

Prof. Zeev Rosenzweig
Department of Chemistry and Biochemistry
University of Maryland Baltimore County

EDUCATION

- The Hebrew University of Jerusalem, Israel, Ph.D., Physical Chemistry, 1992.
- The Hebrew University of Jerusalem, Israel, B.Sc., Chemistry, 1986.

EXPERIENCE IN HIGHER EDUCATION

- Professor, Department of Chemistry and Biochemistry, University of Maryland Baltimore County, 2014 – Present
- Department Chair, Department of Chemistry and Biochemistry, University of Maryland Baltimore County, 2014 – 2020
- Adjunct Professor, University of New Orleans Chemistry Department, 2007 - 2009
- Professor, University of New Orleans Chemistry Department, 2003- 2007
- Associate Professor, University of New Orleans Chemistry Department, 1999 - 2003
- Assistant Professor, University of New Orleans Chemistry Department, August 1995- 1999
- Postdoctoral Research Associate, Department of Chemistry, University of Michigan, Ann Arbor, MI, 1994 -1995. Mentor: Dr. Raoul Kopelman
- Postdoctoral Research Associate, Department of Chemistry, Ames National Laboratory and Iowa State University, Ames, IA, 1992-1994. Mentor: Dr. Edward S. Yeung

EXPERIENCE IN OTHER THAN HIGHER EDUCATION

- Program Director, National Science Foundation Chemistry Division, 2005 - 2014

HONORS RECEIVED

- North Dakota Academy of Sciences Award, March 2016
- National Science Foundation Incentive Award, September 2012
- National Science Foundation Director's Superior Accomplishment Award, June 2010
- The Hebrew University Visiting Scholar Award, June 2001
- National Science Foundation (NSF) CAREER award, 1999

RESEARCH SUPPORT AND FELLOWSHIPS

Major Research Grants and Contracts

Pending Proposals

- Upconverting Luminescent Nanoprobes for Cellular and Tissue Imaging, NSF, Role: PI, \$697,664
- Translating Multifunctional Near-Infrared Emitting Polymer Dots (NIRPdots) for Next-

Generation Bioimaging and Detection Systems, NSF, Role: PI, \$50,000

- REU Site: A Summer Research and Training Program in Art Conservation Science Exploring the Interface between Science and Art (SCIART), NSF, Role: PI, \$541,413

Completed Grants

- A Baltimore Based Research and Education Consortium at the Interface between Science and Art, Andrew Mellon Foundation, Role: PI, \$300,000 January 1, 2023 – December 31, 2024.
- NSF Center for Sustainable Nanotechnology, NSF. Role: Co-PI (PI: Robert Hamers, University of Wisconsin, PI) \$20,000,000 (my budget: \$995,000) September 1, 2020 – August 31, 2025.
- InP/ZnS Luminescent Quantum Dots for Bioimaging with Improved Cellular Targeting Capabilities, NSF, Role: PI, \$549,000, September 1, 2019 – August 31, 2024
- A Baltimore Based Research and Education Consortium at the Interface between Science and Art, Andrew Mellon Foundation, Role: PI, \$777,792, January 1, 2020 – December 31, 2023.
- Expanding the utility and range of quantum and polymer dots for multiplexed super resolution fluorescence imaging in plants, DOE, Role: Co-PI (PI: Gary Stacey, University of Missouri) \$2,250,000 (my budget: \$750,000) 09/15/2019 – 08/31/2023.
- The Microinjection Colored Needle for Enhanced Visibility and Anti-Clogging Capabilities, NIH, Role: Co-PI (PI: Kinneret Rand-Yadin, SeeTrue Technologies, \$149,320 (my budget: \$49,320) April 1, 2019 – August 31, 2021.
- Non-Toxic InP Quantum Dots for Luminescence Cellular Imaging and Sensing, NSF, Role: PI, \$613,545 May 1, 2015 – June 30, 2019.
- REU Site: Research Experience for Undergraduates in Advanced Chemical Sensing and Imaging. NSF, Role: PI \$357,305 July 1, 2015-06/30/2019
- Phase II Center for Chemical Innovation, A Molecular Basis for Sustainable Nanotechnology, NSF, Role: Co-PI (PI: Robert Hamers, University of Wisconsin, PI) \$20,000,000 (my budget: \$750,000) September 1, 2015 – August 31, 2020.
- A Baltimore Based Research and Education Consortium at the Interface between Science and Art, Andrew Mellon Foundation, Role: PI, \$617,000 March 1, 2016 – February 28, 2020.
- Luminescent Quantum Dots for Intracellular Assays, NSF, Role: PI with Matt Tarr as alternate PI due to NSF rules, \$250,000, July 2008- June 2011.
- Nanoparticle-Based Luminescence Sensors for Single Cell Analysis, NSF, Role: PI, \$493,000 July 1, 2004-June 30, 2008.
- Luminescent Bioassays in Microfluidic Systems using Functionalized Quantum Dots, NIST Seed Grant, Role: PI, \$98,000 March 2006-December 2007.
- Synthesis and Application of Magnetic Nanostructures in Biological Systems, DoD- DARPA, Role: Co-PI (Charles O'Connor, University of New Orleans, PI), \$9,000,000 (my part: \$765,000) August 2003 - July 2007.
- Targeted Drug Delivery of Anti-Cancer Drugs using Nanometric Carriers, Louisiana Board of Regents Support Fund, Role: PI, \$165,000, July 2004 - June 2007.
- Self-Assembly of Magnetic Nanostructures and Related Enabling Technologies, NSF, Subcontract to University of Central Florida: Synthesis, Characterization and Application of Fluorescent Magnetoliposomes in Drug Delivery, Role: PI, \$275,000, July 2001- June 2006.
- Variable Temperature X-band and Q-band Capabilities for UNO's EPR System: New Insight into Novel Materials and Biomolecular Processes Through Greater Sensitivity, Increased Resolution, and Finer Details of Paramagnetic Materials, Role: Co-PI (Charles O'Connor, University of New Orleans, PI) Louisiana BoR (Enhancement Program) \$87,000.

- A Field Emission Scanning Electron Microscope (FESEM) at UNO: Promoting Strategies for Synthetic Processes that Lead to Superior Materials, Role: Co-PI (Weilie Zhou, University of New Orleans, PI) Louisiana Board of Regents (Enhancement Program) \$151,600.

