

CURRICULUM VITAE

Jeffrey G. Winiarz

Citizenship: U.S.

Missouri University of Science and Technology
Chemistry Department
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Research Interests

The study of holographic materials, primarily photorefractives, functionalized through the inclusion of semiconductor nanocrystals.

Academic Qualifications

- 2003** Ph.D. Physical Chemistry, State University of New York at Buffalo, NY.
Thesis Research: “Photoconductive and Photorefractive Organic-Inorganic Hybrid Polymeric Composites Containing Semiconductor Nanocrystals.”
Advisor: Prof. Paras N. Prasad
- 1997** B.S. State University of New York at Buffalo, NY.

Professional Experience

- 2013 – 2024:** Director
Learning Enhancement Across Disciplines tutoring program, Missouri University of Science and Technology
Rolla, MO
- 2011 – Present:** Associate Professor
Chemistry Department, Missouri University of Science and Technology
Rolla, MO
- 2005 – 2011:** Assistant Professor
Chemistry Department, Missouri University of Science and Technology
Rolla, MO
- 2004 – 2005:** Visiting Scholar
Optical Sciences Center, Tucson, AZ
Supervisor: Prof. Nasser Peyghambarian

2002 – 2004: Post Doctoral Research Associate
Laser and Optics Research Center, U. S. Air Force Academy, CO
Supervisor: Prof. Fassil Ghebremichael

1997 – 2002: Research Assistant
Institute for Lasers, Photonics and Biophotonics, SUNY at Buffalo, NY
Advisor: Prof. Paras N. Prasad

February 1997 – December 1997: Teaching Assistant in Physical Chemistry
Department of Chemistry, SUNY at Buffalo, NY.

Service

Campus

- Secretary, Graduate Faculty, Missouri S&T, 2015 – 2017, 2023 – present.
- Honorary Degrees Committee, Fall 2024 – present
- Committee for Effective Teaching, Missouri S&T, Fall 2019 – present
- Miners Care, Faculty Engagement Committee, Spring 2019 – present
- Chancellor's Scholarship Committee, Fall 2016 – present
- JED Campus Faculty Engagement Subcommittee, 2021 – present
- Faculty Advisor, S&T Photography Club, 2023 – present
- Honorary Degrees Committee, Chair, Fall 2023 – 2024
- Rules, Procedure and Agenda Committee, Fall 2023 – 2024
- Parking Committee, 2022 – 2023
- SEC - Active Learning Classrooms Guidance Committee, 2021 – 2023
- Budget Affairs Committee, Missouri S&T, Fall 2017 – 2023.
- President, Graduate Faculty, Missouri S&T, 2017 – 2018.
- Global Studies Minor, Missouri S&T, 2015 – 2018.
- Alternate, Effective Teaching Committee, Missouri S&T, 2010 – 2011.
- Committee Member, Undergraduate Affairs Committee, Missouri S&T, 2008 – 2012.
- Committee Member, Grievance Hearing Committee, Missouri S&T, 2008 – 2009.
- Faculty Advisor, MST Journal Club.
- I have advised a total of six OURE projects since 2005.

College

- CASB Faculty Awards Committee, Chair of the Teaching Award Subcommittee Fall 2019 – present
- CASB Faculty Leadership Council, Fall 2018 – present
- I have advised a total of three FYRE projects since 2020

