

Updated: 09/02/2025

1. NAME**KEVIN TVRDY**

University of Colorado, Colorado Springs
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2. EDUCATION

Massachusetts Institute of Technology	Cambridge, MA	2011 - 2013
Postdoctoral Researcher , Advisor: Michael S. Strano		
University of Notre Dame	Notre Dame, IN	2006 - 2011
PhD in Chemistry , Advisor: Prashant V. Kamat		
Thesis: "Electron Transfer Reactions in Quantum Dot Sensitized Solar Cells"		
University of Nebraska	Lincoln, NE	2001 - 2005
Bachelor of Science in Chemistry , Minor in Mathematics		

3. PROFESSIONAL EXPERIENCE

University of Colorado, Colorado Springs	Colorado Springs, CO	2020 - present
Associate Professor, Department of Chemistry & Biochemistry		
University of Colorado, Colorado Springs	Colorado Springs, CO	2013 - 2020
Assistant Professor, Department of Chemistry & Biochemistry		
Streck Laboratories	Omaha, NE	2005 - 2006
Research and Development Technician : Brought Two New Products to Market		

4. REFEREED PUBLICATIONS (TOTAL TIMES CITED: 4,871; H-INDEX: 14; GOOGLE SCHOLAR, 05/30/24)

23. Rivera Lemon, E.N.; Lowe, L.E.; Lazelle, S.M.; Tvrdy, K.; and Owens, J.E.; "SNaP-C: Development of a Silver Nanoparticle Antioxidant Assay for the Selective Quantitative Analysis of Vitamin C in Beverages" **ACS Omega** (2025) 10: 2280-2288
22. Dolan, M.; Hughes, L.N.; and Tvrdy, K.; "Hydrogel Composition Effects on Performance as Single-Walled Carbon Nanotube Purification Media" **The Journal of Physical Chemistry C** (2024) 128: 15923–15936
21. Watts, B.P.; Rolsma, C.; Dolan, M.; and Tvrdy, K.; "Mechanism and Mitigation of Irreversible Material Loss within Gel-Based Single-Walled Carbon Nanotube Purification Schemes" **The Journal of Physical Chemistry C** (2021) 125: 26084-26098

4. REFEREED PUBLICATIONS (CONTINUED)

20. Zononi, S.; Watts, B.P.; and Tvrđy, K.; "Single-Walled Carbon Nanotube Chiral Selectivity Exhibited by Commercially Available Hydrogels of Varying Composition" **ACS Applied Materials & Interfaces** (2021) 13: 33635-33643
19. Dolan, M.; Watts, B.P.; and Tvrđy, K.; "Tailored Synthesis of Hydrogel Media for Chirality Separation of Single Walled Carbon Nanotubes" **Carbon** (2021) 171: 597-609
18. Watts, B.P.; Barbee, C.H.; and Tvrđy, K.; "Exploiting the Physiochemical Interactions between Single-Walled Carbon Nanotubes and Hydrogel Microspheres to Afford Chirally Pure Nanotubes" **ACS Applied Nano Materials** (2019) 2: 3615-3625
17. Hankiewicz, J.C.; Stoll, J.A.; Stroud, J.; Davidson, J.; Livesey, K.L.; Tvrđy, K.; Roshko, A.; Russek, S.E.; Stupic, K.; Bilski, P.; Camley, R.E.; and Celinski, Z.J.; "Nano-sized Ferrite Particles for Magnetic Resonance Imaging Thermometry" **Journal of Magnetism and Magnetic Materials** (2019) 469: 550-557
16. Weeks, N.; and Tvrđy, K.; "Atomistic Modeling of Quantum Dots at Experimentally Relevant Scales Using Charge Equilibration" **The Journal of Physical Chemistry A** (2017) 121: 9346-9357
15. Son, Y.; Wang, Q.H.; Paulson, J.A.; Shih, C.J.; Rajan, A.; Tvrđy, K.; Kim, S.; Alfeeli, B.; Braatz, R.; and Strano, M.S.; "Layer Number Dependence of MoS₂ Photoconductivity Using Photocurrent Spectral Atomic Force Microscopic Imaging" **ACS Nano** (2015) 9: 2843-2855
14. Dyatlova, O.A.; Koehler, C.; Vogel, P.; Malic, E.; Jain, R.M.; Tvrđy, K.; Strano, M.S.; Knorr, A.; and Woggon, A.; "Relaxation Dynamics of carbon nanotubes of enriched chiralities" **Physical Review B** (2014) 90: 155402
13. McNicholas, T.P.; Cantu, V.; Hilmer, A.J.; Tvrđy, K.; Jain, R.M.; Han, R.; Bellisario, D.; Ahn, J.; Barone, P.; Mu, B.; and Strano, M.S. "Magnetoadsorbent Particles Enabling the Centrifugation-Free, Preparative-Scale Separation and Sorting of Single-Walled Carbon Nanotubes" **Particle & Particle Systems Characterization** (2014) 31: 1097-1104
12. Jain, R.M.; Tvrđy, K.; Han, R.; Ulissi, Z., and Strano, M.S. "Quantitative Theory of Adsorptive Separation for the Electronic Sorting of Single-Walled Carbon Nanotubes" **ACS Nano** (2014) 8: 3367-3379
11. Reuel, N.F.; Grassbaugh, B.; Kruss, S.; Mundy, J.Z.; Opel, C.; Ogunniyi, A.O.; Egodage, K.; Wahl, R.; Helk, B.; Zhang, J.; Kalcioğlu, Z.I.; Tvrđy, K.T.; Bellisario, D.O.; Mu, B.; Blake, S.S.; Van Vleet, K.J.; Love, J.C.; Wittrup, K.D.; and Strano, M.S. "Emergent Properties of Nanosensor Arrays: Applications for Monitoring IgG Affinity Distributions, Weakly Affined Hypermannosylation, and Colony Selection for Biomanufacturing" **ACS Nano** (2013) 7: 7472-7482
10. Hilmer, A.J.; Tvrđy, K.; Zhang, J.Q.; and Strano, M.S. "Charge Transfer Structure-Reactivity Dependence of Fullerene-Single-Walled Carbon Nanotube Heterojunctions" **Journal of the American Chemical Society** (2013) 135: 11901-11910
9. Tvrđy, K.; Jain, R.M.; Han, R.; Hilmer, A.J.; McNicholas, T.P.; and Strano, M.S. "A Kinetic Model for the Deterministic Prediction of Gel-Based Single-Chirality Single-Walled Carbon Nanotube Separation" **ACS Nano** (2013) 7: 1779-1789
8. Jain, R.M.; Howden, R.; Tvrđy, K.; Shimizu, S.; Hilmer, A.J.; McNicholas, T.P.; Gleason, K.K. and Strano, M.S. "Polymer-Free Near-Infrared Photovoltaics with Single Chirality (6,5) Semiconducting Carbon Nanotube Active Layers" **Advanced Materials** (2012) 24: 4436-4439

4. REFEREED PUBLICATIONS (CONTINUED)

7. Tvrdy, K. and Strano, M.S. "Nanoimaging, Image Contrast Using Time" **Nature Nanotechnology** (2012) 7: 8-9
6. Pernik, D.R.; Tvrdy, K.; Radich, J.G. and Kamat, P.V. "Tracking the Adsorption and Electron Injection Rates of CdSe Quantum Dots on TiO₂: Linked Versus Direct Attachment" **The Journal of Physical Chemistry C** (2011) 115: 13511-13519
5. Tvrdy, K.; Frantsuzov, P.A. and Kamat, P.V. "Photoinduced Electron Transfer from Semiconductor Quantum Dots to Metal Oxide Nanoparticles" **Proceedings of the National Academy of Sciences of the United States of America** (2011) 108: 29-34
4. Kamat, P.V.; Tvrdy, K.; Baker, D.R. and Radich J.G. "Beyond Photovoltaics: Semiconductor Nanoarchitectures for Liquid Junction Solar Cells" **Chemical Reviews** (2010) 110: 6664-6688
3. Chakrapani, V.; Tvrdy, K. and Kamat, P.V. "Modulation of Electron Injection in CdSe-TiO₂ System through Medium Alkalinity" **Journal of the American Chemistry Society** (2010) 132: 1228-1229
2. Tvrdy, K. and Kamat, P.V. "Substrate Driven Photochemistry of CdSe Quantum Dot Films: Charge Injection and Irreversible Transformations on Oxide Surfaces" **The Journal of Physical Chemistry A** (2009) 113: 3765-3772
1. Konkanand, A.; Tvrdy, K.; Takechi, K.; Kuno, M. and Kamat, P.V. "Quantum Dot Solar Cells. Tuning Photoresponse through Size and Shape Control of CdSe—TiO₂ Architecture" **Journal of the American Chemistry Society** (2008) 130: 4007-4015

Patents

2. Tvrdy, Kevin; Watts, Brennan P., and Barbee, Cameron H. *A Method Of Generating Chirally Pure Single-Walled Carbon-Nanotubes*. The Regents of the University of Colorado. Provisional Patent Application No. 62/845,603. 02 (CU Reference No: CU4998C-PPA1). Filed: May 19th, 2019
1. Strano, Michael S.; McNicholas, Thomas P.; Hilmer, Andrew J.; Jain, Rishabh M.; and Tvrdy, Kevin C.; *Compositions, Methods, and Systems for Separating Carbon-Based Nanostructures*. Massachusetts Institute of Technology, assignee. Patent 9403684. 02 Aug. 2016. Licensed: Nano-C® (2016)

