorial Advisory Board member, *Nanoscale Horizons*, 2016-

Editorial Advisory Board member, *Materials Horizons*, 2013-

Editorial Advisory Board member, *Nanoscale*, 2009-

Editorial Advisory Board member, *ACS Nano*, 2007-

Editorial Advisory Board member, *NanoLetters*, 2005-

Editorial Advisory Board member, *Langmuir*, 2002-

Editorial Advisory Board member, *Journal of Cluster Science*, 1997-

Editorial Advisory Board member, *Chemical Communications*, 2005-2020.

Editorial Advisory Board member, *Chemistry of Materials*, 2004-2009.

Editorial Advisory Board member, *Journal of Colloid and Interface Science*, 2006-2008.

Editorial Advisory Board member, *Inorganic Chemistry*, 2004-2006.

Editorial Advisory Board member, *Journal of Inorganic Biochemistry*, 1996-2007.

Editorial Advisory Board member, *Matter*, 2018-2021.

Member, Dow Science and Technology Advisory Council, 2021-

Member, Board of Directors, Research Corporation for Science Advancement, 2017-

Member, Scientific Advisory Board, Welch Foundation, 2019-; Vice-Chair, 2021-2022; Chair, 2022-

Member, Chemistry Diversity Canvassing Committee, National Academy of Sciences, 2020-

Member, ACS National Award Advisory Board, 2022-

Member, Temporary Nominating Group (TNG) for Class I, National Academy of Sciences, 2023-

Member, External Advisory Committee, Center for Research and Education in 2D Optoelectronics (CRE2DO), Florida International University, 2020-

Member, External Advisory Committee, NSF Science and Technology Center for Integration of Modern Optoelectronic Materials on Demand (IMOD), University of Washington, 2022-

Member, University of Wisconsin's Department of Chemistry Board of Advisors, 2021-

Member, various confidential National Academies committees, 2022-

Member, University of Washington, Department of Chemistry, Academic Program Review Committee, 2022-2023.

Member, panel for leadership applicant assessment, Institute for Basic Science, South Korea, 2022.

Discussion Leader, Gordon Research Conference on Noble Metal Nanoparticles, 2022.

Science Advisor, PBS NOVA series, "Beyond the Elements," 2019-2021.

Panelist, 2021 Midwest Women in Science conference, via Zoom, 2021.

Member, Scientific Advisory Board, The Molecular Foundry, Lawrence Berkeley National Laboratory, 2005-2020.

External Reviewer, University of Iowa's Department of Chemistry, 2020.

Member, Advisory Board, Open Chemistry Collaborative in Diversity Equity (OXIDE), 2016-2019.

Member, American Chemical Society national awards-level committee, 2008-2010; 2012-2016; 2019-2021.

Member, American Chemical Society journal editor search committee, 2019.

Member, National Academies scientific award committee, 2019-2020.

Member, National Academies committee member, on conflict of interest in publishing, 2019.

Keynote speaker, Midwest Retreat for Diversity in Chemistry, Luther College, Iowa, July 2019.

Scientific and Academic Advisory Committee (SAAC) member, Departments of Organic Chemistry and Materials & Interfaces, Weizmann Institute of Science, Israel, Fall 2018.

Scientific Advisory Committee member and Chair, Center for Nanoscale Materials, Argonne National Laboratory, 2013-2018.

Chair, Gordon Research Conference on Noble Metal Nanoparticles, 2016; Vice-Chair, 2014.

Mentor, P2F (Postdoc to Faculty) Workshop, American Chemical Society, 2014-2015.

Co-organizer, Midwest Cottrell Scholars Regional Workshop, April 2018.

International Advisory Board member, GOLD 2018 conference, 2017-2018.

Review Committee member, Physical Sciences and Engineering Division, Argonne National Laboratory, 2015.

Co-organizer, Round Table Meeting on Interdisciplinary Teaching of Climate and Energy Research and Policy Decision Making, Hanse Institute of Advanced Study, Delmenhorst, Germany, 3x per year in 2016, 2017, 2018, 2019, 2020.