CURRENT AND FORMER POSTDOCTORAL FELLOWS

Postdoc name	PhD Institution	Position years	Current role/employment
Swapnil Ambade	Chonbuk National University, South Korea	2019 – 2023	Postdoctoral fellow, Johns Hopkins University
Jessica Heimann	Yale University	2019 – 2023	Assistant Professor, Salisbury University, Salisbury, MD
Taeyjuana Lyons	University of Michigan	2014 -2017	Insights&Analytics Manager, Cisco Washington DC-Baltimore area
Sandra DaSilva	Univ. of Sao Paolo, Brazil	2005 – 2007	Senior Scientist, NIST
Vania DePaoli	Univ. of Sao Paolo, Brazil	2004 – 2006	Lecturer, Cleveland State University, Department of Chemistry
Silvia LaCerde	Univ. of Sao Paolo, Brazil	2003 – 2006	Senior scientist, FDA
Liane Rossi	Univ. of Sao Paolo, Brazil	2003 – 2004	Professor of Chemistry, Univ. of Sao Paolo, Brazil
Yuri Barnakov	St. Petersburg State University	2002 – 2004	Research professor at Norfolk State University
Thanh Nguyen	University of Liverpool, UK	2001 – 2003	Reader, University College London, UK

CURRENT AND FORMER GRADUATE STUDENTS

Student name	Degree	Current role/employment
Durga Devkota	PhD (UMBC)	UMBC PhD student
Kushani Mendis	PhD (UMBC)	UMBC PhD student
Aminah Amjad	PhD (UMBC)	UMBC PhD student
Leopoldo Posada	PhD (UMBC)	UMBC PhD student
Shreyasi Sengupta	PhD/2025 (UMBC)	Anderson Materials Services
Connor Riahin	PhD/2024 (UMBC)	Clemson University
Laura Kesner	PhD/2023 (UMBC)	Clinical Assistant Professor, Catholic University of America
Jennifer Kluts	MSc/2020 (UMB)	Biochemist II at Meso Scale Diagnostics, LLC
Denise Williams	PhD/2020 (UMBC)	Postdoctoral Research Associate, Baylor University School of Medicine

Richard Brown	PhD/2020 (UMBC)	Senior Scientist, US Product safety Commission
Zheng Zheng	PhD/2020 (UMBC)	Senior scientist at Meso Scale Diagnostics, LLC
Melissa Richardson	MSc/2017 (UMB)	Global clinical project manager, Medical Research Network, Baltimore, Maryland
Venkata Kateheidi	PhD/2011(UNO)	unknown
Ashley Quach	PhD/2011 (UNO)	Research scientist, Bio-Design Institute, Arizona State University
Arriel Wicks	PhD/2010 (UNO)	Technical Sales Executive at Cepheid
Bryant Jones	MSc/2009 (UNO)	unknown
Lifang Shi	PhD/2008 (UNO)	Senior Research Scientist at Chemtrace, Fremont, CA
Georgeta Crivat	PhD/2007 (UNO)	Primary Reviewer at the US Food and Drug Administration (FDA)
Ying Long	MSc/2006 (UNO)	Senior Analytical Chemist at Chemours Company, Wilmington, DE
Aihui Ma	PhD/2005 (UNO)	Chemist at DHS NY lab, New York, NY.
Li Chen	MSc /2005 (UNO)	Senior Research Investigator at International Flavors and Fragrances, New York, NY.
Gabriela Blagoi	PhD/2004 (UNO)	Medical Writer for Vifor Pharma, Basel Switzerland
Desheng Wang	MSc/2004 UNO)	Field Services Engineer at Agilent Technologies
Yongfen Chen	PhD/2003 (UNO)	Senior Research scientists, Sigma Aldrich, Seattle WA.
Thuvan Nguyen-Piehler	PhD/2003 (UNO)	Researcher at U.S Army Research Laboratory, Aberdeen, MD
Kerry McNamara	MSc/2002 (UNO)	Principal Software Engineer and Associate Director at Broad Institute, Cambridge, MA
Jacob Asiedu	MSc/2001 (UNO)	
Jin Ji	PhD/2001 (UNO)	Partner, PulchriBio Intl. Cambridge, MA

CURRENT AND FORMER UNDERGRADUATE STUDENTS (Since joining UMBC in 2014)

UMBC Students

- Abigail Ikeler, Fall 2025 -, Chemistry BSc.
- Lexi Wise, May 2023 – May 2025, Chemistry BSc, currently a PhD student at University of Maryland College Park.

- Bella Guardado, Fall 2022- May 2024, Chemistry BSc, RISE Honor student currently a PhD student at University of Illinois at Urbana-Champaign
- Amalthea Trobare, Fall 2022, Chemistry BSc.(still at UMBC, currently conducting undergraduate research in the Arnold's lab)
- Grace Tugado, Fall 2020 – Fall 2021, Chemical Engineering BSc (LSAMP Fellow, McNair Scholar), URM
- Lorin Loftus, Fall 2020 - Fall 2021, Chemical Engineering BSc, currently a post bachelorette researcher at NIH.
- Rose Zilberberg, Fall 2017 – Fall 2019, Chemical Engineering MSc (graduated in 2023)
- Zachary Clifford, Fall 2017 – Fall 2019, Chemistry BSc, currently a Chemistry PhD Student at Rutgers University, URM
- Em Demiral, Summer 2018 – Fall 2019, Chemistry BSc, URM, currently and elementary school teachere in Baltimore City
- Ewa Harazinska, Fall 2017 – Spring 2019, Chemistry BSc, currently a Chemistry PhD Student at Johns Hopkins University
- Aparil Laranang, Fall 2017 – Spring 2019, Chemical Biochemical and Environmental Engineering BSc, URM
- Chana Honick, Spring 2015 – Spring 2016, Chemistry BSc, currently a Chemistry PhD Student at Johns Hopkins University
- Karina Keffe, Spring 2016 – Fall 2016, Electrical Engineering BSc
- Daniel Morgan, Spring 2017 – Summer 2017, Chemistry BSc
- Danielle Tyson, Fall 2014 -Fall 2016, Biochemistry and Molecular Biology BSc, graduated withMD from Ohio State University School of Medicine, URM

REU Students

- Vedanth Natarajan, Summer 2025, University of Holly Cross
- Halley Le, Summer 2024, Bennington College
- Elea-Maria Abisamra, Summer 2023, Virginia Tech University
- Alayah Collins, summer 2021, Tuskegee University, URM
- Katelyn Rediger, summer 2018, Eastern Pennsylvania University
- Stephan Harruff, summer 2018, Indiana State University
- Meghan Dands, summer 2017, Virginia Tech University
- Leopoldo Posada, summer 2017, University of Texas Rio Grande Valley, URM.
- Hyo Park, summer 2016, Chaminade University at Hawaii, Chemistry Sophomore, URM.
- Rebecca Pontius, summer 2016, Clemson University

REFEREED/INVITED PUBLICATIONS

Journal Articles

92. **Real-time Monitoring of Protein Corona Formation on Polymer Dots Using Fluorescence Resonance Energy Transfer Spectroscopy**, Kushani G. Mendis, Connor Riahin, Alexandra L. Wise, Halley Le, Zeev Rosenzweig*, J. Phys. Chem. C 2025, 129, 41, 18519–18529, <https://doi.org/10.1021/acs.jpcc.5c02989>