5. NON-REFEREED PUBLICATIONS

Meeting Abstracts

60. Hughes, Laurique and Tvrdy, Kevin; "*The Effects of Sephacryl Formulation Perturbation on its Function as a Single-Walled Carbon Nanotube Purification Media*", **American Chemical Society National Meeting** (San Diego, CA) March 27th, 2025
59. Dolan, Marshal; Hughes, Laurique; and Tvrdy, Kevin; "*Hydrogel Composition Effects on Performance as Single-walled Carbon Nanotube Purification Media*", **American Chemical Society National Meeting** (San Diego, CA) March 25th, 2025
58. Salazar, Christopher and Tvrdy, Kevin; "*Simulation of Macroscopic Hydrogel Formation using Monte Carlo Methodologies*", **American Chemical Society National Meeting** (San Diego, CA) March 25th, 2025

5. NON-REFEREED PUBLICATIONS (CONTINUED)

Meeting Abstracts (Continued)

57. Hughes, Laurique and Tvrdy, Kevin; *"Synthesis Parameters and Structural Properties of Allyl-Dextran at varying Molecular Weights for Polysaccharide-Based Block Copolymers"*, **American Chemical Society National Meeting** (San Diego, CA) March 23rd, 2025
56. Elmore, Logan; Hughes, Laurique; and Tvrdy, Kevin; *"Design and Fabrication of Laboratory Equipment: 3D Printed Blender Robot for Automated Mechanical Separation of Hydrogels"*, **American Chemical Society National Meeting** (San Diego, CA) March 23rd, 2025
55. Salazar, Christopher; and Tvrdy, Kevin; *"Simulation of Macroscopic Hydrogel Formation using Monte Carlo Methodologies to Determine Interaction Properties with Single Wall Carbon Nanotubes (SWCNTs)"*, **Mountain Lion Research Day** (Colorado Springs, CO) December 6th, 2024
54. Zaroni, Sophia; Watts, Brennan; and Tvrdy, Kevin; *"Single-walled Carbon Nanotube Chiral Selectivity Exhibited by Commercially Available Hydrogels of Varying Composition"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
53. Hughes, Laurique; and Tvrdy, Kevin; *"Determination of the Effects of Hydrogel Chemical Composition on Single-walled Carbon Nanotube Purification"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
52. Mastalka-Tatro, Natasha; and Tvrdy, Kevin; *"Identification and Quantification of Sonicated Sodium Dodecyl Sulfate Products in Single-walled Carbon Nanotube Suspension by Gas Chromatography"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
51. Tvrdy, Kevin; Kovacs, James; and Taylor, Vicki; *"Integration of Outreach Event within Senior-level Undergraduate Capstone Course: Challenges and Accomplishments"*, **American Chemical Society National Meeting** (New Orleans, LA) March 20th, 2024
50. Watts, Brennan; Rolsma, Caleb; Dolan, Marshal; and Tvrdy, Kevin; *"Mechanism and Mitigation of Irreversible Material Loss within Gel-based Single-walled Carbon Nanotube Purification Schemes"*, **American Chemical Society National Meeting** (New Orleans, LA) March 20th, 2024
49. Elmore, Logan; and Tvrdy, Kevin; *"Mechanical Separation of Hydrogels by Robotic Automation"*, **Mountain Lion Research Day** (Colorado Springs, CO) December 8th, 2023
48. Hughes, L.; and Tvrdy, Kevin; *"Determination of the Effect of Hydrogel Chemical Composition on Single-walled Carbon Nanotube Purification"*, **Fluoropolymer 2023** (Denver, CO) June 19th, 2023
47. Mastalka-Tatro, N.; Lowe, L.E.; Owens, J.E.; and Tvrdy, K; *"The Effect of Aqueous Sodium Dodecyl Sulfate Sonication By-products on Single Walled Carbon Nanotube Hydrogel Purification"*, **Fluoropolymer 2023** (Denver, CO) June 19th, 2023
46. Hughes, L.; and Tvrdy, K; *"Determination of the Effect of Hydrogel Chemical Composition on Single-Walled Carbon Nanotube Purification"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 22nd, 2023
45. Mastalka-Tatro, N.; and Tvrdy, K; *"Quantification of 1-dodecanol in Single Walled Carbon Nanotube Solutions"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 9th, 2022

5. NON-REFEREED PUBLICATIONS (CONTINUED)

Meeting Abstracts (Continued)

44. Hughes, L.; and Tvrdy, K; *"Totally Tubular: Determination of the Effect of Sonication on the Length and Purification of Single Walled Carbon Nanotubes"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 9th, 2022
43. Zanoni, S.; and Tvrdy, K; *"Single-walled Carbon Nanotube Chiral Selectivity Exhibited by Commercially Available Hydrogels of Varying Composition"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 24th, 2021
42. Foronda, B.; and Tvrdy, K.; *"Computational Modeling of Fate and Transport of Perfluorinated Compounds Contamination with GEM"*, **Mountain Lion Research Day** (Colorado Springs, CO) December 13th, 2019
41. Weeks, N. and Tvrdy, K.; *"Generation and Analysis of Unique Wurtzite Quantum Dot Structures"*, **American Chemical Society National Meeting** (Orlando, FL) April 3rd, 2019
40. Tvrdy, K. and Weeks, N.; *"Applying Charge Equilibration Methods to CdSe Quantum Dots to gain Atomistic Insight into the Magic-size Phenomenon"*, **American Chemical Society National Meeting** (Orlando, FL) April 2nd, 2019
39. Weeks, N. and Tvrdy, K.; *"Predicting Size Dependence of CdSe Quantum Dot Net Charge using Modified Charge Equilibration Methods"*, **American Chemical Society National Meeting** (Orlando, FL) March 31st, 2019
38. Barbee, C.H.; and Tvrdy, K; *"Purification of Single Walled Carbon Nanotubes by Chirality Through Interaction with Hydrogel Coated Glass Microbeads"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 6th, 2019
37. Watts, B.; and Tvrdy, K.; *"The Chemical Modification of Hydrogels for Single Walled Carbon Nanotube Purification"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 28th, 2018
36. Stoll, J.; and Tvrdy, K; *"Synthesis of cobalt, magnesium and zinc substituted nano-ferrites via co-precipitation"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 15th, 2017
35. Tvrdy, K.; and Weeks, N. *"New Algorithm to Model Quantum Dot Growth Dynamics"*, **American Chemical Society National Meeting** (San Francisco, CA) April 6th, 2017
34. Tvrdy, K.; Schoffstall, A.; Braun-Sand, S.; and Rolsma, C. *"Outreach as an essential element of research training: Exposing REU participants to the divide in STEM-field enthusiasm"*, **American Chemical Society National Meeting** (San Francisco, CA) April 3rd, 2017
33. Tvrdy, K.; Rowland, J.; and Sundquist, N. *"Synthesis and characterization of novel hydrogel beads for selective interactions with carbonaceous nanomaterials"*, **American Chemical Society National Meeting** (San Francisco, CA) April 2nd, 2017

5. NON-REFEREED PUBLICATIONS (CONTINUED)

Meeting Abstracts (Continued)

32. Sundquist, N.; Rowland, J.; and Tvrđy, K.; *"Synthesis and Characterization of Novel Hydrogel Beads for Selective Interactions with Carbonaceous Nanomaterials"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 8th, 2016
31. Rolsma, C.; and Tvrđy, K.; *"Purity Enchantment of Single-Walled Carbon Nanotube Solutions using Iterative Gel-Based Interactions"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 8th, 2016
30. Weeks, N.; and Tvrđy, K.; *"Modeling CdSe Quantum Dot Growth Dynamics using a Novel Semi-empirical Atomistic Growth Simulation Program"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 8th, 2016
29. Weeks, N.; and Tvrđy, K.; *"Atomistic Growth Modeling of CdSe Quantum Dots"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 2nd, 2016
28. Rowland, J.; and Tvrđy, K.; *"Synthesis and Characterization of Novel Hydrogel Beads for Selective Interactions with Carbonaceous Nanomaterials"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 2nd, 2016
27. Tvrđy, K.; and Pinchuk, A.O.; *"The Nano Rainbow: Multicolor Biolabels for Simultaneous Molecular Scale Tracking and Tailored Assays of Biological Agents"*, **Butcher Research Symposium** (Westminster, CO) November 6th, 2015
26. Weeks, N.; and Tvrđy, K.; *"Synthesis, Application and Advantages of Biofunctionalized Silica Coated (CdSe)ZnS Core-Shell Quantum Dots"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 4th, 2015
25. Rowland, J.; and Tvrđy, K.; *"Functionalized-Microsphere Hydrogel Customization for Single-Walled Carbon Nanotube Separation"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 4th, 2015
24. Rolsma, C.; and Tvrđy, K.; *"Cadmium Selenide Quantum Dot Synthesis and Surface Modification for Application in Cell Imaging"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 4th, 2015
23. Prescott, K.; and Tvrđy, K.; *"A Novel Approach to Modeling the Absorption Spectra and Colloidal Stability of Few- and Single-Chirality Single Walled Carbon Nanotubes"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015
22. Weeks, N.; and Tvrđy, K.; *"Maximizing the Emission Quantum Yield of Semiconducting Quantum Dots"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015
21. Rowland, J.; and Tvrđy, K.; *"Functionalized Microsphere Hydrogel Customization for Single-Walled Carbon Nanotube Separation"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015
20. Rolsma, C.; and Tvrđy, K.; *"Toward the Synthesis of Water-Soluble, Highly Emissive, Semiconducting Quantum Dots"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015