Department

- Chemistry Newsletter Committee, Fall 2019 – present
- Associate Chair for Undergraduate Education, Department of Chemistry, Missouri S&T, 2020 – 2022.
- Undergraduate Recruitment and Scholarship Committee – Chair, Fall 2018 – 2022.
- Chair, Undergraduate Affairs Committee, Department of Chemistry, 2010 – 2011.
- Chair for the Local Section of the American Chemical Society, 2010.
- Chair-Elect for the Local Section of the American Chemical Society, 2009.
- Committee Member, Promotion and Tenure Committee, Department of Chemistry, 2009 - 2010.
- Committee Member, Faculty Search Committee, Department of Chemistry, 2008.
- Committee Member, Scholarship Committee, Department of Chemistry, 2008 - 2009.
- Academic Council Committee on Faculty Conduct from the Department of Chemistry, 2007-2009.
- Committee Member, Undergraduate Affairs Committee, Missouri S&T, 2010 – 2012.
- Secretary, Graduate Affairs Committee, Department of Chemistry, 2006 -2007.
- Committee Member, Undergraduate Scholarship Committee, Department of Chemistry, 2006 -2007.
- Chair, Graduate Affairs Committee, Department of Chemistry, 2005 – 2006.
- MST Chemistry Graduate Seminar Host [2 outside speakers].
- I currently academically advise 6 undergraduate chemistry majors and 1 graduate PhD student

Community

- Meet the Scientist Night, Sullivan Middle School, 2016, 2017, 2018

- Journal Reviewer: *Chemistry of Materials*, *Australian Journal of Chemistry*, *Journal of Applied Physics*, *Journal of Physical Chemistry*.
- Proposal Review Panelist: *National Science Foundation*, *SBIR/STTR Phase I Photo/Electrochemistry Panel*.
- Chair, Review Panel for LDRD-20080037DR at Los Alamos National Laboratory, 2009.
- Proposal Reviewer: *National Science Foundation*, 2007.
- Field Reviewer for the Naval Research Laboratory (NRL) Postdoctoral Fellowship Application Review, 2006.

Peer Reviewed Publications

In Preparation

N/A

Submitted

N/A

Published

Moon, Jong-Sik; Kim, Kyujung; Han, Dong-Wook; **Winiarz, Jeffrey G.**; Oh, Jin-Woo; “Recent Progress in Organic Photorefractive Materials” *Applied Spectroscopy Reviews* **2017**, 53, DOI: 10.1080/05704928.2017.1323307

Liang, Yichen; **Winiarz, Jeffrey G.**; “Practical correction of a phase-aberrated laser beam using a triphenyldiamine-based photorefractive composite” *Applied Physics B: Lasers and Optics* **2017**, 123, 1-6.

Moon, Jong-Sik; Stevens, Tyler E.; Monson, Todd C.; Huber, Dale L.; Jin, Sung-Ho; Oh, Jin-Woo; **Winiarz, Jeffrey G.**; “Sub-Millisecond Response Time in a Photorefractive Composite Operating under CW Conditions” *Scientific Reports* **2016**, 6, 30810.

Liang, Yichen; Wang, Wei; Moon, Jong-Sik; **Winiarz, Jeffrey G.**; “Enhancement in the photorefractive performance of organic composites photosensitized with functionalized CdSe quantum dots” *Optical Materials* **2016**, 58, 203-209.

Fears, T. M.; Doucet, M.; Browning, J. F.; Baldwin, J. K. S.; **Winiarz, Jeffrey G.**; Kaiser, H.; Taub, H.; Sacci, R. L.; Veith, G. M.; “Evaluating the solid electrolyte interphase formed on silicon electrodes: a comparison of ex situ X-ray photoelectron spectroscopy and in situ neutron reflectometry” *Physical Chemistry Chemical Physics* **2016**, 18, 13927-13940.

Moon, Jong-Sik; Liang, Yichen; Kim, Inhong; Oh, Jin-Woo; Winiarz, Jeffrey G. “Formation of water soluble wavelength tunable InGaP and InP quantum dots” *Polym. Bull.* **2016**, DOI 10.1007/s00289-016-1674-7.

Fears, Tyler M.; Sotiriou-Leventis, Chariklia; **Winiarz, Jeffrey G.**; Leventis, Nicholas; “Economical synthesis of vanadia aerogels via epoxide-assisted gelation of VOCl_3 ” *Journal of Sol-Gel Science and Technology* **2016**, 77, 244-256.