Organizer, American Chemical Society, Division of Colloid and Surface Chemistry, Symposium in honor of Naomi Halas, winner of the 2019 ACS Award in Colloid Chemistry, Orlando, FL, March-April, 2019.

Organizer, Virtual Issue on 2D Quantum Materials, *Journal of Physical Chemistry C*, Fall 2018.

Co-organizer, American Chemical Society, Division of Physical Chemistry, Symposium on Plasmonic Nanomaterials: From Physical Chemistry Fundamentals to Societal Impact, San Francisco, CA, April 2017.

Co-organizer, American Chemical Society, Division of Colloid and Surface Chemistry, Symposium on Engineered Nanomaterials Interacting with Natural and Environmental Interfaces, National ACS meeting, San Francisco, CA, August 2014.

Co-organizer, Materials Genome Initiative Midwest Regional Workshop, presented by White House Office of Science and Technology Policy with UIUC MRL, Urbana, IL, May 23, 2014.

Co-organizer, Symposium Q (Bionanomaterials for Sensing, Imaging, and Actuating), eMRS (European Materials Research Society) meeting, Strasbourg, France, 2013.

Award Selection Committee Member, Alan T. Waterman Award of the National Science Foundation, 2009-2012; Chair, 2012.

Panel Member, National Nanotechnology Infrastructure Network review, May 5-7, 2010.

Permanent Member of ISD Study Section, NIH, 2007-2009.

Member of Selection Committee, NSF Inorganic Workshop, 2007-2009.

Chair, American Chemical Society, Division of Inorganic Chemistry, Nanoscience Subdivision, 2008; Chair-Elect, 2007.

Alternate Councilor, American Chemical Society, Division of Inorganic Chemistry, (nationally elected position), 2001-2004.

External Reviewer, University of Delaware's Department of Chemistry and Biochemistry, 2011.

Discussion Leader, Gordon Research Conference on Noble Metal Nanocrystals, Mt. Holyoke College, South Hadley, MA, June 2012.

Session Chair, National Meeting of the American Chemical Society, Symposium on Nanotechnology and the Environment: Emphasis on Green Nanotechnology, Salt Lake City, UT, March 2009.

Organizer, Session Chair, for Fresenius Award Symposium in honor of Teri Odom, National Meeting of the American Chemical Society, Salt Lake City, UT, March 2009.

Invited participant, NSF Workshop on Materials Science and Engineering Education, Washington, DC, Sept. 2008.

Organizer, Session Chair for Inorganic Nanoscience Award Symposium in honor of Chad Mirkin, National Meeting of the American Chemical Society, Philadelphia, PA, August 2008.

Guest Editor, special issue of *NanoBiotechnology* on Frontiers of Nanoscale Chemical Sensing and Imaging, Feb. 2007 issue.

Invited member, Defense Science Study Group, US Department of Defense, 2004-2005.

Member of DOE Site Visit Review Team, Lawrence Berkeley National Laboratory, Materials Chemistry Program, February 2005.

Invited member of the Nanotechnology Technical Advisory Group to the (U.S.) President's Council of Advisors on Science and Technology (PCAST), 2003-2005.
Member of NSF Site Visit Review Team, Northwestern University's Nanoscale Science and Engineering Center, June 2003.

Symposium Co-Chair, "Nanomaterials: Synthesis, Characterization and Optical Properties," for the Southeastern Regional Meeting of the American Chemical Society (SERMACS), Charleston, SC, Nov. 2002.

Conference Co-Chair, "Novel Micro- and Nanotechnologies for Bioengineering Applications," SPIE International Symposium on Biomedical Optics, San Jose, CA, January 2002.

Member of Committee of Visitors, to evaluate the National Science Foundation's Division of Chemistry, Feb. 2001.

Scientific liaison to USC Department of Philosophy's Center for the Complexity of Scale, 2002-2004.

Conference Organizer and Chair, "Nanoparticles and Nanostructured Surfaces: Novel Reporters with Biological Applications," SPIE International Symposium on Biomedical Optics, San Jose, CA January 2001.