5. NON-REFEREED PUBLICATIONS (CONTINUED)

Meeting Abstracts (Continued)

19. Prescott, K.; Rosenthal, K.; and Tvrdy, K.; *"Novel Approach to Modeling the Absorption Spectra and Colloidal Stability of Few- and Single-Chirality Single Walled Carbon Nanotubes"*, **American Chemical Society National Meeting** (Denver, CO) March 25th, 2015
18. Rowland, J.; and Tvrdy, K.; *"Carbon Nanotube Separation Beyond Size-Selective Protein Hydrogels"*, **American Chemical Society National Meeting** (Denver, CO) March 23rd, 2015
17. Rolsma, C.; and Tvrdy, K.; *"Cadmium Selenide Quantum Dot Synthesis and Surface Modification for Application in Cell Imaging"* **REU Poster Session** (Colorado Springs, CO) July 30th, 2014
16. Rosenthal, K.; and Tvrdy, K.; *"Kinetic Analysis of Inter- and Intra-chirality Bundling in Single and Few Chirality Suspensions of Single Walled Carbon Nanotubes"* **REU Poster Session** (Colorado Springs, CO) July 30th, 2014
15. Rowland, J.; and Tvrdy, K.; *"Functionalized Hydrogel Synthesis for Single-Chirality Single-Walled Carbon Nanotube Separation"* **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 12th, 2014
14. Prescott, K.; and Tvrdy, K.; *"The Separation and Absorption Spectra Analysis of Single Walled Carbon Nanotube Samples by Chirality"* **Mountain Lion Research Day** (Colorado Springs, CO) April 11th, 2014
13. Rowland, J.; and Tvrdy, K.; *"Functionalized Hydrogel Synthesis for Single-Chirality Single-Walled Carbon Nanotube Separation"* **Mountain Lion Research Day** (Colorado Springs, CO) April 11th, 2014
12. Tvrdy, K.; Jain, R.M.; Han, R.; and Strano, M.S.; *"Quantitative Insights into Gel-based Single-chirality Carbon Nanotube Separation"* **American Chemical Society National Meeting** (Dallas, TX) March 17th, 2014
11. Prescott, K.; and Tvrdy, K.; *"Absorbance Spectra Analysis for Single- and Few- chirality Semi-conducting Single Walled Carbon Nanotube Samples"* **American Chemical Society National Meeting** (Dallas, TX) March 16th, 2014
10. Tvrdy, K.; *"Single Chirality Semiconducting Carbon Nanotubes (SWNT) for Energy and Biosensing Applications"* **Butcher Research Symposium** (Denver, CO) November 1st, 2013
9. Tvrdy, K.; Jain, R.M.; and Strano, M.S.; *"Near Infrared Photovoltaics using Single Walled Carbon Nanotubes"* **MIT at eni** (Milan, Italy) June 14th, 2012
8. Tvrdy, K.; Pernik, D.; and Kamat, P.V.; *"Electron Transfer Across the Quantum Dot-Metal Oxide Junction"* **Gordon Research Conference—Renewable Energy: Solar Fuels** (Ventura, CA) January 16th, 2011
7. Tvrdy, K.; Frantsuzov, P.; and Kamat, P.V.; *"Size Dependent Electron Transfer from CdSe Colloidal Nanoparticles to Various Metal Oxide Colloids within Thin Films"* **Materials Research Society National Meeting** (Boston, MA) December 2nd, 2009
6. Tvrdy, K.; and Kamat, P.V.; *"Nanotechnology in Solar Cells"* **University of Notre Dame Technology Showcase** (Fort Wayne, IN) May 12th, 2009
5. Tvrdy, K.; Baker, D.; and Kamat, P.V.; *"Mechanistic Insights of Quantum Dot Sensitized Solar Cells"* **American Chemical Society National Meeting** (Salt Lake City, UT) March 26th, 2009

5. NON-REFEREED PUBLICATIONS (CONTINUED)

Meeting Abstracts (Continued)

4. Tvrdy, K.; and Kamat, P.V.; *"Quantum Dot Solar Cells: The Next Generation of Green Energy"* **Notre Dame GSU Graduate Research Symposium Poster Competition** (Notre Dame, IN) November 13th, 2008
3. Tvrdy, K.; and Kamat, P.V.; *"Excited State Interactions of CdSe Quantum Dots"* **Gordon Research Conference – Radiation Chemistry** (Waterville Valley, NH) July 6th, 2008
2. Tvrdy, K.; and Kamat, P.V.; *"Nanostructure Architectures for Next Generation Solar Cells"* **Midwest Institute for Nanoelectronics Discovery (MIND) Poster Session** (Notre Dame, IN) June 12th, 2008
1. Tvrdy, K.; and Kamat, P.V.; *"Charge Injection from Excited CdSe into TiO₂ Nanoparticles"* **Electrochemical Society National Meeting** (Phoenix, AZ) May 22nd, 2008

6. PUBLICATIONS SUBMITTED

2. Yakami, B.R.; Nandyala, S.R.; Rolsma, C.; Rimal, G.; Kraus, T.J.; Tvrdy, K.; Tang, J.; and Pikal, J.M.; *"Synthesis, characterization and electron transfer in undoped and Mn doped Zinc Tin Oxide nanoparticles"* **submitted**
1. Rolsma, C.M.; and Tvrdy, K.; *"Deriving Energy and Energy Conservation: An Accessible and Illustrative Approach"* **submitted**

7. BOOK CHAPTERS

1. Tvrdy, K. and Kamat, P.V. *"Quantum Dot Solar Cells"* within **Comprehensive Nanoscience and Nanotechnology**, Editors: David Andrews, Gregory Scholes and Gary Wiederrecht (2010) Elsevier

8. PUBLISHED REVIEWS

2. Tvrdy, K. and Strano, M.G. *"Nanoimaging, Image Contrast Using Time"* **Nature Nano.** (2012) 7: 8-9
1. Kamat, P.V.; Tvrdy, K.; Baker, D.R. and Radich J.G. *"Beyond Photovoltaics: Semiconductor Nanoarchitectures for Liquid Junction Solar Cells"* **Chem. Rev.** (2010) 110: 6664-6688

9. PRESENTATIONS AT MEETINGS

ORAL PRESENTATIONS

17. Hughes, Laurique and Tvrdy, Kevin; *"The Effects of Sephacryl Formulation Perturbation on its Function as a Single-Walled Carbon Nanotube Purification Media"*, **American Chemical Society National Meeting** (San Diego, CA) March 27th, 2025

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16. Hughes, Laurique and Tvrdy, Kevin; *"Synthesis Parameters and Structural Properties of Allyl-Dextran at varying Molecular Weights for Polysaccharide-Based Block Copolymers"*, **American Chemical Society National Meeting** (San Diego, CA) March 23rd, 2025
15. Elmore, Laurique; Hughes, Laurique; and Tvrdy, Kevin; *"Design and Fabrication of Laboratory Equipment: 3D Printed Blender Robot for Automated Mechanical Separation of Hydrogels"*, **American Chemical Society National Meeting** (San Diego, CA) March 23rd, 2025
14. Zaroni, Sophia; Watts, Brennan; and Tvrdy, Kevin; *"Single-walled Carbon Nanotube Chiral Selectivity Exhibited by Commercially Available Hydrogels of Varying Composition"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
13. Tvrdy, Kevin; Kovacs, James; and Taylor, Vicki; *"Integration of Outreach Event within Senior-level Undergraduate Capstone Course: Challenges and Accomplishments"*, **American Chemical Society National Meeting** (New Orleans, LA) March 20th, 2024
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11. Zaroni, S.; and Tvrdy, K; *"Single-walled Carbon Nanotube Chiral Selectivity Exhibited by Commercially Available Hydrogels of Varying Composition"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 24th, 2021
10. Weeks, N. and Tvrdy, K.; *"Generation and Analysis of Unique Wurtzite Quantum Dot Structures"*, **American Chemical Society National Meeting** (Orlando, FL) April 3rd, 2019
9. Tvrdy, K. and Weeks, N.; *"Applying Charge Equilibration Methods to CdSe Quantum Dots to gain Atomistic Insight into the Magic-size Phenomenon"*, **American Chemical Society National Meeting** (Orlando, FL) April 2nd, 2019
8. Tvrdy, K.; and Weeks, N. *"New Algorithm to Model Quantum Dot Growth Dynamics"*, **American Chemical Society National Meeting** (San Francisco, CA) April 6th, 2017
7. Tvrdy, K.; Schoffstall, A.; Braun-Sand, S.; and Rolsma, C. *"Outreach as an essential element of research training: Exposing REU participants to the divide in STEM-field enthusiasm"*, **American Chemical Society National Meeting** (San Francisco, CA) April 3rd, 2017
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5. Tvrdy, K.; Jain, R.M.; Han, R.; and Strano, M.S.; *"Quantitative Insights into Gel-based Single-chirality Carbon Nanotube Separation"* **American Chemical Society National Meeting** (Dallas, TX) March 17th, 2014
4. Tvrdy, K.; Jain, R.M.; and Strano, M.S.; *"Near Infrared Photovoltaics using Single Walled Carbon Nanotubes"* **MIT at eni** (Milan, Italy) June 14th, 2012