Moon, Jong-Sik; Liang, Yichen; Stevens, Tyler E.; Monson, Todd C.; Huber, Dale L.; Mahala, Benjamin D.; **Winiarz, Jeffrey G.**; “Off-Resonance Photosensitization of a Photorefractive Polymer Composite Using PbS Nanocrystals” *Journal of Physical Chemistry C* **2015**, 119, 13827-13835.

Liang, Yichen; Moon, Jong-Sik; Mu, Ruipu; **Winiarz, Jeffrey G.**; “Functionalization of CdSe semiconductor nanocrystals with organic charge-transporting ligands” *Journal of Materials Chemistry C: Materials for Optical and Electronic Devices* **2015**, 3, 4134-4140.

Fears, Tyler M.; Sacci, Robert L.; **Winiarz, Jeffrey G.**; Kaiser, Helmut; Taub, Haskell; Veith, Gabriel M.; “A study of perfluorocarboxylate ester solvents for lithium ion battery electrolytes” *Journal of Power Sources* **2015**, 299, 434-442.

Fears, Tyler Martin; Leventis, Nicholas; Sotiriou-Leventis, Chariklia; **Winiarz, Jeffrey G.**; “Nanoporous vanadium oxide aerogels and methods of preparation” U.S. Pat. Appl. Publ. **2015**, US 20150284258 A1 20151008.

Chantharasupawong, Panit; Christenson, Cory W.; Philip, Reji; Zhai, Lei; **Winiarz, Jeffrey G.**; Yamamoto, Michiharu; Tetard, Laurene; Naire, Rahul R.; Thomas, Jayan “Photorefractive performances of a graphene-doped PATPD/7-DCST/ECZ composite” *J. Mater. Chem. C* **2014**, 2, 7639-7647.

Han, Seung-Jin; Rathinaraj, Pierson; Park, Soo-Young; Kim, Young Kyoo; Lee, Joon Hyung; Kang, Inn-Kyu; Moon, Jong-Sik; **Winiarz, Jeffrey G.**; “Specific intracellular uptake of herceptin-conjugated CdSe/ZnS quantum dots into breast cancer cells” *BioMed Research International* **2014**, 954307/1-954307/10, 10 pp..

Chusuei, Charles C.; Wu, Chi-Heng; Mallavarapu, Shravan; Hou, Fang Yao Stephen; Hsu, Chen-Ming; **Winiarz, Jeffrey G.**; Aronstam, Robert S.; Huang, Yue-Wern “Cytotoxicity in the age of nano: The role of fourth period transition metal oxide nanoparticle physicochemical properties” *Chemico-Biological Interactions* **2013**, 206, 319-326.

Liu, Betty R.; **Winiarz, Jeffrey G.**; Moon, Jong-Sik; Lo, Shih-Yen; Huang, Yue-Wern; Aronstam, Robert S.; Lee, Han-Jung “Synthesis, characterization and applications of carboxylated and polyethylene-glycolated bifunctionalized InP/ZnS quantum dots in cellular internalization mediated by cell-penetrating peptides” *Colloids and Surfaces, B: Biointerfaces* **2013**, 111, 162-170.

Liu, Betty R.; Huang, Yue-wern; **Winiarz, Jeffrey G.**; Chiang, Huey-Jenn; Lee, Han-Jung “Intracellular delivery of quantum dots mediated by a histidine- and arginine-rich HR9 cell-penetrating peptide through the direct membrane translocation mechanism” *Biomaterials* **2011**, 32, 3520-3537.

Xu, Yi; Liu, Betty Revon; Lee, Han-Jung; Shannon, Katie B.; **Winiarz, Jeffrey G.**; Wang, Tien-Chun; Chiang, Huey-Jenn; Huang, Yue-wern "Nona-arginine facilitates delivery of quantum dots into cells via multiple pathways" *J. Biomed. Biotech.* **2010**, 948543.