91. **Scalable and environmentally friendly MXene-tetrahedrites for next-generation flexible thermoelectrics**, Priyanshu Banerjee, Jiyuan Huang, Jacob Lombardo, Swapnil B. Ambade, Rohan B. Ambade, Tae Hee Han, Srushti Kulkarni, Shreyasi Sengupta, Zeev Rosenzweig, Howard Fairbrother, Sichao Li, Sumni Shin, and Deepa Madan, *J. Mater. Chem. A* 2025, 13, 654-668. DOI: [10.1039/D4TA05056H](https://doi.org/10.1039/D4TA05056H)
90. **Stability of Ti₃C₂T_x MXenes in Engineered Environments**, Nasim Ganji, Christian Reardon-Lochbaum, Swapnil B. Ambade, Caroline Anastasia, Patrick Mackin Eckhart, Zeev Rosenzweig, Joel A. Pedersen, and D. Howard Fairbrother, *Environ. Sci.: Nano* 2024. DOI: [10.1039/D3EN00438D](https://doi.org/10.1039/D3EN00438D)
89. **Colloidal stabilization of hydrophobic InSe 2D nanosheets in a model environmental aqueous solution and their impact on *Shewanella oneidensis* MR-1**, Shreyasi Sengupta, Swapnil B. Ambade, Tana L. O’Keefe, Falak Tawakalna, Jenny K. Hedlund Orbeck, Robert J. Hamers, Z. Vivian Feng, Christy L. Haynes, and Zeev Rosenzweig, *Environ. Sci.: Nano* 2024. DOI: [10.1039/D3EN00382E](https://doi.org/10.1039/D3EN00382E)
88. **The effects of chlorine-containing species on cinnabar: A density functional theory investigation into the surface adsorption reactivity of mercury sulfide**, Aria Tauraso, G. Amalthea Trobare, Lillian G. Kidd, Jessica E. Heimann, Zeev Rosenzweig, and Joseph W. Bennett, *Surface Science* 2024, 740. DOI: [10.1016/j.susc.2023.122412](https://doi.org/10.1016/j.susc.2023.122412)
87. **Simultaneous multicolor imaging of lymph node chains using hydroporphyrin-doped near-infrared-emitting polymer dots**, Takuya Kato, Connor Riahin, Aki Furusawa, Hiroshi Fukushima, Hiroaki Wakiyama, Shuhei Okuyama, Seiichiro Takao, Peter L. Choyke, Marcin Ptaszek, Zeev Rosenzweig, and Hisataka Kobayashi, *Nanomedicine* 2023, 18(8), 659-666. DOI: [10.2217/nnm-2023-0044](https://doi.org/10.2217/nnm-2023-0044)
86. **Chemical Transformations of 2D Kaolinic Clay Mineral Surfaces from Sulfuric Acid Exposure**, Celia S. Chari, Jessica E. Heimann, Zeev Rosenzweig, Katherine T. Faber, and Joseph W. Bennett *Langmuir* 2023, 39, 6964-6974. DOI: [10.1021/acs.langmuir.3c00113](https://doi.org/10.1021/acs.langmuir.3c00113)
85. **Understanding the Effects of Amine and Morpholine Adsorption on Unglazed Earthenware Using Density Functional Theory**, Jessica E. Heimann, Zeev Rosenzweig, and Joseph W. Bennett *J. Cult. Herit.* 2023, 61, 168-176. DOI: [10.1016/j.culher.2023.04.002](https://doi.org/10.1016/j.culher.2023.04.002)
84. **Untangling the Interactions between Anionic Polystyrene Nanoparticles and Lipid Membranes Using Laurdan Fluorescence Spectroscopy and Molecular Simulations**, Laura A. Kesner, Zeke A. Piskulich, Qiang Cui, and Zeev Rosenzweig, *J. Am. Chem. Soc.* 2023, 145(14), 7962-7973. DOI: [10.1021/jacs.2c13403](https://doi.org/10.1021/jacs.2c13403)
83. **Interactions of Ti₃C₂ MXene with Aqueous Zwitterionic Biological Buffers: Implications for Applications in Biological Systems**, Swapnil B. Ambade, Laura A. Kesner, Mohammed K. Abdel-Rahman, D. Howard Fairbrother, and Zeev Rosenzweig, *ACS Appl. Nano Mater.* 2023, 6, 4898-4909. DOI: [10.1021/acsanm.3c00666](https://doi.org/10.1021/acsanm.3c00666)
82. **Near Infrared Emitting Semiconductor Polymer Dots for Bioimaging and Sensing**, Connor Riahin, Kushani Mendis, Brandon Busick, Marcin Ptaszek, Mengran Yang, Gary Stacey, Amar Parvate, James E. Evans, Jeremiah C. Traeger, Dehong Hu, Galya Orr, and Zeev Rosenzweig, *Sensors* 2022, 22(19), 7218. DOI: [10.3390/s22197218](https://doi.org/10.3390/s22197218)
81. **Hydroporphyrin-Doped Near-Infrared-Emitting Polymer Dots for Cellular Fluorescence Imaging**, Connor Riahin, Adam Meares, Nopondo N. Esemoto, Marcin Ptaszek, Michael LaScola,

Narendra Pandala, Erin Lavik, Mengran Yang, Gary Stacey, Dehong Hu, Jeremiah C. Traeger, Galya Orr, and Zeev Rosenzweig, *ACS Appl. Mater. Interfaces* **2022**, *14*, 18, 20790-20801. [DOI: 10.1021/acsami.2c02551](https://doi.org/10.1021/acsami.2c02551)

80. Density Functional Theory (DFT) as a Nondestructive Probe in the Field of Art Conservation: Small-Molecule Adsorption on Aragonite Surfaces. Jessica Heimann, Jasper Tucker, Layla Huff, Ye Rin Kim, Jood Ali, Kaylor Stroot, Xavier Welch, Harley White, Marcus Wilson, Cecelia Wood, Glenn Gates, Zeev Rosenzweig, and Joseph Bennett, *ACS Appl. Mater. Interfaces* **2022**, *14*, 11, 13858-13871. [DOI: 10.1021/acsami.1c23695](https://doi.org/10.1021/acsami.1c23695)

79. Baltimore SCIART: A Fully Virtual Undergraduate Research Experience at the Interface of Computational Chemistry and Art, Jessica Heimann, Tory Williams, Joseph Bennett, and Zeev Rosenzweig, *J. Chem. Educ.* **2021**, *98*, 10, 3172-3179. [DOI: 10.1021/acs.jchemed.1c00425](https://doi.org/10.1021/acs.jchemed.1c00425)