Participant and speaker at the DOE Workshop on Nanoscale Chemistry, to define frontiers of the field for the next 5-10 years, Santa Fe, NM, April 2000.

Organizer for SPIE International Symposium on Biomedical Optics session, "Nanoparticles as Biological Markers and Diagnostics," San Jose, CA, January 2000.

Visiting Member of the Scientific Advisory Board, Center for Fluorescence Spectroscopy, University of Maryland School of Medicine, Baltimore, MD, Feb. 1999.

Invited to participate with 100 other young scientists in the Tenth Annual Frontiers of Science Symposium (now called Kavli Frontiers of Science), sponsored by the National Academy of Sciences, Irvine, CA, Nov. 1998.

Invited Delegate to U.S. House of Representatives Committee on Science Policy Roundtable Discussion, convened by Rep. Vernon Ehlers (R-MI), Dec. 8, 1997.

Session Chair for "Symposium on Advances in Microcrystalline and Nanocrystalline Semiconductors - 1996," Materials Research Society Meeting, Dec. 2-6, 1996.

Bioinorganic Chemistry Session Chair, American Chemical Society National Meeting, Orlando, FL, August 1996.

Discussion Leader, 1996 Gordon Research Conference on Bioanalytical Sensors, Ventura, CA, Jan. 14-19, 1996.

Inorganic General Session Chair, 47th Southeast / 51st Southwest Joint Regional Meeting of the American Chemical Society, Memphis, TN, Nov. 29 - Dec. 1, 1995.

Funded Grants:

1. National Science Foundation, $32,000 with a $64,000 USC match, 09/01/93 - 02/28/95, "Colloidal Semiconductors for Macromolecular Recognition, Open-Framework Structures, and Non-Linear Optical Applications."

2. South Carolina Research & Productive Scholarship, $3,000, 12/01/93 - 11/30/94, "Novel Optical Probes of Protein Surfaces."

3. National Science Foundation CAREER Award, $195,000, 07/01/95 - 06/30/98.

4. USC Venture Fund, $15,000, 05/01/95 - 04/30/96, "Hollow Semiconductor Particles: Towards New Optical Materials."

5. Department of Energy EPSCoR, $1,250,000 with 14 other P.I.'s, 09/01/95 - 08/30/97, "Electrochemical Power Sources;" renewal, $2,500,000, with >14 PI's, 9/97-8/99; renewal, ~$30,000 annual to CJM of $~1.2M total with many PI's, 10/01/99-5/30/02.

6. Alfred P. Sloan Foundation Research Fellow, $35,000, 9/97-9/99.

7. National Science Foundation EPSCoR, $950,000 with 6 other P.I.'s, 10/96-9/99, "Fundamental Studies at Polymer/Material Interfaces."

8. Dreyfus Foundation, Camille Dreyfus Teacher-Scholar Award, $60,000, 1998-2002.

9. Research Corporation's Cottrell Scholar Award, $50,000, 7/96-6/01, "Probing Sequence-Directed DNA Bending in Dilute Solution."

10. Department of Defense, $330,000 (with R. D. Adams), "Design and Synthesis of a Quantum Dot-Based Laser," 7/97-6/01.

11. National Science Foundation EPSCOR, "Development of a Nanomaterials Initiative at the University of South Carolina," $400,000 with 3 other PI's, 9/1/98-8/31/01.

12. National Science Foundation, "Extension for Special Creativity," $165,000, 7/1/98-12/31/01.

13. National Science Foundation Research Experience for Undergraduates Program, "University of South Carolina REU Site for Nanoscience," $169,430 with S. Little, 3/99-2/02. "Research Experiences for Teachers" supplement, $32,000, for summer 2001.

14. National Institutes of Health, "Optical Probes of DNA Bending and Wrapping," CJM, PI, $501,060, 5/97-4/03.

15. NSF/NIH BRIN/EPSCOR, "Detection of DNA with Nanoparticles," CJM, PI, R. Mahtab (South Carolina State U), co-PI; $47,768, May 16, 2003 – August 31, 2004.