Lingam, Naveen K.; Kalghatgi, Sonali; **Winiarz, Jeffrey G.** "Enhanced Photorefractivity in a Polymeric Composite Photosensitized with Modified Carbon Nanotubes" *J. Appl. Phys.* **2011**, 109 023106/1.

Stayton, Isaac; **Winiarz, Jeffrey**; Shannon, Katie; Ma, Yinfa "Study of Uptake and Loss of Silica Nanoparticles in Living Human Lung Epithelial Cells at the Single Cell Level" *Anal. Bioanal. Chem.* **2009**, 394, 1595.

Fears, Tyler; Anderson, Charles; **Winiarz, Jeffrey G.** "Photorefractivity in a Polymeric Composite Photosensitized with NiS Nanocrystals" *J. Chem. Phys.* **2008**, 129, 1-8.

Winiarz, Jeffrey G. "Enhancement of the Photorefractive Response Time in a Polymeric Composite Photosensitized with CdTe Nanoparticles" *J. Phys. Chem. C* **2007**, 111, 1904-1911.

J. Thomas, S. Tay, **J. Winiarz**, M. Eralp, G. Li, S. R. Marder, A. Schülzgen, R. Norwood, and N. Peyghambarian, "Recent Advances in Two-Photon Photorefractive Polymers," in *Frontiers in Optics*, OSA Technical Digest Series (Optical Society of America, 2005), paper SWC3.

M. Eralp, J. Thomas, G. Li, **J. Winiarz**, S. Tay, A. Schülzgen, R. Norwood, and N. Peyghambarian, "Photorefractive Polymer Device Operating at Practical Voltages," in *Frontiers in Optics*, OSA Technical Digest Series (Optical Society of America, 2005), paper SWC4.

Winiarz, Jeffrey G.; Ghebremichael, F.; Thomas, Jayan; Meredith, Gerald; Peyghambarian, Nasser "Dynamic correction of a distorted image using a photorefractive polymeric composite," *Opt. Express* **2004**, 12, 2517-2528.

Winiarz, Jeffrey G.; Ghebremichael, F. "Beam cleanup and image restoration using a photorefractive polymeric composite," *Appl. Opt.* **2004**, 43, 3166-3170.

Choudhury, Kaushik Roy; **Winiarz, Jeffrey G.**; Samoc, Marek; Prasad, Paras N. "Charge carrier mobility in an organic-inorganic hybrid nanocomposite," *Appl. Phys. Lett.* **2003**, 82, 406-408.

Winiarz, Jeffrey G.; Prasad, Paras N. "Photorefractivity in an inorganic-organic hybrid polymer-dispersed liquid crystal composite photosensitized with cadmium sulfide nanocrystals," *Opt. Lett.* **2002**, 27, 1330-1332.

Winiarz, Jeffrey G.; Zhang, Liangmin; Park, JooHo; Prasad, Paras N. "Inorganic:Organic hybrid nanocomposites for photorefractivity at communication wavelengths," *J. Phys. Chem. B* **2002**, 106, 967-970.

Shen, Yuzhen; Markowicz, Przemyslaw; **Winiarz, Jeff**; Swiatkiewicz, Jacek; Prasad, Paras N. "Nanoscopic study of second-harmonic generation in organic crystals with collection-mode near-field scanning optical microscopy," *Opt. Lett.* **2001**, *26*, 725-727.

Shen, Yuzhen; Swiatkiewicz, Jacek; **Winiarz, Jeff**; Markowicz, Przemyslaw; Prasad, Paras N. "Second-harmonic and sum-frequency imaging of organic nanocrystals with photon scanning tunneling microscope," *Appl. Phys. Lett.* **2000**, *77*, 2946-2948.