78. Influence of Surface Ligand Molecular Structure on Phospholipid Membrane Disruption by Cationic Nanoparticles, Yongqian Zhang, Udaya Dahal, Z. Vivian Feng, Zeev Rosenzweig, Qiang Cui, and Robert J. Hamers, *Langmuir* **2021**, *37*, 24, 7600-7610. [DOI: 10.1021/acs.langmuir.1c01146](https://doi.org/10.1021/acs.langmuir.1c01146)

77. A Density Functional Theory (DFT) Investigation of How Small Molecules and Atmospheric Pollutants Relevant to Art Conservation Adsorb on Kaolinite, Jessica Heimann, Ryan Grimes, Zeev Rosenzweig, and Joseph Bennett, *Appl. Clay Sci.* **2021**, *206*, 106075. [DOI: 10.1016/j.clay.2021.106075](https://doi.org/10.1016/j.clay.2021.106075)

76. Redesign of Hydrophobic Quantum Dots Mitigates Ligand-Dependent Toxicity in the Nematode *C. elegans*, Nicholas Niemuth, Denise Williams, Arielle Mensch, Yi Cui, Galya Orr, Zeev Rosenzweig, and Rebecca Klaper, *NanoImpact* **2021**, *22*, 100318. [DOI: 10.1016/j.impact.2021.100318](https://doi.org/10.1016/j.impact.2021.100318)

75. Surface Curvature and Aminated Side-Chain Partitioning Affect Structure of Poly(oxanorbornenes) Attached to Planar Surfaces and Nanoparticles of Gold, Ali Rahnamoun, Alyssa Deline, Joanna Zienkiewicz, Ronghua Bei, Zheng Zheng, Zeev Rosenzweig, D. Howard Fairbrother, and Rigoberto Hernandez, *Langmuir* **2020**, *36*, 35, 10412–10420. [DOI: 10.1021/acs.langmuir.0c01567](https://doi.org/10.1021/acs.langmuir.0c01567)

74. Poly(oxanorbornene)-Coated CdTe Quantum Dots as Antibacterial Agents, Denise N. Williams, Julia S. Saar, Vera Bleicher, Sibylle Rau, Karen Lienkamp, and Zeev Rosenzweig, *ACS Appl. Bio Mater.* **2020**, *3*, 2, 1097–1104. [DOI: 10.1021/acsabm.9b01045](https://doi.org/10.1021/acsabm.9b01045)

73. Variations in electronic states of coumarin hexanethiolate-labeled i-Au₂₅ and bi-Au₂₅ clusters, Angela Meola, Nicole Hondrogiannis, Pierce Brown, Maksym Zhukovskiy, Zheng Zheng, Zeev Rosenzweig, Keith Reber, and Mary Sajini Devadas, *MRS Commun.* **2019**, *9*(3), 992-1000. [DOI: 10.1557/mrc.2019.113](https://doi.org/10.1557/mrc.2019.113)

72. Gold nanoparticles loaded with Cullin-5 DNA increase sensitivity to 17-AAG in Cullin-5 Deficient Breast Cancer Cells, Sarah Talamantez-Lyburn, Pierce Brown, Nicole Hondrogiannis, Janaysha Ratliff, Sarah L. Wicks, Ninna Nana, Zheng Zheng, Zeev Rosenzweig, Ellen Hondrogiannis, Mary Sajini Devadas, and Elana S. Ehrlich, *International Journal of Pharmaceutics* **2019**, *564*, 281-292. [DOI: 10.1016/j.ijpharm.2019.04.022](https://doi.org/10.1016/j.ijpharm.2019.04.022)

71. Synthesis and Degradation of Cadmium-Free InP and InPZn/ZnS Quantum Dots in Solution, Richard P. Brown, Miranda J. Gallagher, D. Howard Fairbrother, and Zeev Rosenzweig, *Langmuir* **2018**, *34*, 46, 13924–13934. [DOI: 10.1021/acs.langmuir.8b02402](https://doi.org/10.1021/acs.langmuir.8b02402)

70. **Adverse Interactions of Luminescent Semiconductor Quantum Dots with Liposomes and *Shewanella oneidensis***, Denise N. Williams, Sunipa Pramanik, Richard P. Brown, Bo Zhi, Eileen McIntire, Natalie V. Hudson-Smith, Christy L. Haynes, and Zeev Rosenzweig, *ACS Applied Nano Materials* **2018**, 1, 9, 4788–4800. DOI: [10.1021/acsanm.8b01000](https://doi.org/10.1021/acsanm.8b01000)
69. **Release, detection and toxicity of fragments generated during artificial accelerated weathering of CdSe/ZnS and CdSe quantum dot polymer composites**, Miranda J. Gallagher, Joseph T. Buchman, Tian A. Qiu, Bo Zhi, Taeyjuana Y. Lyons, Kaitlin M. Landy, Zeev Rosenzweig, Christy L. Haynes, and D. Howard Fairbrother, *Environmental Science: Nano* **2018**, 5, 1694-1710. DOI: [10.1039/C8EN00249E](https://doi.org/10.1039/C8EN00249E)
68. **Structure–Property Relationships of Amine-rich and Membrane-Disruptive Poly(oxonorborene)-Coated Gold Nanoparticles**, Zheng Zheng, Julia Saar, Bo Zhi, Tian A. Qiu, Miranda J. Gallagher, D. Howard Fairbrother, Christy L. Haynes, Karen Lienkamp, and Zeev Rosenzweig *Langmuir* **2018**, 34(15), 4614-4625. DOI: [10.1021/acs.langmuir.7b04285](https://doi.org/10.1021/acs.langmuir.7b04285)
67. **Malic Acid Carbon Dots: From Super-resolution Live-Cell Imaging to Highly Efficient Separation**, Bo Zhi, Yi Cui, Shengyang Wang, Benjamin P. Frank, Denise N. Williams, Richard P. Brown, Eric S. Melby, Robert J. Hamers, Zeev Rosenzweig, D. Howard Fairbrother, Galya Orr, and Christy L. Haynes, *ACS Nano* **2018**, 12(6), 5741-5752. DOI: [10.1021/acsnano.8b01619](https://doi.org/10.1021/acsnano.8b01619)
66. **Carbon Dots: A Modular Activity to Teach Fluorescence and Nanotechnology at Multiple Levels**, Susan N. Pham, Joshua E. Kuether, Miranda J. Gallagher, Rodrigo Tapia Hernandez, Denise N. Williams, Bo Zhi, Arielle C. Mensch, Robert J. Hamers, Zeev Rosenzweig, Howard Fairbrother, Miriam O.P. Krause, Z. Vivian Feng, and Christy L. Haynes, *Journal of Chemical Education* **2017**, 94(8), 1143-1149. DOI: [10.1021/acs.jchemed.6b00995](https://doi.org/10.1021/acs.jchemed.6b00995)
65. **Investigation of phosphorous doping effect on polymeric carbon dots: Fluorescence, photo stability and environmental impact**, Bo Zhi, Miranda J. Gallagher, Benjamin P. Frank, Taeyjuana Y. Lyons, Tian A. Qiu, Joseph Da, Arielle C. Mensch, Robert J. Hamers, Zeev Rosenzweig, D. Howard Fairbrother, and Christy L. Haynes, *Carbon* **2017**, 129. DOI: [10.1016/j.carbon.2017.12.004](https://doi.org/10.1016/j.carbon.2017.12.004)
64. **Adding Fluorescence Lifetime Spectroscopy to the Tool Kit used to Study the Formation and Degradation of Luminescent Quantum Dots in Solution**, Taeyjuana Y. Lyons, Denise N. Williams, and Zeev Rosenzweig, *Langmuir* **2017**, 33(12). DOI: [10.1021/acs.langmuir.6b04400](https://doi.org/10.1021/acs.langmuir.6b04400)
63. **Biological Responses to Engineered Nanomaterials: Needs for the Next Decade**, Catherine J. Murphy, Ariane M. Vartanian, Franz M. Geiger, Robert J. Hamers, Joel Pedersen, Qiang Cui, Christy L. Haynes, Erin E. Carlson, Rigoberto Hernandez, Rebecca D. Klaper, Galya Orr, and Zeev Rosenzweig, *ACS Central Science* **2015**, 1(3), 117-123. DOI: [10.1021/acscentsci.5b00182](https://doi.org/10.1021/acscentsci.5b00182)