16. National Science Foundation, "SGER: Cytotoxicity of Nanoparticles," CJM, PI, M. Wyatt, co-PI, $92,000, August 15, 2003 – December 31, 2004.

17. National Science Foundation Research Experience for Undergraduates Program, "University of South Carolina REU Site for Nanoscience," C. J. Murphy, PI, H-C zur Loye, co-PI, $178,836, 4/02-3/05.

18. USC NanoCenter, "Acquisition of a Phase-Analysis Light Scattering System," CJM, PI; $20,000, March 15, 2004 – March 14, 2005.

19. National Institutes of Health, "Ultrafast DNA Dynamics Using Novel Photophysical Probes," M. A. Berg, PI, CJM one of two co-PI's, $912,000, 12/00-11/05.

20. National Science Foundation, “NIRT: Dendrimer-Stabilized Nanoparticles for Next-Generation Catalysts,” H. J. Ploehn, PI, CJM one of two co-PI’s and four additional investigators, $2,000,000, 6/15/01-6/14/06.

21. USC, “Microstructural Response of Cellularized Collagen Gels to Mechanical Fields,” S. Baxter, PI, CJM, one of two co-PI’s; $50,000, 07/01/04-12/31/05.

22. National Science Foundation EPSCOR, “Influence of the Nature of the Quantum Dot Surface on Interactions with DNA,” CJM, PI, with R. Mahtab, SC State University, $69,556, 07/01/05-06/30/06.

23. National Science Foundation, “Center for Nanotechnology in Society: Imaging, Scientific Change and Public Understanding of Emerging Nanotechnologies,” D. Baird, PI; CJM, one of 28 senior personnel, $1,375,000, 09/1/05 – 08/31/09.

24. W. M. Keck Foundation, “Open Laboratory for Bionanoparticle Technology, Discovery and Development,” Q. Wang, PI, CJM and MG Finn (Scripps), co-PI’s, $800,000, 01/01/06-12/31/10.

25. National Institutes of Health INBRE, “The Effect of Plasmid DNA Shape on Binding to Protein-Sized Inorganic Substrates,” CJM, PI, with L. Gearheart, Presbyterian College, $50,000, 05/01/06 – 4/30/07.

26. Oxonica, Inc. “Metallic Nanorods for Industrial Applications,” research contract, $7423, 06/28/06-12/15/06.

27. National Science Foundation, “Role of Mechanical Environment on the Evolution of Tissue Microstructure: Meso-scale Cell-Extracellular Matrix Interactions,” S. Baxter, PI; CJM, one of three co-PI’s, $219,978 total, 8/15/06-7/31/09.

28. Air Force Office of Scientific Research, “Polymer Nanocomposites as Future Materials for Defense and Energy Applications,” H. zur Loye, PI; CJM, one of two co-PI’s, $901,000 total, 10/01/06 – 4/01/08.

29. National Science Foundation, D. Berube, PI; CJM, one of two co-PI’s, and several senior personnel. “NUE: Nanoscience and Technology Studies Cognate,” $199,906, 1/1/07 – 12/31/08.

30. National Science Foundation, G. Khushf, PI; CJM, one of several senior personnel, “SGER: Complexity, Systems, and Control in Nanobiotechnology: Developing a Framework for Understanding and Managing Uncertainty Associated with Radically Disruptive Technologies,” $200,000, 9/1/06-2/29/08.

31. USC, “Role of Nanoparticle Surface and Size on Carcinogen Uptake in Human Lung Cells,” M. D. Wyatt, PI; CJM, one of three co-PI’s, $48,180 total, 3/1/07-2/28/08.

32. General Dynamics Information Technology/Air Force Research Lab/DOD, “Synthesis of GNP Suspensions and Chromophore-Modified GNP Suspensions,” CJM, PI, $50,000, 07/01/07-08/31/08.

33. Department of Energy, “Hybrid Organic-Inorganic Composite Solar Cells for Efficient, Low-Cost, Photoelectric Energy Conversion,” R. D. Adams, PI; CJM, one of two co-PI’s, $810,000 total, 9/1/07 – 8/31/10.