Prasad, P. N.; Swiatkiewicz, J.; Liebow, C.; Lal, M.; Pudavur, H.; Al-Nouri, M.; Wang, X.; Krebs, L.; Friend, C. S.; Biswas, A.; Zcubza, D.; Shen, Y.; Joshi, M.; Bhawalkar, J. D.; **Winiarz, J.** "New frontiers of photonics: nanophotonics and biophotonics," *MCLC S&T, Sect. B: Nonlinear Opt.* **1999**, *22*, 289-294.

Winiarz, Jeffrey G.; Zhang, Liangmin; Lal, Manjari; Friend, Christopher S.; Prasad, Paras N. "Photogeneration, charge transport, and photoconductivity of a novel PVK/CdS-nanocrystal polymer composite," *Chem. Phys.* **1999**, *245*, 417-428.

Winiarz, Jeffrey G.; Zhang, Liangmin; Lal, Manjari; Friend, Christopher S.; Prasad, Paras N. "Observation of the photorefractive effect in a hybrid organic-inorganic nanocomposite," *J. Am. Chem. Soc.* **1999**, *121*, 5287-5295.

Swedek, Bogdan; Cheng, Ning; Cui, Yiping; Zieba, Jaroslaw; **Winiarz, Jeffrey**; Prasad, Paras N. "Temperature-dependence studies of photorefractive effect in a low glass-transition-temperature polymer composite," *J. Appl. Phys.* **1997**, *82*, 5923-5931.

Conferences and Proceedings

Fears, Tyler M.; Mahadik-Khanolkar, Shruti; **Winiarz, Jeffrey G.**; Sotiriou-Leventis, Chariklia; Leventis, Nicholas "Synthesis of vanadium oxide aerogels through epoxide-assisted gelation of VOCl_3 " *49th Midwest Regional Meeting of the American Chemical Society*, Columbia, MO, November 12-15, **2014**.

Liang, Yichen; Moon, Jong-Sik; Winiarz, Jeffrey G. "TPD-based photorefractive composites: Design and application in restoration of an aberrated laser beam" *49th Midwest Regional Meeting of the American Chemical Society*, Columbia, MO, November 12-15, **2014**.

Chusuei, Charles C.; Wu, Chi-Heng; Mallavarapu, Shravan; Hou, Fang Yao Stephen; Hsu, Chen-Ming; **Winiarz, Jeffrey G.**; Aronstam, Robert S.; Huang, Yue-Wern "Exploring physicochemical properties that govern nanoparticulate metal oxide cytotoxicity" *66th Southeast Regional Meeting of the American Chemical Society*, Nashville, TN, October 16-19, **2014**.

Fears, Tyler M.; Leventis, Nicholas; Sotiriou-Leventis, Chariklia; **Winiarz, Jeffrey G.**; Taub, Haskell; Kaiser, Helmut "In-situ neutron diffraction of lithium vanadium oxide cathodes" *247th ACS National Meeting & Exposition*, Dallas, TX, March 16-20, **2014**.

Fears, Tyler M.; Mahadik-Khanolkar, Shruti; **Winiarz, Jeffrey G.**; Sotiriou-Leventis, Chariklia; Leventis, Nicholas “Inexpensive synthesis of low-density nanofibrous vanadia monoliths from VOCl_3 ” *245th ACS National Meeting & Exposition*, New Orleans, LA, April 7-11, **2013**.

Stayton, Isaac; **Winiarz, Jeffrey G.**; Ma, Yinfa, et.al. “Probing the Interactions Between Silica-Surfaced Nanoparticles with Human Lung Carcinoma Cells,” *Pittcon2009*, Chicago, IL, March 15, **2009**.

Stayton, Isaac; **Winiarz, Jeffrey G.**; Ma, Yinfa, et.al. “Investigation of Cell Uptake, Aggregation and Distribution of Nanoparticles in A-549 Cells Using a Novel Single Cell Imaging System” *Pittcon2007*, Feb. 25, **2007**.