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3. Tvrdy, K.; and Kamat, P.V.; *"Nanotechnology in Solar Cells"* **University of Notre Dame Technology Showcase** (Fort Wayne, IN) May 12th, 2009
2. Tvrdy, K.; Baker, D.; and Kamat, P.V.; *"Mechanistic Insights of Quantum Dot Sensitized Solar Cells"* **American Chemical Society National Meeting** (Salt Lake City, UT) March 26th, 2009
1. Tvrdy, K.; and Kamat, P.V.; *"Charge Injection from Excited CdSe into TiO₂ Nanoparticles"* **Electrochemical Society National Meeting** (Phoenix, AZ) May 22nd, 2008

POSTER PRESENTATIONS

43. Salazar, Christopher and Tvrdy, Kevin; *"Simulation of Macroscopic Hydrogel Formation using Monte Carlo Methodologies"*, **American Chemical Society National Meeting** (San Diego, CA) March 25th, 2025
42. Dolan, Marshal; Hughes, Laurique; and Tvrdy, Kevin; *"Hydrogel Composition Effects on Performance as Single-walled Carbon Nanotube Purification Media"*, **American Chemical Society National Meeting** (San Diego, CA) March 25th, 2025
41. Salazar, Christoper; and Tvrdy, Kevin; *"Simulation of Macroscopic Hydrogel Formation using Monte Carlo Methodologies to Determine Interaction Properties with Single Wall Carbon Nanotubes (SWCNTs)"*, **Mountain Lion Research Day** (Colorado Springs, CO) December 6th, 2024
40. Hughes, Laurique; and Tvrdy, Kevin; *"Determination of the Effects of Hydrogel Chemical Composition on Single-walled Carbon Nanotube Purification"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
39. Mastalka-Tatro, Natasha; and Tvrdy, Kevin; *"Identification and Quantification of Sonicated Sodium Dodecyl Sulfate Products in Single-walled Carbon Nanotube Suspension by Gas Chromatography"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
38. Elmore, Logan; and Tvrdy, K; *"Mechanical Separation of Hydrogels by Robotic Automation"*, **Mountain Lion Research Day** (Colorado Springs, CO) December 8th, 2023
37. Hughes, L.; and Tvrdy, K; *"Determination of the Effect of Hydrogel Chemical Composition on Single-walled Carbon Nanotube Purification"*, **Fluoropolymer 2023** (Denver, CO) June 19th, 2023
36. Mastalka-Tatro, N.; Lowe, L.E.; Owens, J.E.; and Tvrdy, K; *"The Effect of Aqueous Sodium Dodecyl Sulfate Sonication By-products on Single Walled Carbon Nanotube Hydrogel Purification"*, **Fluoropolymer 2023** (Denver, CO) June 19th, 2023
35. Hughes, L.; and Tvrdy, K; *"Determination of the Effect of Hydrogel Chemical Composition on Single-Walled Carbon Nanotube Purification"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 22nd, 2023
34. Mastalka-Tatro, N.; and Tvrdy, K; *"Quantification of 1-dodecanol in Single Walled Carbon Nanotube Solutions"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 9th, 2022

9. PRESENTATIONS AT MEETINGS (CONTINUED)

POSTER PRESENTATIONS (CONTINUED)

33. Hughes, L.; and Tvrdy, K.; *"Totally Tubular: Determination of the Effect of Sonication on the Length and Purification of Single Walled Carbon Nanotubes"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 9th, 2022
32. Foronda, B.; and Tvrdy, K.; *"Computational Modeling of Fate and Transport of Perfluorinated Compounds Contamination with GEM"*, **Mountain Lion Research Day** (Colorado Springs, CO) December 13th, 2019
31. Weeks, N. and Tvrdy, K.; *"Predicting Size Dependence of CdSe Quantum Dot Net Charge using Modified Charge Equilibration Methods"*, **American Chemical Society National Meeting** (Orlando, FL) March 31st, 2019
30. Barbee, C.H.; and Tvrdy, K.; *"Purification of Single Walled Carbon Nanotubes by Chirality Through Interaction with Hydrogel Coated Glass Microbeads"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 6th, 2019
31. Hughes, Laurique; and Tvrdy, Kevin; *"Determination of the Effects of Hydrogel Chemical Composition on Single-walled Carbon Nanotube Purification"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
30. Mastalka-Tatro, Natasha; and Tvrdy, Kevin; *"Identification and Quantification of Sonicated Sodium Dodecyl Sulfate Products in Single-walled Carbon Nanotube Suspension by Gas Chromatography"*, **American Chemical Society National Meeting** (New Orleans, LA) March 17th, 2024
29. Watts, B.; and Tvrdy, K.; *"The Chemical Modification of Hydrogels for Single Walled Carbon Nanotube Purification"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 28th, 2018
28. Stoll, J.; and Tvrdy, K.; *"Synthesis of cobalt, magnesium and zinc substituted nano-ferrites via co-precipitation"*, **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 15th, 2017
27. Tvrdy, K.; Rowland, J.; and Sundquist, N. *"Synthesis and characterization of novel hydrogel beads for selective interactions with carbonaceous nanomaterials"*, **American Chemical Society National Meeting** (San Francisco, CA) April 2nd, 2017
26. Sundquist, N.; Rowland, J.; and Tvrdy, K.; *"Synthesis and Characterization of Novel Hydrogel Beads for Selective Interactions with Carbonaceous Nanomaterials"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 8th, 2016
25. Rolsma, C.; and Tvrdy, K.; *"Purity Enchantment of Single-Walled Carbon Nanotube Solutions using Iterative Gel-Based Interactions"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 8th, 2016
24. Weeks, N.; and Tvrdy, K.; *"Modeling CdSe Quantum Dot Growth Dynamics using a Novel Semi-empirical Atomistic Growth Simulation Program"*, **Mountain Lion Research Day** (Colorado Springs, CO) April 8th, 2016

9. PRESENTATIONS AT MEETINGS (CONTINUED)

POSTER PRESENTATIONS (CONTINUED)

23. Weeks, N.; and Tvrđy, K.; "Atomistic growth modeling of CdSe quantum dots", **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 2nd, 2016
22. Rowland, J.; and Tvrđy, K.; "Synthesis and Characterization of Novel Hydrogel Beads for Selective Interactions with Carbonaceous Nanomaterials", **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 2nd, 2016
21. Weeks, N.; and Tvrđy, K.; "Synthesis, Application and Advantages of Biofunctionalized Silica Coated (CdSe)ZnS Core-Shell Quantum Dots", **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 4rd, 2015
20. Rowland, J.; and Tvrđy, K.; "Functionalized-Microsphere Hydrogel Customization for Single-Walled Carbon Nanotube Separation", **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 4th, 2015
19. Rolsma, C.; and Tvrđy, K.; "Cadmium Selenide Quantum Dot Synthesis and Surface Modification for Application in Cell Imaging", **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 4rd, 2015
18. Prescott, K.; and Tvrđy, K.; "A Novel Approach to Modeling the Absorption Spectra and Colloidal Stability of Few- and Single-Chirality Single Walled Carbon Nanotubes", **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015
17. Weeks, N.; and Tvrđy, K.; "Maximizing the Emission Quantum Yield of Semiconducting Quantum Dots", **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015
16. Rowland, J.; and Tvrđy, K.; "Functionalized Microsphere Hydrogel Customization for Single-Walled Carbon Nanotube Separation", **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015
15. Rolsma, C.; and Tvrđy, K.; "Toward the Synthesis of Water-Soluble, Highly Emissive, Semiconducting Quantum Dots", **Mountain Lion Research Day** (Colorado Springs, CO) April 3rd, 2015
14. Prescott, K.; Rosenthal, K.; and Tvrđy, K.; "Novel Approach to Modeling the Absorption Spectra and Colloidal Stability of Few- and Single-Chirality Single Walled Carbon Nanotubes", **American Chemical Society National Meeting** (Denver, CO) March 25rd, 2015
13. Rowland, J.; and Tvrđy, K.; "Carbon Nanotube Separation Beyond Size-Selective Protein Hydrogels", **American Chemical Society National Meeting** (Denver, CO) March 23rd, 2015
12. Rolsma, C.; and Tvrđy, K.; "Cadmium Selenide Quantum Dot Synthesis and Surface Modification for Application in Cell Imaging" **REU Poster Session** (Colorado Springs, CO) July 30th, 2014
11. Rosenthal, K.; and Tvrđy, K.; "Kinetic Analysis of Inter- and Intra-chirality Bundling in Single and Few Chirality Suspensions of Single Walled Carbon Nanotubes" **REU Poster Session** (Colorado Springs, CO) July 30th, 2014
10. Rowland, J.; and Tvrđy, K.; "Functionalized Hydrogel Synthesis for Single-Chirality Single-Walled Carbon Nanotube Separation" **Colorado Springs Undergraduate Research Forum** (Colorado Springs, CO) April 12th, 2014

9. PRESENTATIONS AT MEETINGS (CONTINUED)

POSTER PRESENTATIONS (CONTINUED)