34. National Science Foundation, “RUI: Surface-Engineering Nanoparticles to Inhibit Protein Aggregation,” subcontract from SCSU to USC, R. Mahtab, PI; CJM one of two co-PI’s, $190,998 for USC subcontract for project period, 7/1/07-6/30/10.

35. Air Force Office of Scientific Research, “Optical Limiting Materials Based on Gold Nanoparticles,” CJM, PI; $416,955 total, 03/01/2009 – 05/15/2014.

36. National Institutes of Health, “Using Gold Nanorods to Modify the Extracellular Matrix and Mechanical Properties,” E. C. Goldsmith, PI; CJM, co-PI; $216,941 total, 08/01/2009 – 06/30/2011.

37. National Science Foundation, “Surface Engineering of Gold Nanorods for Biology,” C. J. Murphy, PI; $420,000 total, 07/01/2010-06/30/2013.

38. Beckman Institute, “Real-Time Measurement of the Nanoparticle Corona in Biological Systems,” CJM, PI; M. Gruebele and S. Boppart, co-PI’s, $150,000 total, 05/16/2010 – 08/15/2012.

39. Beckman Institute, “Next Generation Molecular Probes for Massively Multiplexed and Ultrasensitive Imaging,” R. Bhargava, PI; CJM one of several co-PI”s, $150,000 total, 05/16/2010 – 05/15/2012.

40. Department of Energy, “Ultrafast Thermal Transport at Interfaces,” D. Cahill, PI; CJM, one of two co-PI’s, $420,000 total, 09/01/2010 - 08/31/2014.

41. Solid State Scientific Corporation/AFOSR, “Development of Novel Electromagnetic Media,” CJM, PI; $75,000, 10/1/2011-12/31/2012; renewal, $75,000, through 10/31/2013; renewal, $52,702 through 6/7/2014.

42. National Science Foundation, “Centers for Chemical Innovation Phase I: A Molecular Basis for Sustainable Nanotechnology,” R. Hamers, PI, CJM, one of 5 co-PIs, $1,750,000 total, $190,000 to CJM, 9/1/2012 – 8/31/2015.

43. National Science Foundation, “Conference Support for eMRS,” CJM, PI, $8250, 9/1/2012-8/31/2013.

44. National Science Foundation, “Network for Computational Nanotechnology – NanoBio Node,” U. Ravaioli, PI; CJM, one of 5 coPI’s/senior personnel, $3,500,000 total (zero money for CJM lab), 9/15/2012-9/14/2016.

45. DARPA, “in vivo SERS Nanoplatforms for Diagnostics,” CJM subcontract through Northwestern University, $307,027 total to CJM, 12/21/2012-1/20/2014.

46. National Science Foundation, “Collaborative Research: Fate, Transport, and Organismal Uptake of Rod-Shaped Nanomaterials,” CJM co-PI with N Saleh (UT Austin) and P Vikesland (Virginia Tech), $120,000 total to CJM, 8/1/2013 – 7/31/2017.

47. National Science Foundation, “A ‘Gold’ Standard for Understanding Protein-Nanoparticle Interactions,” CJM, PI; $435,000 total, 9/1/2013-8/31/2016.

48. National Science Foundation, “REU Site: nano@illinois REU – Summer Nanotechnology Research Experience for Undergraduates,” CJM, PI; $375,255 total, 3/1/2014-2/28/2017.

49. Research Corporation for Science Advancement, “TREE Award,” CJM, PI; $25,000, 7/1/2015-6/30/2017.

50. National Science Foundation, “Center for Chemical Innovation Phase II: A Molecular Basis for Sustainable Nanotechnology,” R. Hamers, PI, CJM, one of many co-PIs, $20,000,000 total, $180,000 to CJM per year, 9/1/2015 – 8/31/2020.