Prasad, Paras N.; Chung, Sung-Jae; Lin, Tzu-Chau; Friend, Christopher S.; **Winiarz, Jeffrey G.**; Markowicz, Przemyslaw P. “Multifunctional nanostructures for photonics,” *Abstr. Pap. - Am. Chem. Soc.* **2001**, *221st INOR*, 426.

Prasad, Paras N.; Shen, Yuzhen; Biswas, Abani; **Winiarz, Jeff** “Nanophotonics: nanoscale optical science and technology,” *NATO Sci. Ser., II* **2000**, *6*, 1-10.

Prasad, P. N.; Reinhardt, B.; Pudavar, H.; Min, Y. H.; Lal, M.; **Winiarz, J.**; Biswas, A.; Levy, L. “Polymer-based new photonic technology using two photon chromophores and hybrid inorganic-organic nanocomposites,” *Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000*, **2000**.

Prasad, Paras N.; Lal, M.; Friend, C.; Biswas, A.; Swiatkewicz, J.; Kim, K.; Chung, S. J.; **Winiarz, J.**; Jakubczyk, D.; Shen, Y.; Levy, L.; Lin, T. C. “Organic and organic-inorganic hybrid materials for nanophotonics: Nanoscale optical science and technology,” *Book of Abstracts, 218th ACS National Meeting, New Orleans, Aug. 22-26, 1999*.

Lal, M.; Joshi, M.; Kumar, D. N.; Friend, C. S.; **Winiarz, J.**; Asefa, T.; Kim, K.; Prasad, Paras N. “Inorganic- organic hybrid materials for photonics,” *Mater. Res. Soc. Symp. Proc., (Organic/Inorganic Hybrid Materials)* **1998**, *519*, 217-225.

Friend, C. S.; Lal, M.; Biswas, A.; **Winiarz, J.**; Zhang, L.; Prasad, P. N. “Multifunctional organic-inorganic nanocomposites for photonics,” *Proc. SPIE-Int. Soc. Opt. Eng. (Organic-Inorganic Hybrid Materials for Photonics)* **1998**, *3469*, 100-107.

Swedek, Bogdan; Prasad, Paras N.; Cui, Yiping; Cheng, Ning; Zieba, Jaroslaw; **Winiarz, Jeffrey**; Kim, Kie-Soo. “Theoretical and experimental studies of photorefractivity in novel polymeric composites,” *Proc. SPIE-Int. Soc. Opt. Eng.* **1996**, *2850*, 89-99.

Invited Talks

- “Enhancement of the Response Time in Photorefractive Composites through the Inclusion of Semiconductor Nanocrystals” Union University, Jackson, TN, Apr 15, 2022, hosted by Michael R. Salazar

- “Enhancement of the Response Time in Photorefractive Composites through the Inclusion of Semiconductor Nanocrystals” Pusan National University, Busan, Korea, March 31, 2011, hosted by Hyun-Hok Choi.
- Winiarz, Jeffrey G. “Nanocrystal Photosensitization of Photoconductive Polymeric Composites” Kyungpook National University, Daegu, Korea, March 28, 2011, hosted by Inn-Kyu Kang.
- “Optimization of the Response Times in Photorefractive Polymeric Composites through the Inclusion of Semiconductor Nanocrystals” Oklahoma State University Chemistry Department Seminar, Feb. 11, 2010, hosted by Prof. Frank Blum.
- “Introduction for Prof. Yinfa Ma, 2008 recipient of the 2008 ACS Division of Analytical Chemistry J. Calvin Giddings Award for Excellence in Education” National Meeting of the American Chemical Society, Philadelphia, PA, Aug. 17, 2009.
- “Photorefractive Polymeric Composites and their Photosensitization through the Inclusion of Semiconductor Nanocrystals” Los Alamos National Laboratory, May 20, 2009, hosted by Dr. Rico Del Sesto.
- “Real-Time Holographic Polymers Utilizing Nanocrystal Photosensitization” MST Chemical and Biological Engineering Seminar Series, Mar. 17, 2009.
- “Real-Time Holographic Polymers Utilizing Nanocrystal Photosensitization” American Chemical Society, South Central Missouri Student Affiliate, MST, Sept. 15, 2008, hosted by Patrick Stanley.
- “Photorefractivity at Infrared Wavelengths” Sandia National Laboratory, Jan. 16, 2008, hosted by Capt. Todd Monson, USAF.
- “Real-Time Holographic Polymers Utilizing Nanocrystal Photosensitization” University of Missouri, Kansas City Department of Chemistry Seminar Series, Oct. 25, 2007.
- “Semiconductor Nanocrystals” MoSci Corporation, March 17, 2006. Hosted by Mariano Velez.
- “Photorefractivity in Polymeric Composites and their Photosensitization Through the Inclusion of Semiconductor Nanocrystals” MST Chemistry Department Homecoming Seminar, Sept. 30, 2005. Hosted by Prof. Ekkehard Sinn.
- “Life for Recent Ph.D. Graduates; What to expect and what mistakes did I make from which you may learn” MST Challenges in Academia Seminar Series, Nov. 15, 2005.
- “Introduction to semiconductor nanocrystals” American Chemical Society, South Central Missouri Student Affiliate, Nov. 14, 2005. Hosted by Angela Rudolph.