9. Prescott, K.; and Tvrdy, K.; *"The Separation and Absorption Spectra Analysis of Single Walled Carbon Nanotube Samples by Chirality"* **Mountain Lion Research Day** (Colorado Springs, CO) April 11th, 2014
8. Rowland, J.; and Tvrdy, K.; *"Functionalized Hydrogel Synthesis for Single-Chirality Single-Walled Carbon Nanotube Separation"* **Mountain Lion Research Day** (Colorado Springs, CO) April 11th, 2014
7. Prescott, K.; and Tvrdy, K.; *"Absorbance Spectra Analysis for Single- and Few- chirality Semi-conducting Single Walled Carbon Nanotube Samples"* **American Chemical Society National Meeting** (Dallas, TX) March 16th, 2014
6. Tvrdy, K.; *"Single Chirality Semiconducting Carbon Nanotubes (SWNT) for Energy and Biosensing Applications"* **Butcher Research Symposium** (Denver, CO) November 1st, 2013
5. Tvrdy, K., Pernik, D.; and Kamat, P.V.; *"Electron Transfer Across the Quantum Dot-Metal Oxide Junction"* **Gordon Research Conference—Renewable Energy: Solar Fuels** (Ventura, CA) January 16th, 2011
4. Tvrdy, K.; Frantsuzov, P.; and Kamat, P.V.; *"Size Dependent Electron Transfer from CdSe Colloidal Nanoparticles to Various Metal Oxide Colloids within Thin Films"* **Materials Research Society National Meeting** (Boston, MA) December 2nd, 2009
3. Tvrdy, K.; and Kamat, P.V.; *"Quantum Dot Solar Cells: The Next Generation of Green Energy"* **Notre Dame GSU Graduate Research Symposium Poster Competition** (Notre Dame, IN) November 13th, 2008
2. Tvrdy, K.; and Kamat, P.V.; *"Excited State Interactions of CdSe Quantum Dots"* **Gordon Research Conference – Radiation Chemistry** (Waterville Valley, NH) July 6th, 2008
1. Tvrdy, K.; and Kamat, P.V.; *"Nanostructure Architectures for Next Generation Solar Cells"* **Midwest Institute for Nanoelectronics Discovery (MIND) Poster Session** (Notre Dame, IN) June 12th, 2008

10. GRANTS AND SCHOLARSHIP (TOTAL AWARDED: \$835,432)

ACTIVE GRANTS

	<u>Start and End Date</u>	<u>Role</u>	<u>Agency</u>	<u>Amount</u>
1.	05/19/25 – 08/08/25	Advisor	UCCS, URA	\$4,000
	Title: Novel Hydrogel Formulations for the Purification of Single-Walled Carbon Nanotubes			
2.	07/01/21 – 06/30/25	PI	National Science Foundation	\$250,000
	Title: Synthesis and Characterization of Novel Hydrogel Formulations for the Single Chirality Purification of Single-walled Carbon Nanotubes			

10. GRANTS AND SCHOLARSHIP (CONTINUED)

FUNDED GRANTS (*teaching and †service related grants)

<u>Date</u>	<u>Role</u>	<u>Agency</u>	<u>Amount</u>	<u>Result</u>
24. 05/19/25	Advisor	UCCS, URA	\$4,000	Awarded
Title: Novel Hydrogel Formulations for the Purification of Single-Walled Carbon Nanotubes				
23. 05/08/23	Fellow	AFOSR: AFRL-SFFP	\$23,958	Awarded
Title: Characterization and Control of Sonication Byproducts for the Optimization of Gel-based Single-walled Carbon Nanotube Purification				
22. 05/16/22	Fellow	AFOSR: AFRL-SFFP	\$24,556	Awarded
Title: Enhancement of Chiral Selectivity in Single-walled Carbon Nanotube Purification Schemes through Control of Sonication Byproducts				
21. 05/16/22	Advisor	UCCS, URA	\$3,500	Awarded
Title: Totally Tubular: Determination of the Effect of Sonication on the Length and Purification of Single Walled Carbon Nanotubes				
20. 07/01/21	PI	National Science Foundation	\$250,000	Awarded
Title: Synthesis and Characterization of Novel Hydrogel Formulations for the Single Chirality Purification of Single-walled Carbon Nanotubes				
19. 05/17/21	Fellow	AFOSR: AFRL-SFFP	\$26,620	Awarded
Title: Two-phase Colloidal Sorting for Efficient Generation of Metallic Single-walled Carbon Nanotube Suspensions				
18. 01/19/21	Advisor	UCCS, LAS Dean's Office	\$4,000	Awarded
Title: Purification of Carbon Nanotubes with Agarose Gels				
17. 03/04/20	Fellow	AFOSR: AFRL-SFFP	\$19,645	Awarded
Title: Manipulation of Hydrogel Backbone Moiety for Enhanced Purification of Single Walled Carbon Nanotubes				
16. 04/04/19	Fellow	AFOSR: AFRL-SFFP	\$35,948	Awarded
Title: Rational Design of Polymeric Hydrogels for Carbon Nanotube Purification				
15. 07/01/18	Co-PI	UCCS, LAS Dean	\$125,000	Awarded
Title: Environmental PFC Impact Collaboration (EPIC) in the Fountain Creek Watershed: Determining the Environmental, Ecological, and Societal Impact of PFCs				
14. 05/18/18	Advisor	UCCS, LAS Dean's Office	\$1,200	Awarded
Title: Low Temperature Growth of Quantum Dots: Experiment and Theory				
13. 03/02/18	Fellow	AFOSR: AFRL-SFFP	\$23,840	Awarded
Title: Purification of Single-walled Carbon Nanotubes using Tailored Polymeric Hydrogels				
12. 11/21/17	Advisor	UCCS, LAS Dean's Office	\$4,000	Awarded
Title: The Chemical Modification of Hydrogels for Single Walled Carbon Nanotube Purification				
11. 08/23/17	Co-PI	NSF	\$196,265	Awarded (# 1727033)
Title: MRI: Acquisition of a fluorescence microscope for manipulating and imaging live cells				

10. GRANTS AND SCHOLARSHIP (CONTINUED)

FUNDED GRANTS (CONTINUED, *teaching and †service related grants)

	<u>Date</u>	<u>Role</u>	<u>Agency</u>	<u>Amount</u>	<u>Result</u>
10.	05/16/16	Advisor	UCCS, LAS Dean's Office	\$1,200	Awarded
	Title: Molecular Modification of Synthetic Hydrogels for Carbon Nanotube Separation				
9.	05/08/15	Advisor	UCCS, LAS Dean's Office	\$1,200	Awarded
	Title: Modulation of Quantum Dot Wavefunction via Ligand Shell Exchange				
8.	04/03/15	Advisor	UCCS, URA	\$7,000	Awarded
	Title: Enhanced Biological Imaging via Synthesis, Modification, and Functionalization of Highly Fluorescent Nanostructured Quantum Dots				
7.	11/01/14	Advisor	UCCS, LAS Dean's Office	\$4,000	Awarded
	Title: Synthesis, Characterization, and Application of Novel Biofunctionalized Silica Coated (CdSe)ZnS Core-Shell Quantum Dots				
6.	05/16/14	Advisor	UCCS, LAS Dean's Office	\$1,200	Awarded
	Title: Tailored Synthesis of Spherical Microgels for Carbon Nanotube Separation				
5.	03/31/14	PI	UCCS, CRCW	\$7,000	Awarded
	Title: Increased Effectiveness of Nanostructured Biolabels <i>via</i> Emission Quantum Yield Enhancement				
4.	01/17/14	PI	Butcher Foundation	\$70,000	Awarded
	Title: The Nano Rainbow: Multicolor Biolabels for Simultaneous Molecular Scale Tracking and Tailored Assays of Biological Agents				
3*.	11/08/13	PI	UCCS, FRC	\$500	Awarded
	Title: Modernizing UCCS Physical Chemistry Lab Course via Directed Assembly and Subsequent Application of Digital Spectrometer				
2†.	09/11/13	PI	UCCS, Office Div. & Incl.	\$300	Awarded
	Title: Increased Awareness of STEM-Scholarship Opportunities for Underrepresented Students				
1.	08/08/13	PI	DOE	\$500	Awarded
	Title: Application for Donation of Used Laboratory Equipment from DOE Laboratory Equipment Donation Program: Mettler Digital Lab Balance				

REJECTED GRANTS

	<u>Date</u>	<u>Role</u>	<u>Agency</u>	<u>Amount</u>	<u>Result</u>
15.	01/06/25	Advisor	NSF	\$745,982	Rejected
	Title: Enhancing STEM Education through Trauma-Informed Pedagogy: A Cohort-Based Approach (STEM-TrIP)				
14.	04/30/19	Advisor	UCCS, LAS Dean's Office	\$1,600	Rejected
	Title: Synthesis of Magnetite Nanoparticles for Temperature Mapping <i>via</i> Magnetic Resonance Imaging				

10. GRANTS AND SCHOLARSHIP (CONTINUED)

REJECTED GRANTS (CONTINUED)