51. National Institutes of Health, NHLBI, “Nanoparticle Remodeling of Pulmonary Junctions,” CJM, PI, D. Leckband and P. Kenis, co-PI’s; $387,000 total, 4/1/2016 – 3/31/2019.

52. National Science Foundation, “Conformational Proteomics on Gold Nanoparticle Surfaces,” CJM, PI, $610,000, 6/15/2016 – 5/31/2020.

53. National Science Foundation, “Illinois Materials Research Science and Engineering Center,” CJM, one of many co-PIs, $15,900,000 total, 9/1/2017 – 8/31/2023; $80,000 per year to CJM.

54. National Institutes of Health, NIGMS, “Nanoparticle Intervention in Cell Behavior,” CJ, PI, $1,199,294, 03/01/2018 – 03/31/2023.

55. National Science Foundation, “NSF Center for Sustainable Nanotechnology” R. Hamers, PI, CJM, one of many co-PIs, $20,000,000 total, $140,000 to CJM per year, 9/1/2020 – 8/31/2025.

56. National Science Foundation, “Spatially Encoded Hard-Soft Materials,” CJM, PI, $480,000, 09/01/2021-08/31/2024.

57. Oak Ridge National Laboratory/UT-Battelle, “Nano-Target Fabrication for Radioisotope Production,” CJM, PI, $17,650, 12/03/2021-5/31/2022.

58. Cancer Center at Illinois, “Engineering Mechanical and Chemical Gradients to Control Cancer Cell Metastasis,” CJM PI, Taher Saif, co-PI, $75,000, 07/2022-06/2023.

numerous grants pending and brewing

Other:

Reviewer for

National Science Foundation (chemistry, DMR, special projects, centers); Department of Energy; National Institutes of Health (SBIR, ISD, genome sequencing, BECM, NANO ad hoc study sections; P41 ad hoc reviewer; ISD permanent member, 2007-2009); Air Force Office of Scientific Research; Army Research Office; U. S. Department of Agriculture; U.S. Civilian R&D Foundation; American Chemical Society Petroleum Research Fund; Molecular Foundry; Research Corporation; American Association for the Advancement of Science; Austrian Academy of Sciences; Netherland's National Science Foundation; Science Foundation Ireland; EPRSC (United Kingdom); Rice University's Center for Biological and Environmental Nanotechnology; European Commission; M. J. Murdock Charitable Trust

Science, Nature, Nature Materials, Nature Communications, Nature Nanotechnology, Nature Chemistry, Angewandte Chemie, Journal of the American Chemical Society, Proceedings of the National Academy of Sciences, Nano Letters, ACS Nano, Journal of Physical Chemistry, *Inorganic Chemistry*, *Biochemistry*, *Langmuir*, *Chemistry of Materials, Analytical Chemistry*, *Advanced Materials, Advanced Functional Materials, Advanced Healthcare Materials, Chemical Communications*, *Journal of Chemical Physics, Journal of Crystal Growth, Journal of Materials Chemistry, Nucleic Acids Research*, *Environmental Science and Technology, Bioconjugate Chemistry, Biomacromolecules, Chemistry – a European Journal, Biochimica et Biophysica Acta*, *Journal of Luminescence*, *Journal of Fluorescence, Journal of Cluster Science, Journal of Inorganic Biochemistry, Proceedings of the Materials Research Society, Synthesis and Reactivity in Inorganic and Metal-Organic Chemistry, Journal of Organometallic Chemistry, Chemical Research in Toxicology, Electrochemical and Solid State Letters, Journal of Materials Research, Colloids and Surfaces*, *Journal of Colloid and Interfacial Science*, *Journal of Nanoscience and Nanotechnology, Spectrochimica Acta Part A, Polymer, Chemical Physics Letters, Applied Physics Letters, ChemPhysChem, Hyle, ChemBioChem, Nanotechnology, Small, Journal of Biomedical Optics, Journal of Solid State Chemistry, European Journal of Inorganic Chemistry, Nanomedicine, Chemistry – an Asian Journal, Current Opinion in Colloid and Interface Science, Environmental Toxicology and Chemistry, ACS Applied Materials & Interfaces, PLoS One, Acta Biomaterialia, ACS Combinatorial Science, ACS Omega, Scientific Reports, CHEM, ChemNanoMat, Nanoscale, Nanoscale Advances, ACS Applied Nano Materials, Science Advances, PNAS Nexus, Scientific Data, ACS Nanoscience Au*