Grants

Funded

- “Photosensitization of Optical Composites with Functionalized Semiconductor Nanocrystals” University of Missouri Research Board; \$21,750; Period: 2015 - 2016; PI: J. G. Winiarz (100% effort).
- “IGERT Traineeship - Tyler Fears” NSF Division of Graduate Education; \$81,000; Period: 2013 – 2014, PI: J. G. Winiarz (100% effort).
- “Synthesis and Characterization of Porous Polymers, Ceramics, Composites, Mechanical, Optical and Electrical Properties” US Army; \$1,600,000; Period: 2010 - 2012; CoPI: J. G. Winiarz (10% effort), PI: N. Leventis.
- “Dynamic Holography in Photorefractive Composites Exhibiting Sub-millisecond Response Times via Photo-Deactivated Trapping of Charge Carriers” Materials Research Center, Missouri S&T; \$12,325; Period: 2009 – 2010; PI: J. G. Winiarz (100% effort).
- “Using Quantum Dots and Protein Transduction Domains to Analyze Cargo Dissociation, Uptake, and Localization in Live Cells” National Institute of Health; \$225,750; Period 2009 – 2011; CoPI: J. G. Winiarz (25% effort), PI: Yue-wern Huang.
- “Nanocrystal Photosensitization of Polymer Composites” University of Missouri Research Board; \$22,000; Period: 2007 – 2009; PI: J. G. Winiarz (100% effort).
- “Incorporation of Semiconductor Nanocrystals into Photoconductive and Photorefractive Polymeric Composites for Purposes of Photosensitization” Sandia National Laboratory – Center for Integrated Nanotechnology; Use of CINT facility and technical staff; Period: 2006 – 2009; PI: J. G. Winiarz (100% effort).

Teaching at MST [Semesters Taught]

- Chem 1110, Orientation for Chemistry Majors [Fall 2022, Fall 2024]
- Chem 1110, Orientation for Chemistry Majors, Guest Lecturer [Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2023]
- Chem 1310, General Chemistry I [Spring 2011, Fall 2016, Fall 2017, Spring 2018, Summer 2018, Fall 2018, Spring 2019, Summer 2019, Fall 2019, Spring 2020, Summer 2020, Fall 2020, Spring 2021, Fall 2022, Spring 2023, Summer 2023, Fall 2023, Spring 2024, Summer 2024, Fall 2024]
- Chem 1319, General Chemistry Laboratory [Fall 2016, Spring 2017]
- Chem 1320, General Chemistry II [Spring 2012]
- Chem 3410, *Chemical Thermodynamics [Spring 2008, Spring 2013, Spring 2014]
- Chem 3410H, *Chemical Thermodynamics (Honors Course) [Spring 2014]