	<u>Date</u>	<u>Role</u>	<u>Agency</u>	<u>Amount</u>	<u>Result</u>
13.	05/22/18	Co-PI	NSF	Prospectus	Rejected
	Title: Environmental PFC Impact Collaboration (EPIC) in the Fountain Creek Watershed, Colorado: Determining the Environmental, Ecological, and Societal Impact of Perfluorinated Compounds				
12.	05/15/17	Advisor	UCCS, LAS Dean's Office	\$1,600	Rejected
	Title: A Novel Approach to Modelling Colloidal Quantum Dot Properties				
11.	02/10/17	PI	Research Corporation	\$100,000	Invited Full Proposal Rejected
	Title: Atomistic Insight into Nanoscale Crystal Dynamics				
10.	10/31/16	PI	NSF	\$298,265	Rejected
	Title: Expanding the Nanomaterials Toolbox: Scalable Separation of Single-Chirality (n,m) Carbon Nanotubes using Hydrogels with Tailored Chemical Functionalities				
9.	08/01/16	PI	Research Corporation	\$100,000	Rejected
	Title: Atomistic Insight into Nanoscale Crystal Dynamics				
8.	01/13/16	Co-PI	NSF	\$263,397	Rejected
	Title: MRI: Acquisition of a Fluorescence Microscope for Manipulating and Imaging Live Cells				
7.	11/02/15	PI	NSF	\$285,582	Rejected
	Title: RUI: Expanding the Nanomaterials Toolbox: Scalable Separation of Single-Chirality (n,m) Carbon Nanotubes using Hydrogels with Tailored Chemical Functionalities				
6.	08/26/15	PI	NSF	\$316,706	Rejected
	Title: REU Site Renewal: Green Chemistry in Colorful Colorado				
5.	08/27/14	PI	NSF	\$421,871	Rejected
	Title: REU Site: Explorations in Sustainable Chemistry				
4.	05/22/14	PI	Research Corporation	Pre-Proposal	Rejected
	Title: Analysis and Manipulation of Semiconducting Single Walled Carbon Nanotube Surface Charge using Field Flow Fractionation				
3.	04/25/14	Advisor	UCCS, URA	\$7,000	Rejected
	Title: Novel Hydrogels for Single-Chirality Single-Walled Carbon Nanotube Separation				
2.	04/21/14	PI	UCCS, Biofrontiers	\$25,000	Rejected
	Title: Bio-sorting of Nanomaterials: Engineering <i>E. coli</i> to Achieve Single Chirality Separation of Carbon Nanotubes				
1.	11/01/13	Advisor	UCCS, LAS Dean's Office	\$4,000	Rejected
	Title: Single-Chirality Single-Walled Carbon Nanotube Separation using Novel Hydrogels				

10. GRANTS AND SCHOLARSHIP (CONTINUED)

INDICATORS OF SCHOLARSHIP

Highlights of Research in Popular Press

The Economist (print edition) “Catching a few more rays”
(<http://www.economist.com/node/21560988>), **2012**

Journal of Physical Chemistry Letters, Perspective Video “Graphene-Based Nanoassemblies for Energy Conversion” (http://www.youtube.com/watch?v=aigki7FOW-o&feature=channel_video_title), **2011**

Appeared in Nationally Televised Advertisement for The University of Notre Dame “An Irish Blessing”
(http://www.youtube.com/watch?v=FzzC2k_jZEw), **2010**

NBC affiliate WNDU video and article “Students and professors at ND work to learn more about the power of the sun” (<http://www.wndu.com/hometop/headlines/99574284.html>), **2010**

Nanowerk.com spotlight article “Catching a rainbow - quantum dot nanotechnology brightens the prospects for solar energy” (<http://www.nanowerk.com/spotlight/spotid=4832.php>), **2008**

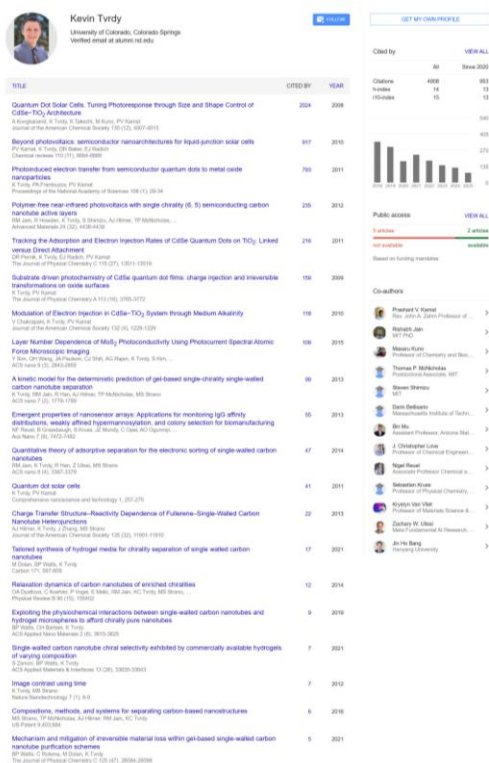
Physorg.com article “Quantum Dots May Lead to Rainbow Solar Cell”
(<http://www.physorg.com/news124111555.html>), **2008**

Photonics.com article “Putting All of the Sunshine to Work in Solar Cells”
(<http://www.photonics.com/Article.aspx?AID=33509>), **2008**

Quantitative Measures of Impact of Published Research

Note: This analysis assumes that impact of research products reported in peer-reviewed journals can be quantized through an analysis of others’ citations of those products. While no attempt at the quantization of scientific impact is flawless, the method employed here is the commonly accepted form to quantify impact within the research field of the analyzed scientist. Research publications search tool “Google Scholar” was used to conduct this analysis on 09/02/2025.

	All	Since 2020
Citations	4908	953
h-index	14	13
i10-index	15	13



11. COURSES TAUGHT

Gantt Chart of All Courses Taught.....Fa 2013 – Sp 2025

COURSE	Title	'13	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	'25
		Fa	Sp	Fa	Sp	Fa	Sp	Fa	Sp	Fa	Sp	Fa	Sp	Fa
CHEM 1211	Intro. to Organic and Biochem. Lab									X				
CHEM 1401	General Chemistry I										X	X	X	
CHEM 1412	General Chemistry II Lab								X	X	X	X		
CHEM 4101	Quantum Mechanics & Spectroscopy	X	X	X	X	X	X	X						X
CHEM 4102	Physical Chemistry Lab I			X										
CHEM 4111	Thermodynamics & Kinetics	X	X	X	X	X	X	X	X					
CHEM 4112	Physical Chemistry Lab II												X	X
CHEM 4601	Nanoscience & Nanotechnology		X		X	X	X					X		X
CHEM 4911	Chemistry Capstone				X	X	X	X				X	X	X
CHEM 6030	Project Seminar										X	X	X	

CHEM 1211 – Introduction to Organic and Biochemistry LabSp 2021

(Undergraduate)

Faculty Course Questionnaire (FCQ) Evaluation (Spring 2021):

Course materials organized effectively 5.3/7.0
 Course materials were useful..... 5.6/7.0
 Assignments related to course content 5.9/7.0
 Course increased student knowledge and skills..... 5.2/7.0
 Course workload..... 4.3/7.0
 Personal interest before enrollment..... 3.4/7.0
 Instructor explained course ideas clearly..... 5.5/7.0
 Instructor encouraged interest in the subject 5.6/7.0
 Instructor demonstrated interest in student learning 5.8/7.0
 Instructor demonstrated respect for students 6.4/7.0
 Instructor communicated effectively 5.2/7.0

CHEM 1401 – General Chemistry IFa 2021 – Fa 2023

(Undergraduate), Developed Course

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Fall 2021 – Fall 2022):

Course materials organized effectively 6.1/7.0
 Course materials were useful..... 5.9/7.0
 Assignments related to course content 6.1/7.0
 Course increased student knowledge and skills..... 5.8/7.0
 Course workload..... 5.2/7.0
 Personal interest before enrollment..... 4.2/7.0
 Instructor explained course ideas clearly..... 5.6/7.0
 Instructor encouraged interest in the subject 6.2/7.0
 Instructor demonstrated interest in student learning 6.3/7.0
 Instructor demonstrated respect for students 6.4/7.0
 Instructor communicated effectively 6.3/7.0

11. COURSES TAUGHT (CONTINUED)

CHEM 1412 – General Chemistry Lab IISp 2020 - Fa 2022
(Undergraduate)Faculty Course Questionnaire (FCQ) Evaluation (averaged over Spring 2020 – Fall 2022):

Course materials organized effectively	5.4/7.0
Course materials were useful.....	5.9/7.0
Assignments related to course content	6.0/7.0
Course increased student knowledge and skills.....	5.9/7.0
Course workload.....	5.4/7.0
Personal interest before enrollment.....	4.6/7.0
Instructor explained course ideas clearly.....	6.1/7.0
Instructor encouraged interest in the subject	6.2/7.0
Instructor demonstrated interest in student learning	6.2/7.0
Instructor demonstrated respect for students	6.5/7.0
Instructor communicated effectively	6.1/7.0

CHEM 4101/5101 – Physical Chemistry: Quantum Mechanics and Spectroscopy..... Fa 2013 - Fa 2024
(Graduate and Undergraduate), Developed CourseFaculty Course Questionnaire (FCQ) Evaluation (averaged over Fall 2013 – Fall 2017):

Personal interest before enrolled	4.3/6.0
Instructor effectiveness encouraging interest	5.8/6.0
Instructor availability for assistance.....	5.8/6.0
Intellectual challenge of course	5.8/6.0
How much you learned in course.....	5.7/6.0
Course overall.....	5.7/6.0
Instructor overall	5.9/6.0
Instructor respect/professional treatment	6.0/6.0