Prior to UMBC

62. **Luminescent Nanoparticle-Based Probes for Bioassays**, Sandra Da Silva and Zeev Rosenzweig *Biomedical Photonics Handbook*, Second Edition. **2014**. DOI: [10.1201/b17288-22](https://doi.org/10.1201/b17288-22)
61. **Quantum dot–NBD–liposome luminescent probes for monitoring phospholipase A2 activity**, Claudio Sangregorio, Joan K. Wiemann, Charles J. O'Connor, and Zeev Rosenzweig, *Advanced Series in Physical Chemistry* **2013**, 405(30), 2013. DOI: [10.1007/s00216-013-7422-z](https://doi.org/10.1007/s00216-013-7422-z)

60. **Science at the Interface with Art**, Lynnette D. Madsen, Zeev Rosenzweig, Kelsey D. Cook, Michael J. Scott, and Amy M. Jacobson, Mater. Res. Soc. Symp. Proc. Materials Research, Society. **2011**, 1319. DOI: [10.1557/opl.2011.732](https://doi.org/10.1557/opl.2011.732)
59. **Gold Nanoparticle–Quantum Dot–Polystyrene Microspheres as Fluorescence Resonance Energy Transfer Probes for Bioassays**, Ashley D. Quach, Georgeta Crivat, Matthew A. Tarr, and Zeev Rosenzweig, *Journal of the American Chemical Society* **2011**, 133(7), 2028-2030. DOI: [10.1021/ja109348d](https://doi.org/10.1021/ja109348d)
58. **Quantum Dot FRET-Based Probes in Thin Films Grown in Microfluidic Channels**, Georgeta Crivat, Sandra Maria Da Silva, Darwin R. Reyes, Laurie E. Locascio, Michael Gaitan, Nitsa Rosenzweig, and Zeev Rosenzweig, *Journal of the American Chemical Society*. **2010**, 132 (5), 1460-1461. DOI: [10.1021/ja908784b](https://doi.org/10.1021/ja908784b)
57. **Luminescent Quantum Dot Fluorescence Resonance Energy Transfer-Based Probes in Cellular and Biological Assays**, Lifang Shi, Nitsa Rosenzweig, and Zeev Rosenzweig, *Cellular and Biomolecular Recognition: Synthetic and Non-Biological Molecules*. **2009**, Chapter 11. DOI: [10.1002/9783527627011.ch11](https://doi.org/10.1002/9783527627011.ch11)
56. **Luminescent Quantum Dot FRET-Based Probes in Cellular and Biological Assays**, Lifang Shi, Nitsa Rosenzweig, and Zeev Rosenzweig, *Biosensing Using Nanomaterials*. **2009**, 275-289. DOI: [10.1002/9780470447734.ch9](https://doi.org/10.1002/9780470447734.ch9)
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PRESENTATIONS (since joining UMBC in 2014)

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- 1) Zeev Rosenzweig, Interactions Between 2D Materials and Model Membranes and Living Organisms in the Environment, ACS Fall 2023 National Meeting in the Division of Environmental Chemistry; Session: Environmental Chemistry and Nanotechnology: A Tribute to Joel Pedersen; San Francisco, California; August 13-17, 2023.
- 2) Zeev Rosenzweig, Expanding the Utility and Range of Quantum and Polymer Dots for Multiplexed Super Resolution Fluorescence Imaging in Plants, Bioimaging Science Program DOE Principal Investigators Meeting, February 28, 2022.
- 3) Zeev Rosenzweig, Near-Infrared Emitting Polymer Dots for Bioimaging, the European Materials Research Society (EMRS) Spring 2023 Meeting; Strasbourg, France; May 29-June 2, 2023.
- 4) Zeev Rosenzweig, Molecular Interactions of Luminescent Quantum Dots with Membranes and Living Organisms, ACS Fall 2018 National Meeting, Boston, MA, August 2018.
- 5) Zeev Rosenzweig, Luminescent quantum dots and their analytical applications, 2017 Eastern Analytical Symposium, November 2017, Princeton, NJ
- 6) Zeev Rosenzweig, Engineered nanoparticle interaction with living and model bacterial cell

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79. Understanding the Interactions between Polymer Nanoparticles and Proteins in the Physiological Environments (Protein Corona Formation), Kushani Mendis and Zeev Rosenzweig, ACS Spring 2024 National Meeting in the Division of Colloid and Surface Chemistry; New Orleans, LA; March 17-21, 2024.

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Science and Engineering for Agriculture and Food Systems Gordon Research Conference (GRC); Southern New Hampshire University in Manchester, New Hampshire; June 19-24, 2022.

60. Interactions of Ti_3C_2 MXenes with N-Substituted Zwitterionic Biological Buffers, Swapnil Ambade and Zeev Rosenzweig, MRS Spring 2022 National Meeting in the Division of 2D MXenes: Synthesis, Properties and Applications (Online); May 23-25, 2022.

59. Synthesis, Surface Modification and Environmental Impact of InSe 2D Nanomaterials, Shreyasi Sengupta, Swapnil Ambade, Tana O'Keefe, Christy Haynes, and Zeev Rosenzweig, MRS Spring 2022 National Meeting in the Division of Beyond Graphene 2D Materials: Synthesis, Properties and Device Applications (Online); May 23-25, 2022.