Numerous universities for tenure and promotion files (10-20 per year)

University of Illinois Committees and Service

Department Head (2020-); School of Chemical Sciences Executive Committee (2020-); College of Liberal Arts and Sciences Dean's Strategic Advisory Committee, renamed Hiring Advisory Team (2020-); CZI Biohub Chicago Planning Committee (2022-2023); University Indirect Cost Return Special Policy Committee (2021); Departmental Staff Committee (2019-2020); Departmental Advancement Committee (2019-); Curriculum & Courses Committee (2010-2016); Materials Chemistry Graduate Student Admissions and Recruiting (2009-2010, 2015); Materials Chemistry Area Head and representative on Budget & Operations Committee (2010-2016, 2017-2019); Departmental Advisory Committee (2011-2013, 2013-2015); Undergraduate and Graduate Program Review Committee (2010-2014); Division of Biomedical Sciences Faculty Development Committee (2011-2012); Chemistry Head Evaluation Committee (2011); Faculty Senator (2011-2012); University COVID-19 Research and Scholarship Return to On-Campus Work Task Force (2020); Departmental Ethics Committee (2012); Search Committee, University Director of Sponsored Programs Office (2011-2012); Packard Fellowship Selection Committee (2014); School of Chemical Sciences Executive Committee (2015-2018); Search Committee, MRL Research Facilities director (2015, Chair); Search Committee, MRL Director (2015-2016); Search Committee, MRL/MRSEC Education and Outreach Coordinator (2017); Search Committee, Department of Chemistry, Director of Graduate Diversity and Equity (2017-8); College of Liberal Arts & Sciences Executive Committee (2015-2017); College of Liberal Arts & Sciences Strategic

Planning Committee (2019); Department of Materials Science and Engineering, Faculty Grievance Committee (Chair, 2015-2020); Sesquicentennial Celebration Committee, School of Chemical Sciences (2017); graduate student thesis committees; undergraduate senior theses

Responsible conduct of research, scientific ethics seminars and scenarios, numerous presentations to first-year graduate students in the Department and undergraduate summer research students (2016-)

University of South Carolina Committees and Service

Departmental Academic Affairs Committee; Departmental Graduate Admissions Committee; Departmental Laboratory Improvement Committee; Departmental Executive Committee; Departmental Materials/Electrochemist Faculty Search Committee; Departmental Physical Chemistry Faculty Search Committee (three times, Chair once); Departmental NanoDirector Search Committee (twice, Chair twice); Departmental Nanoscience Faculty Search Committee; Departmental Chemistry/Marine Science Faculty Search Committee; Departmental Tenure and Promotion Committee (Chair, 2006-2007); Departmental Chair search committee (internal); Departmental Graduate Student Recruiting Committee (Chair, 2005-2007); many graduate student thesis committees; undergraduate chemistry major advising

Department of Chemical Engineering faculty search committee; Department of Physics and Astronomy faculty search committee (twice); Dean of Libraries search committee; Dean of Arts and Sciences search committee; Dean of Honors College search committee; College of Arts and Sciences Curriculum Committee; College of Science and Mathematics Committee on Academic Responsibility; College Electron Microscopy Center Faculty Advisory Committee (Chair, 2007-2009); University Goldwater Scholarship Selection Committee; University Women's History Month Committee; University Venture Fund Committee; University Provost's Instructional Innovation Grant Committee; Provost's Advisory Committee on Women's Issues; University Nanoscience Steering Committee; Honors College Policy Committee; University Conflict of Interest Committee (Chair, 2003-2005); University Golden Key Faculty Award Selection Committee; Preston College Faculty Associate; 2005 Preston College Principal Evaluation Committee (Chair); Faculty Senator, 2003-2006; Russell Research Award and USC Educational Foundation Research Award for Science, Mathematics and Engineering Selection Committee, 2005-2009 (Chair, 2008)