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Fall 2018 – Fall 2024):

Course materials organized effectively	6.5/7.0
Course materials were useful.....	6.5/7.0
Assignments related to course content	6.6/7.0
Course increased student knowledge and skills.....	6.7/7.0
Course workload.....	6.3/7.0
Personal interest before enrollment.....	5.7/7.0
Instructor explained course ideas clearly.....	6.5/7.0
Instructor encouraged interest in the subject	6.7/7.0
Instructor demonstrated interest in student learning	6.9/7.0
Instructor demonstrated respect for students	7.0/7.0
Instructor communicated effectively	6.9/7.0

11. COURSES TAUGHT (CONTINUED)

CHEM 4102 – Experimental Physical Chemistry: Quantum Mechanics and Spectroscopy.....Fall 2015

(Undergraduate), Significantly Contributed to Course Content

Faculty Course Questionnaire (FCQ) Evaluations Not Collected due to Administrative Error**CHEM 4111/5111 – Physical Chemistry: Thermodynamics and Kinetics..... Sp 2014 - Sp 2020**

(Graduate and Undergraduate), Developed Course

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Spring 2014 – Spring 2018):

Personal interest before enrolled	4.6/6.0
Instructor effectiveness encouraging interest	5.8/6.0
Instructor availability for assistance.....	5.8/6.0
Intellectual challenge of course	5.6/6.0
How much you learned in course.....	5.8/6.0
Course overall.....	5.7/6.0
Instructor overall	5.9/6.0
Instructor respect/professional treatment	6.0/6.0

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Spring 2019 – Spring 2020):

Course materials organized effectively	6.9/7.0
Course materials were useful.....	6.9/7.0
Assignments related to course content	6.9/7.0
Course increased student knowledge and skills.....	6.7/7.0
Course workload.....	5.9/7.0
Personal interest before enrollment.....	5.0/7.0
Instructor explained course ideas clearly.....	6.6/7.0
Instructor encouraged interest in the subject	6.9/7.0
Instructor demonstrated interest in student learning	6.9/7.0
Instructor demonstrated respect for students	7.0/7.0
Instructor communicated effectively	6.8/7.0

CHEM 4112 – Experimental Physical Chemistry: Thermodynamics & Kinetics.....Fa 2023 – Fa 2024

(Undergraduate), Significantly Contributed to Course Content

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Fall 2023 – Fall 2024):

Course materials organized effectively	7.0/7.0
Course materials were useful.....	7.0/7.0
Assignments related to course content	7.0/7.0
Course increased student knowledge and skills.....	7.0/7.0
Course workload.....	4.4/7.0
Personal interest before enrollment.....	6.1/7.0
Instructor explained course ideas clearly.....	7.0/7.0
Instructor encouraged interest in the subject	7.0/7.0
Instructor demonstrated interest in student learning	7.0/7.0
Instructor demonstrated respect for students	7.0/7.0
Instructor communicated effectively	7.0/7.0

11. COURSES TAUGHT (CONTINUED)

CHEM 4601/5601 – Nanoscience & Nanotechnology.....Fa 2014, Sp 2016 - Sp 2018, Sp 2023

(Graduate and Undergraduate), Developed Course

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Fall 2014 – Spring 2018):

Personal interest before enrolled	5.1/6.0
Instructor effectiveness encouraging interest	5.7/6.0
Instructor availability for assistance.....	5.8/6.0
Intellectual challenge of course	5.6/6.0
How much you learned in course.....	5.8/6.0
Course overall.....	5.7/6.0
Instructor overall	5.8/6.0
Instructor respect/professional treatment	5.9/6.0

Faculty Course Questionnaire (FCQ) Evaluation (Spring 2023, Fall 2024):

Course materials organized effectively	6.6/7.0
Course materials were useful.....	6.4/7.0
Assignments related to course content	6.5/7.0
Course increased student knowledge and skills.....	6.5/7.0
Course workload.....	5.1/7.0
Personal interest before enrollment.....	5.5/7.0
Instructor explained course ideas clearly.....	6.5/7.0
Instructor encouraged interest in the subject	6.5/7.0
Instructor demonstrated interest in student learning	6.5/7.0
Instructor demonstrated respect for students	6.5/7.0
Instructor communicated effectively	6.5/7.0

11. COURSES TAUGHT (CONTINUED)

CHEM 4911/5911 – Chemistry CapstoneFa 2016 – Fa 2024

(Graduate and Undergraduate)

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Fall 2016 – Fall 2017):

Personal interest before enrolled	4.7/6.0
Instructor effectiveness encouraging interest	5.9/6.0
Instructor availability for assistance.....	6.0/6.0
Intellectual challenge of course	5.0/6.0
How much you learned in course.....	5.7/6.0
Course overall.....	5.7/6.0
Instructor overall	6.0/6.0
Instructor respect/professional treatment	6.0/6.0

Faculty Course Questionnaire (FCQ) Evaluation (averaged over Fall 2018 – Fall 2024):

Course materials organized effectively	6.3/7.0
Course materials were useful.....	6.0/7.0
Assignments related to course content	6.4/7.0
Course increased student knowledge and skills.....	6.2/7.0
Course workload.....	4.9/7.0
Personal interest before enrollment.....	4.5/7.0
Instructor explained course ideas clearly.....	6.5/7.0
Instructor encouraged interest in the subject	6.6/7.0
Instructor demonstrated interest in student learning	6.7/7.0
Instructor demonstrated respect for students	7.0/7.0
Instructor communicated effectively	6.4/7.0

CHEM 6030 – Project SeminarFa 2022 – Fa 2024

(Graduate), Developed Course

Faculty Course Questionnaire (FCQ) Evaluation (Fall 2022):

Course materials organized effectively	6.6/7.0
Course materials were useful.....	6.4/7.0
Assignments related to course content	6.1/7.0
Course increased student knowledge and skills.....	6.4/7.0
Course workload.....	3.1/7.0
Personal interest before enrollment.....	5.4/7.0
Instructor explained course ideas clearly.....	6.7/7.0
Instructor encouraged interest in the subject	6.7/7.0
Instructor demonstrated interest in student learning	6.8/7.0
Instructor demonstrated respect for students	6.7/7.0
Instructor communicated effectively	6.6/7.0

12. RECOGNITIONS

Academy District 20 – Volunteer of the Year	2025
Foothills Elementary School – Volunteer of the Year	2025
CU Excellence in Leadership Program – UCCS Cohort	2022
UCCS Outstanding Teacher Award	2021
UCCS Student Members of the American Chemical Society Golden Erlenmeyer Award	2016
UCCS Student Members of the American Chemical Society Silver Erlenmeyer Award	2014
Notre Dame College of Science Summer Stipend Fellowship	2009
Notre Dame GSU Graduate Research Symposium Poster Competition Finalist	2008
Notre Dame Department of Chemistry and Biochemistry Outstanding Graduate TA	2006

13. PROFESSIONAL ORGANIZATIONS

<u>Organization</u>	<u>Membership</u>
The American Chemical Society	2007 – present

14. SERVICE

COMMITTEE CHAIR

College of Letters, Arts, and Sciences Budget and Planning Committee University of Colorado, Colorado Springs. Colorado Springs, CO	2021 – 2025	
Committee for Departmental Advancement and Marketing University of Colorado, Colorado Springs. Colorado Springs, CO	Fall 2021 – present	
Annual Merit Review Evaluation Spreadsheet (CHEM - AMRES) Committee University of Colorado, Colorado Springs. Colorado Springs, CO	Fall 2020 – present	
Hiring Committee Chair University of Colorado, Colorado Springs. Colorado Springs, CO		
<u>Position</u>	<u>Rank</u>	<u>Date</u>
Instructor – Biochemistry	Instructor	Spring 2024
Instructor – Analytical Chemistry	Instructor	Summer 2023
Instructor – Biochemistry	Instructor	Spring 2022
Instructor – Chemistry – 0.5 FTE	Instructor	Spring 2021
Tenure Track – Biochemistry	Tenure Track Faculty	Fall 2018
Instructor - Chemistry	Instructor	Spring 2017
Tenure Track – Analytical Chemistry	Tenure Track Faculty	Fall 2017

Graduate Thesis Committee Chair

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Student Name</u>	<u>Department</u>	<u>Degree Sought</u>	<u>Defense Date</u>
Laurique Hughes	Chemistry & Biochemistry	MSc	Spring 2025
Marshal Dolan	Chemistry & Biochemistry	MSc	Summer 2022
Brennan Watts	Chemistry & Biochemistry	MSc	Spring 2021

14. SERVICE (CONTINUED)

COMMITTEE CHAIR (CONTINUED)

Graduate Thesis Committee Chair (Continued)

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Student Name</u>	<u>Department</u>	<u>Degree Sought</u>	<u>Defense Date</u>
Caleb Rolsma	Chemistry & Biochemistry	MSc	Summer 2019
Nathan Weeks	Chemistry & Biochemistry	MSc	Fall 2018
Kathryn Prescott	Chemistry & Biochemistry	MSc	Summer 2015

Primary Unit Committee Chair

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Faculty Name</u>	<u>Department</u>	<u>Review</u>	<u>Date</u>
Ron Ruminski	Chemistry & Biochemistry	Post Tenure Review	Fall 2022
Allen Schoffstall	Chemistry & Biochemistry	Post Tenure Review	Fall 2022