58. Molecular Interactions of Ti_3C_2 MXenes with N-Substituted Zwitterionic Biological Buffers and Their Impact on MXenes' Properties, Swapnil Ambade and Zeev Rosenzweig, ACS Spring 2022 National Meeting in the Division of Colloid and Surface Chemistry; San Diego, California; March 20-24, 2022.

57. Baltimore SCIART Program: Undergraduate Research in Utilizing Density Functional Theory (DFT) as a Non-Destructive Probe in the Field of Art Conservation, Jessica Heimann, Jasper Tucker, Layla Huff, Ye Rin Kim, Jood Ali, Kaylor Stroot, Xavier Welch, Harley White, Marcus Wilson, Cecelia Wood, Zeev Rosenzweig, and Joseph Bennett, ACS Spring 2022 National Meeting in the Division of Chemical Education (Online); March 20-24, 2022.

56. Synthesis, Surface Modification and Environmental Impact of InSe 2D Nanomaterials, Shreyasi Sengupta, Swapnil Ambade, Tana O'Keefe, Christy Haynes, and Zeev Rosenzweig, ACS Spring 2022 National Meeting in the Division of Colloid and Surface Chemistry; San Diego, California; March 20-24, 2022.

55. Three-Dimensional Nanostructures as Delivery Systems for Agricultural Applications, Leopoldo Posada Escobar, Swapnil Ambade, Nubia Zuverza-Mena, Jason White, and Zeev Rosenzweig, ACS Spring 2022 National Meeting in the Division of Inorganic Chemistry; San Diego, California; March 20-24, 2022.

54. Antibody Functionalized Near-Infrared Emitting Polymer Dots for Super Resolution Imaging of Membrane Receptors in Plant Cells, Connor Riahin, Mengran Yang, Amar Parvate, Dehong Hu, Galya Orr, Gary Stacey, James Evans, and Zeev Rosenzweig, ACS Spring 2022 National Meeting in the Division of Colloid and Surface Chemistry (Online); March 20-24, 2022.

53. Spectral Tuning and Surface-Functionalization of Semi-Conducting Polymer Nanoparticles, Connor Riahin, Adam Meares, Nopondo Esemoto, Brandon Busick, Marcin Ptaszek, Michael LaScola, Narendra Pandala, Erin Lavik, Mengran Yang, Gary Stacey, Dehong Hu, Jeremiah C. Traeger, Amar Parvate, James Evans, Galya Orr, and Zeev Rosenzweig, 2022 Polymer Colloids Conference, San Diego, California; February 22, 2022.

52. A Density Functional Theory (DFT) Investigation of Small Molecule Adsorption on Mineral Surfaces in Cultural Heritage, Jessica Heimann, Celia Chari, Joseph Bennett, Katherine Faber, and Zeev Rosenzweig, The American Ceramic Society (ACerS) Frontiers of Ceramics & Glass Webinar Series (Online); December 9th, 2021.

51. **InSe 2D Nanomaterial: Synthesis, Surface Modification and Environmental Impact**, Shreyasi Sengupta, Swapnil B. Ambade, and Zeev Rosenzweig, 10th Sustainable Nanotechnology Organization (SNO) Conference in the Sustainability, Risk and Manufacturing Session (Online); November 2021.
50. **Surface Modifications of InSe Nanosheets via Physisorption of Amphiphilic Molecules**, Shreyasi Sengupta, Swapnil B. Ambade, and Zeev Rosenzweig, ACS Fall 2021 National Meeting in the Division of Colloid and Surface Chemistry (Online); August 2021.
49. **Molecular Interactions Between Ti3C2 MXene and Amine Containing Molecules in Aqueous Buffered Solutions**, Swapnil B. Ambade, Laura A. Kesner, Alicia M. Tripp, Priyanshu Banerjee, Deepa Madan, Robert J. Hamers, and Zeev Rosenzweig, AAAPM-UCLA 2021 Conference (Online), August 18-20, 2021.
48. **Baltimore SCIART: A Fully Virtual Undergraduate Research Experience at the Interface of Computational Chemistry and Art**, Jessica Heimann, Jood Ali, Layla Huff, Ye Rin Kim, Cecelia Wood, Joseph Bennett, and Zeev Rosenzweig, ACS Spring 2021 National Meeting in the Division of Chemical Education (Online); April 2021.
47. **Near-Infrared Emitting Polymer Dots for Multiplexed Cellular Imaging**, Connor Riahin, Adam Meares, Erin Lavik, Marcin Ptaszek, and Zeev Rosenzweig, ACS Spring 2021 National Meeting in the Division of Polymer Chemistry (Online); April 2021.
46. **Fluorescence Spectroscopy to Measure the Impact of Membrane Characteristics on Membrane Phase Change Due to Nanoparticle-Membrane Interactions**, Laura Kesner and Zeev Rosenzweig, ACS Spring 2021 National Meeting in the Division of Colloid and Surface Chemistry (Online); April 2021.
45. **InSe 2D Nanomaterial: Synthesis, Characterization, and Environmental Impact**, Shreyasi Sengupta, Swapnil B. Ambade, and Zeev Rosenzweig, ACS Spring 2021 National Meeting in the Division of Colloid and Surface Chemistry (Online); April 2021.
44. **Expanding the utility and range of quantum and polymer dots for multiplexed super resolution fluorescence imaging in plants (DE-SC0020346)**, Gary Stacey, Zeev Rosenzweig, Marcin Ptaszek, Galya Orr, Christopher Anderton, Mowei Zhou, and Dehong Hu, <https://youtu.be/olPNN4GIR4k>
43. **Adsorption on Kaolinite Surfaces: A Density Functional Theory (DFT) Approach to Quantifying Interactions Between a Clay Mineral and Small Molecules**, Jessica Heimann, Zeev Rosenzweig, and Joseph Bennett, (1) 59th Eastern Analytical Virtual Symposium & Exposition in the Analytical Science in the Real World – Techniques and Applications session; November 2020, (2) Materials Science and Technology 2020 Virtual Technical Meeting and Exhibition in the Art and Cultural Heritage: Discoveries and Education session; November 2020
42. **Semi Bottom-up Synthesis and Characterization of InSe Two-dimensional Nanostructures**, Shreyasi Sengupta, Swapnil B. Ambade, Zheng Zheng, and Zeev Rosenzweig, ACS Spring 2020 National Meeting & Exposition in the Division of Colloid and Surface Chemistry; SciMeetings (Online); March 2020.
41. **Poly(oxonorbornene)-coated CdTe quantum dots as Antibacterial Agents**, Denise N. Williams, Julia Saar, Vera Bleicher, Sibylle Rau, Karen Lienkamp, and Zeev Rosenzweig, ACS Spring 2020

National Meeting & Exposition in the Division of Colloid and Surface Chemistry; SciMeetings (Online); March 2020.