- Chem 3419, Thermodynamics Laboratory [Spring 2006]
- Chem 3420, *Introduction to Quantum Chemistry [Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Spring 2012, Fall 2012, Fall 2013, Fall 2014, Spring 2016, Spring 2022].
- Chem 3420H, *Introduction to Quantum Chemistry (Honors Course) [Fall 2009]
- Chem 3430, Chemical Kinetics [Fall 2022]
- Chem 4000, Special Problems [Fall, 2011, Fall, 2012, Spring 2013, Fall, 2013, Summer 2014, Spring 2016, Fall 2016]
- Chem 4099, Undergraduate Research [Spring 2006, Fall 2006, Fall 2007, Spring 2008, Summer 2008, Fall 2008, Spring 2009, Spring 2010, Summer 2010, Fall 2010, Summer 2011, Spring 2011, Fall 2011, Spring 2012, Summer 2012, Fall 2012, Spring 2013, Fall 2013, Spring 2014, Fall 2014, Fall 2015, Spring 2016, Spring 2017, Fall 2017, Spring 2018, Fall 21, Spring 2022, Summer 2022. Fall 2022, Spring 2023, Fall 2024]
- Chem 4099H, Undergraduate Research (Honors Course) [Summer 2009].
- Chem 5420, *Elemental Quantum Chemistry (Graduate Level) [Fall, 2014, Spring 2016, Spring 2022]
- Chem 6099, Graduate Research [Spring 2006, Fall 2009, Spring 2010, Summer 2010, Fall 2010, Spring 2011, Summer 2011, Fall 2011, Spring 2012, Summer 2012, Fall 2012, Spring 2013, Summer 2013, Fall 2013, Spring 2014, Summer 2014, Fall 2014, Spring 2015, Summer 2015, Fall 2015, Spring 2016, Spring 2024, Summer 2024, Fall 2024]
- Chem 6430, *Chemical Kinetics (Graduate Level) [Spring 2010].
- Chem 6450, *Physical Chemical Spectroscopy (Graduate Level) [Spring 2009, Spring 2015].
- Chem 6550, *Analytical Chemical Spectroscopy (Graduate Level) [Spring 2009]
- Hit the Ground Running [Summer 2018, Summer 2019, Summer 2020, Summer 2021, Summer 2022]

*Instructor initiated the *Learning Enhancement Across Disciplines* (LEAD) Program for the first time in this course

Graduate Students

Graduated

- Naveen Lingam; M.S. May, 2010.
- Jong-sik Moon; Ph.D. December, 2014.
- Tyler Fears; Ph.D. December, 2015.

- Yichen Liang; Ph.D. May, 2016.

Current

- Dillon Thompson

Awards

- Missouri S&T Department of Chemistry Excellence in Teaching Tappmeyer Award (2010-2011).
- Missouri S&T Chancellor's Committee Award for Excellence in Teaching (2009-2010).
- Missouri S&T Department of Chemistry Excellence in Teaching Level 400 Chemistry (2009 – 2010).
- Missouri S&T Department of Chemistry Excellence in Teaching Level 300 Chemistry (2006 – 2007).
- Silbert Fellowship and Scholarship Award (1999-2000).

Memberships

- Member of American Chemical Society (2002 – present).
- Member of the Materials Research Society (2003 – present).

Professional Development

- Association of College and University Educators (ACUE) Program for teaching Effectiveness; August 2020 – May 2021.
- Faculty Guild; January 2020 – August 2020.
- Council of Graduate Schools, Scottsdale, AZ, 2017.
- ACS Leadership Development, Ft. Worth, TX, 2009.
- Human Resources Faculty Search Training, Missouri S&T, 2008.
- UM System New Faculty Scholar, 2006 – 2007.
- MST Freshman Faculty Forum, 2005 – 2006.