COMMITTEE MEMBER

Conduct Appeal Board

Fall 2024 – present

University of Colorado, Colorado Springs. Colorado Springs, CO

Research Faculty Advisory Board

Spring 2024 – present

University of Colorado, Colorado Springs. Colorado Springs, CO

Committee on Restricted, Proprietary, and Classified Projects

Fall 2021 – present

University of Colorado, Colorado Springs. Colorado Springs, CO

Hiring Committee Member

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Position</u>	<u>Rank</u>	<u>Date</u>
Dean, College of Letters, Arts & Sciences	Administration	Spring 2025
Instructor – Chemistry	Instructor	Spring 2025
Instructor – Chemistry	Instructor	Fall 2024
Tenure Track – Biochemistry (x2)	Tenure Track Faculty	Fall 2016
Instructor - Chemistry	Instructor	Spring 2015
Instructor – Chemistry (x3)	Instructor	Summer 2015
Instructor – Chemistry	Instructor	Summer 2014
Tenure Track – Biochemistry	Tenure Track Faculty	Fall 2013

Graduate Thesis Committee Member

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Student Name</u>	<u>Department</u>	<u>Degree Sought</u>	<u>Defense Date</u>
Ana Barovic	Chemistry & Biochemistry	MSc	Spring 2025
Zach Pitcher	Chemistry & Biochemistry	MSc	Summer 2024
Logan Epperson	Chemistry & Biochemistry	MSc	Summer 2023
Morgan Schachterle	Chemistry & Biochemistry	MSc	Spring 2023
Ashley Ward	Chemistry & Biochemistry	MSc	Spring 2022
Kyle Kuhlman	Physics & Energy Science	PhD	Fall 2021
Stacy Lazelle	Chemistry & Biochemistry	MSc	Fall 2021
Justin Jackson	Chemistry & Biochemistry	MSc	Summer 2021
Ericka Lemon	Chemistry & Biochemistry	MSc	Summer 2021

14. SERVICE (CONTINUED)

COMMITTEE MEMBER (CONTINUED)

Graduate Thesis Committee Member (Continued)

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Student Name</u>	<u>Department</u>	<u>Degree Sought</u>	<u>Defense Date</u>
Mazen Alrahili	Physics & Energy Science	PhD	Spring 2021
Eric Gaulke	Chemistry & Biochemistry	MSc	Fall 2020
Caleb Quezada	Chemistry & Biochemistry	MSc	Fall 2020
Michael Michaud	Chemistry & Biochemistry	MSc	Fall 2019
Justin Case	Chemistry & Biochemistry	MSc	Fall 2018
Dylan Shuster	Chemistry & Biochemistry	MSc	Fall 2018
Vira Kravets	Physics & Energy Science	PhD	Spring 2017

Undergraduate Honors Committee Member

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Student Name</u>	<u>Department</u>	<u>Honors Sought</u>	<u>Date</u>
Niko Hughes	Chemistry & Biochemistry	Research	Spring 2025
Natasha Mastalka-Tatro	Chemistry & Biochemistry	Academics & Research	Spring 2024
Camden Trent	Chemistry & Biochemistry	Research	Spring 2024

Primary Unit Committee Member

University of Colorado, Colorado Springs. Colorado Springs, CO

<u>Faculty Name</u>	<u>Department</u>	<u>Review</u>	<u>Date</u>
Andrew Klocko	Chemistry & Biochemistry	Comprehensive Review	Fall 2023
James Kovacs	Chemistry & Biochemistry	Comprehensive Review	Fall 2022
Amanda Morgenstern	Chemistry & Biochemistry	Initial Reappointment	Fall 2022
Janel Owens	Chemistry & Biochemistry	Post Tenure Review	Fall 2021
Kathrin Spendier	Physics & Energy Sciences	Comprehensive Review	Fall 2019
Andrew Klocko	Chemistry & Biochemistry	Initial Reappointment	Fall 2018
James Kovacs	Chemistry & Biochemistry	Initial Reappointment	Fall 2018

Budget Allocation Model Primary Unit Governance Group

Fall 2021 – Spring 2022**University of Colorado, Colorado Springs. Colorado Springs, CO**

College of Letters, Arts, and Sciences Budget and Planning Committee

Fall 2016 – Spring 2020**University of Colorado, Colorado Springs. Colorado Springs, CO**PEER REVIEWER

The Journal of Physical Chemistry Letters

2013 - present**The American Chemical Society**

The Journal of Physical Chemistry

2015 - present**The American Chemical Society**

Chemical Reviews

2016 - present**The American Chemical Society**

Journal of Water Process Engineering

2016 - present**Elsevier**

14. SERVICE (CONTINUED)

PEER REVIEWER (CONTINUED)

The Journal of Solid State Science and Technology The Electrochemical Society	2017 - present
The Physics Teacher AIP Publishing	2017 - present
The Journal of Chemical Physics AIP Publishing	2019 - present
ACS Omega The American Chemical Society	2019 - present
Gels Multidisciplinary Digital Publishing Institute (MDPI)	2021 - present
Nature Communications Nature Portfolio	2022 - present
Molecules Multidisciplinary Digital Publishing Institute (MDPI)	2022 - present
Carbon Elsevier	2024 - present

EVENT ORGANIZER

“UCCS STEM Major/Elementary Student Science Fair Mentorship Program” Foothills Elementary School. Colorado Springs, CO	Spring 2025 - present
“UCCS Dept. of Chem. & Biochem. Seminar Series” University of Colorado, Colorado Springs. Colorado Springs, CO	2019 - present
“Annual UCCS Dept. of Chem. & Biochem. Summer Research Symposium” University of Colorado, Colorado Springs. Colorado Springs, CO	2018 - present
“The Chemistry of Taste: STEM Outreach to 5 th Grade Students” University of Colorado, Colorado Springs. Colorado Springs, CO	Fall 2017 - present
Event: “UCCS REU High School Research Outreach” Organizer Rampart Range High School. Colorado Springs, CO	Summer 2015
Event: “UCCS REU Research Outreach” Organizer (with UCCS C-STEM-E) University of Colorado, Colorado Springs. Colorado Springs, CO	Summer 2015
Event: “Designing and Presenting an Effective Scientific Poster” Workshop University of Colorado, Colorado Springs. Colorado Springs, CO	Summer 2015
Event: “Creating Effective Oral Scientific Presentations” Workshop University of Colorado, Colorado Springs. Colorado Springs, CO	Summer 2015
Event: “Research: What, Why, Who, Where, How” Workshop University of Colorado, Colorado Springs. Colorado Springs, CO	Summer 2015

14. SERVICE (CONTINUED)

EVENT ORGANIZER (CONTINUED)

Event: “STEM Scholarship Showcase for Underrepresented Students”
University of Colorado, Colorado Springs. Colorado Springs, CO **January 2014**

EVENT PARTICIPANT

Science Fair Judge **Spr. 2023 – Spr. 2024**
Foothills Elementary School. Colorado Springs, CO

Invited Presenter at “PALS” (Peak Area Leadership in Science) Meeting **Spring 2023**
University of Colorado, Colorado Springs. Colorado Springs, CO

Special Awards (top project in chemistry) Judge at Regional Science Fair **Spr. 2016 – Spr. 2023**
University of Colorado, Colorado Springs. Colorado Springs, CO

Floor Marshall during UCCS Commencement Ceremony **May 2016 – May 2024**
Broadmoor World Arena. Colorado Springs, CO

Invited Panel Member at Mountain Lion Visit Day **Fall 2022 – Spr. 2023**
University of Colorado, Colorado Springs. Colorado Springs, CO

Invited Presenter at “STEAM Night” **Fall 2021 – Fall 2023**
Foothills Elementary School. Colorado Springs, CO

Invited Presenter for UCCS Responsible Conduct of Research Training **October 2021**
University of Colorado, Colorado Springs. Colorado Springs, CO

Invited Presenter at Mountain Lion Experience Day **Fall 2015 – Fall 2021**
University of Colorado, Colorado Springs. Colorado Springs, CO

Invited Speaker at “Science on Tap” (Colorado Springs Science Center) **Jan. 2017, 2018, 2020**
Jack Quinn’s. Colorado Springs, CO

Invited Speaker at “Maker and Friends” Event **October 2016**
Pikes Peak Makerspace. Colorado Springs, CO

Member of Faculty Panel for “UCCS Passport” to Promote Research Activities **April 2016**
University of Colorado, Colorado Springs. Colorado Springs, CO

Presented on Research Strategies (Rampart High School IB Program) **September 2015**
University of Colorado, Colorado Springs. Colorado Springs, CO

Mountain Lion Experience Day (promoted Dept. to prospective students) **Spring/Fall 2015-16**
University of Colorado, Colorado Springs. Colorado Springs, CO

Faculty Representative for UCCS New Student Orientation **Summer 2014**
University of Colorado, Colorado Springs. Colorado Springs, CO

Represented Chemistry & Biochemistry Dept. at Majors/Minors Fair **Fall 2013-15**
University of Colorado, Colorado Springs. Colorado Springs, CO

“Girls in Technology” Workshop (Southern Colorado Girls’ STEM Initiative) **Fall 2013-15**
University of Colorado, Colorado Springs. Colorado Springs, CO

“Applying to Graduate School” Workshop (Dept. Chem. & Biochem.) **September 2013**
University of Colorado, Colorado Springs. Colorado Springs, CO