40. Fluorescence microscopy of liposome-filled microwell arrays for studying interactions between laurdan-labeled liposomes and engineered nanoparticles, Laura A. Kesner and Zeev Rosenzweig, ACS Spring 2020 National Meeting & Exposition in the Division of Environmental Chemistry; Philadelphia, PA; March 2020. [^](#)

39. Dye doped semiconducting polymer nanoparticles for multiplex imaging, Connor Riahin and Zeev Rosenzweig, ACS Spring 2020 National Meeting & Exposition in the Polymer Chemistry Division; Philadelphia, PA; March 2020. [^](#)

38. Quantifying nanoparticle surface chemistries' effect on association with biological models, Denise N. Williams and Zeev Rosenzweig, ACS Spring 2020 National Meeting & Exposition in the Colloids and Surface Chemistry Division; Philadelphia, PA; March 2020. [^](#)

37. Fluorescence spectroscopy of laurdan-labeled liposomes for measuring the impact of oxidation by transition metal oxide nanoparticles on membrane fluidity, Laura A. Kesner and Zeev Rosenzweig, 2nd Pan-American Nanotechnology (PANNANO) Conference in the Chemical and Biological-Nano Interactions symposium; Aguas de Lindoia, Sao Paulo, Brazil; March 2020.

36. Investigating the effects of composition and surface chemistry variations on quantum dot interactions with human and environmental health-relevant models, Denise N. Williams and Zeev Rosenzweig, 2nd Pan-American Nanotechnology (PANNANO) Conference in the Chemical and Biological-Nano Interactions symposium; Aguas de Lindoia, Sao Paulo, Brazil; March 2020.

35. Studying the Interactions of Free Ligands and Ligand-conjugated Engineered Nanoparticles with Laurdan-labeled Liposomes using Generalized Polarization (GP) Fluorescence Spectroscopy, Laura A. Kesner, Shahid, A.; Curtis M. Green, Elizabeth D. Laudadio, Robert J. Hamers, and Zeev Rosenzweig, Sustainable Nanotechnology Organization (SNO) conference in the Fate, Transport, and Exposure session; San Diego, CA; November 2019.

34. Synthesis and Stability of InP-based QDs for Investigating the Impact of Nanoparticles on Organisms, Richard P. Brown, Miranda J. Gallagher, D. Howard Fairbrother, and Zeev Rosenzweig, Gordon Research Conference Environmental Nanotechnology; Newry, ME; June 2019.

33. Effect of Shell Composition on Optical Stability of Water Soluble InP/Zn(Se)S Quantum Dots, Richard P. Brown and Zeev Rosenzweig, 2019 ACS 47th Middle Atlantic Regional Meeting; Baltimore, MD; May 2019.

32. The Advantages and Limitations of Quantum Dot Synthesis via Microwave Irradiation, Ewa Harazinska, Meghan Dands, Denise N. Williams, and Zeev Rosenzweig, 2019 ACS Middle Atlantic Regional Meeting in the Undergraduate Poster Session; Baltimore, MD; May 2019.

31. Molecular level studies of the impact of poly (oxonorbornenes) on *D. rerio* embryos, Jennifer N. Klutts, Menekse Demiral, April Laranang, Jessica Park, Zheng Zheng, Julia Saar, Karen Lienkamp, Rachel Brewster, and Zeev Rosenzweig, 2019 ACS Middle Atlantic Regional Meeting in the Nano & Environmental Chemistry Session; Baltimore, MD; May 2019.

30. **Modifying the Activity of Antimicrobial Polymers through CdTe Quantum Dot Conjugation**, Denise N. Williams, Julia Saar, Vera Bleicher, Sibylle Rau, Karen Lienkamp, and Zeev Rosenzweig, 2019 ACS Middle Atlantic Regional Meeting in the Nano & Environmental Chemistry Session; Baltimore, MD; May 2019.
29. **Interactions between cadmium-containing and cadmium-free semiconductor quantum dots and *Shewanella oneidensis* MR-1**, Denise N. Williams, Sunipa Pramanik, Richard P. Brown, Bo Zhi, Eileen McIntire, Natalie V. Hudson-Smith, Christy Haynes, and Zeev Rosenzweig, 2019 ACS Middle Atlantic Regional Meeting in the Nano & Environmental Chemistry Session; Baltimore, MD; May 2019.
28. **Structure-anti-membranal activity relationships of poly[oxo-Norbornene]-coated gold nanoparticles**, Zheng Zheng and Zeev Rosenzweig, 2019 ACS Middle Atlantic Regional Meeting in the Nano & Environmental Chemistry Session; Baltimore, MD; May 2019.
27. **Nontraditional Antibacterial: Combining Antibacterial Entities into One Effective Treatment**, Denise N. Williams, Julia Saar, Vera Bleicher, Sibylle Rau, Karen Lienkamp, and Zeev Rosenzweig, Spring 2019 PROMISE Research Symposium and Professional Development Conference; College Park, MD; February 2019.
26. **Microwave Synthesis of Highly Emitting CdTe Quantum Dots**, Meghan Dands, Connor Riahin, and Zeev Rosenzweig, 2018 Sustainable Nanotechnology Organization Conference; Washington, DC; November 2018.
25. **Molecular level studies of the impact of poly (oxonorbornenes) and their gold nanoparticles conjugates on *D. rerio* Embryos**, Jennifer N Klutts, April Laranang, Zheng Zheng, Julia Saar, Karen Lienkamp, Rachel Brewster, and Zeev Rosenzweig, Sustainable Nanotechnology Organization conference in the Fate and Exposure session; Washington, DC; November 2018.
24. **Interactions between cadmium-containing and cadmium-free semiconductor quantum dots and *Shewanella oneidensis* MR-1**, Denise N. Williams, Sunipa Pramanik, Richard P. Brown, Bo Zhi, Eileen McIntire, Natalie V. Hudson-Smith, Christy Haynes, and Zeev Rosenzweig, Sustainable Nanotechnology Organization conference in the Fate and Exposure session; Washington, DC; November 2018.
23. **InP-based Alloy Quantum Dots and Their Compositional Effects on Thermal/Chemical Stability**, Richard Brown, Miranda Gallagher, Howard Fairbrother and Zeev Rosenzweig, 256th American Chemical Society National Meeting & Exposition in the Colloids division; Boston, MA; August 2018.
22. **Molecular level studies of the impact of poly (oxonorbornenes) and their gold nanoparticles conjugates on *D. rerio* embryos**, Jennifer N. Klutts, April Laranang, Zheng Zheng, Julia Saar, Karen Lienkamp, Rachel Brewster, and Zeev Rosenzweig, 256th American Chemical Society National Meeting & Exposition in the Colloids division; Boston, MA; August 2018.
21. **Steady state and time resolved photoluminescence studies reveal adverse interactions of luminescent semiconductor quantum dots with model membranes and living organisms**, Denise N. Williams, Richard Brown, and Zeev Rosenzweig, 256th American Chemical Society National Meeting & Exposition in the Analytical Chemistry division; Boston, MA; August 2018.