Consulting

2016-	SONA Nanotech, Halifax, Canada; member of Advisory Board
2013	Henkel Research, Inc.
2012-2013	Research Frontiers, Inc., Woodbury, NY
2003	RSM Devices, Inc.
2001	Luminex, Austin, TX
2000	Teledyne, Inc., Hawthorne, CA

Illinois Community Outreach

Sustainable Nanotechnology blog (https://sustainable-nano.com), contributor, 2012-

Morristown High School STEM Hour for Women's History Month, Morristown, NJ (via Zoom): "A Golden Time for Nanotechnology," March 21, 2023.

UIUC ACS Student Chapter, Chem Café, Urbana, IL: "Gold Nanocrystals: Physics, Chemistry, Biology, Ecology", April 2, 2022.

Women's History Month Faculty Panelist, Department of Chemistry, UIUC (via zoom), March 31, 2021.

ACS Student Affiliates Local Section, Pizza Talk (via zoom), “Research in the Murphy Group,” Sept. 26, 2020.

Young Chemist’s Committee, East Central Illinois Section, American Chemical Society, “Marvelous Metals” Program-in-a-Box webinar and discussion participant, Rigg’s Brewery, Urbana IL, Nov. 3, 2019.

Interview with American Chemical Society on mentoring, with alumna Ariane Vartanian, in honor of the International Day of Women and Girls in Science (Feb. 11, 2019; https://axial.acs.org/2019/02/11/acs-editors-explore-the-power-of-female-mentorship/).

Undergraduate Chemistry Club coffee hour, Urbana, IL Nov. 11, 2018.

Illinois Scholars Undergraduate Research, UIUC College of Engineering, luncheon speaker, Nov. 10, 2017.

Alpha Chi Sigma professor chat, Urbana, IL, Sept. 27, 2017.

ACS Chemistry Club coffee hour, Urbana IL, Feb. 5, 2017.

“Nano 101,” Osher Life-long Learning Institute (OLLI), Champaign, IL, Nov. 14, 2016.

Host for 8th grade job shadower from Monticello Middle School, April 24, 2015.

Radio spot, “Gold Nanotechnology,” for The Academic Minute, April 9, 2015. http://academicminute.org/2015/04/catherine-murphy-uiuc-gold-nanotechnology/

“Thinking Big About Small Things: The Promise of Nanotechnology for Biology and Medicine,” ACS Student Affiliates, UIUC, Feb. 29, 2012.

ENLIST High School Teacher Summer Workshops, participant and discussion leader on materials chemistry, 2009-2011.

“*nano eco art*” presentation to Alpha Chi Sigma chemistry fraternity, Oct. 13, 2009.

South Carolina Community Outreach

“What I Do For A Living,” round table discussion as part of Fast Forward Girl’s Summer Science Camp with 5th-7th grade girls, Mays Park, Forest Acres, SC, July 28, 2006.

“Nano 101: What is Nanotechnology (and What is Happening in South Carolina?),” presentation to the Center for Creative Retirement, Charleston, SC, Sept. 13, 2005.

“What is Stuff Made Of?” short talk and chemical demonstration shows, EdVenture Children’s Museum, Columbia, SC, March 19, 2005.

“*Nano 101: What is Nanotechnology (and What is Happening in South Carolina?)*” South Carolina Citizen’s School of Nanotechnology, Columbia, SC, speaker, 2004-2009.

Association for Women in Science, South Carolina Chapter, President, 1995-96, 1998-99, 2007-2008; Past-President, 1996-97 and 1999-2000; President-Elect, 1994-95 and 1997-98.

SC-ETV live telecast from the South Carolina State Museum, "Discovering Women in Science in South Carolina"; served on panel discussions about women in science, 1994-5.

Judge for South Carolina Region II High School Science Fair, 1994-97; Head Judge for Chemistry and entire fair, 3/95; Chemistry Head Judge, 3/96.