20. **Modifying the interactions between semiconductor quantum dots and bacterial targets**, Denise Williams, Zheng Zheng, Sunipa Pramanik, Christy Haynes, and Zeev Rosenzweig, 256th American Chemical Society National Meeting & Exposition in the Colloids division; Boston, MA; August 2018.
19. **Impact of amine rich polyelectrolyte coating chain length on AuNP-Liposome interaction**, Zheng Zheng, Julia Saar, Bo Zhi, Tian A. Qiu, Miranda J. Gallagher, D. Howard Fairbrother, Christy L. Haynes, Karen Lienkamp, and Zeev Rosenzweig, 256th American Chemical Society National Meeting & Exposition in the Colloids division; Boston, MA; August 2018.
18. **Cd-free Quantum Dots: Thermal/Chemical Stability of Complex Shell/Alloy Materials**, Richard Brown, Miranda Gallagher, Howard Fairbrother and Zeev Rosenzweig, Gordon Research Conference on Semiconductor Nanocrystals; Smithfield, RI; July 2018.
17. **Determining the Impact of Gold Nanoparticles bound with Propyl Poly oxo-norbornenes to *D. rerio***, April Laranang, Nicklaus Neureuther, Zheng Zheng, Zeev Rosenzweig, and Rebecca Klaper, Society of Toxicity; San, Antonio Texas; March 2018.
16. **Safer, high quality, Cd-free quantum dots-new and improved InP-based quantum dots with excellent optical properties as a viable alternative to Cd-containing quantum dots**, Richard Brown and Zeev Rosenzweig, 254th American Chemical Society National Meeting & Exposition in the Colloids division; Washington, DC; August 2017.
15. ***Shewanella oneidensis* MR-1 Toxicity Studies with CdSe and ZnSe Quantum Dots**, Denise Williams, Sunipa Pramanik, Eileen McIntire, Christy Haynes, and Zeev Rosenzweig, 254th American Chemical Society National Meeting & Exposition in the Colloids division; Washington, DC; August 2017.
14. **Interaction of cationic poly (oxonorbornene) coated gold nanoparticles with model membranes**, Zheng Zheng, Yongqian Zhang, Bo Zhi, Isabel Foreman-Ortiz, David Boschert, Robert Hamers, Christy Haynes, Joel Pedersen, Karen Lienkamp, and Zeev Rosenzweig, 254th American Chemical Society National Meeting & Exposition in the Colloids division; Washington, DC; August 2017.
13. **Water-soluble Cadmium-free Quantum Dots for Bioimaging Made from InP Magic-Sized Clusters**, Richard Brown and Zeev Rosenzweig, Poster Presentation at the Environmental Nanotechnology Gordon Research Conference; Stowe, VT, June 2017.
12. **Environmental Impact Studies of CdSe and ZnSe Quantum Dots**, Denise Williams, Sunipa Pramanik, Eileen McIntire, Christy Haynes, and Zeev Rosenzweig, Gordon Research Conference on Environmental Nanotechnology; Stowe, VT; June 2017.
11. **Synthesis and Environmental Studies of CdSe/ZnS and ZnSe/ZnS Quantum Dots**, Denise Williams, Sunipa Pramanik, Christy Haynes, and Zeev Rosenzweig, Five minute TED-style talk at the Spring 2017 PROMISE Research Symposium and Professional Development Conference; College Park, MD, February 2017.
10. **Fluorescence lifetime spectroscopy studies to monitor the stability of luminescent semiconductor quantum dots-containing polymer films used in consumer electronics**, Taeyjuana Curry, Richard Brown, Denise Williams, and Zeev Rosenzweig, 252nd American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; Philadelphia, PA; August 2016.

9. **Synthesis and environmental studies of ZnSe/ZnS quantum dots**, Denise Williams, Sunipa Pramanik, Christy Haynes, and Zeev Rosenzweig, 252nd American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; Philadelphia, PA; August 2016.
8. **Increasing the stability of semiconductor quantum dots in biological solutions through surface chemistry**, Richard Brown, Melissa Muth, and Zeev Rosenzweig, 250th American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; Boston, MA; August 2015.
7. **Fluorescence lifetime spectroscopy: A new addition to the toolkit used to monitor the formation and degradation of semiconductor quantum dots in solution**, Taeyjuana Curry and Zeev Rosenzweig, 250th American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; Boston, MA; August 2015.
6. **Impact of core composition and surface chemistry of semiconductor quantum dots on their stability in biological solutions and toxicity in zebrafish**, Melissa Muth, Richard Brown, and Zeev Rosenzweig, 250th American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; Boston, MA; August 2015.
5. **Synthesis and characterization of the structure and activity of gold nanoparticles when coated with of poly (oxonorborene)-based synthetic mimics of antimicrobial peptides (SMAMPs)**, Zheng Zheng, David Boschert, Karen Lienkamp, and Zeev Rosenzweig, 250th American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; Boston, MA; August 2015.
4. **Synthesis and characterization of the structure and activity of gold nanoparticles when coated with poly (oxonorborene)-synthetic mimics of antimicrobial peptides (SMAMPs)**, Zheng Zheng, David Boschert, Karen Lienkamp, Zeev Rosenzweig, 8th Frontiers in Chemistry and Biology Interface Symposium; Catonsville, MD; May 2015.
3. **Synthesis and characterization of silicon nanoparticles with tunable emission properties**, Richard P. Brown, Taeyjuana Curry, and Zeev Rosenzweig, 248th American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; San Francisco, CA; August 2014.
2. **Synthesis of composite nanoparticles for optical nanocoding applications**, Taeyjuana Curry, Richard Brown, and Zeev Rosenzweig, 248th American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; San Francisco, CA; August 2014.
1. **Fluorescence lifetime spectroscopy and imaging study of the interactions between luminescent quantum dots and binding peptides**, Zeev Rosenzweig, Taeyjuana Curry, and Richard Brown, 248th American Chemical Society National Meeting & Exposition in the Colloids and Sci-Mix divisions; San Francisco, CA; August 2014.

SEMINARS IN UNIVERSITIES (since joining UMBC in 2014)

- Luminescent nanoparticles for Bioimaging, University of Utah, March 2025
- Synthesis and Surface Modifications of MXenes and related 2D Materials, Drexel University, November 2023
- Antimicrobial Activity of Surface Modified MXenes, University of Pennsylvania, March 2023
- The Interactions between Nanoplastics and Phospholipid Vesicles, University of Pennsylvania,

February 2023

- Luminescent Polymer Dots for Targeted Imaging Agents in Plants, University of Missouri, December 2022
- Luminescent Polymer Dots for Targeted Imaging Agents in Plants, Pacific Northwest National Laboratory, October 2022
- Semiconducting Quantum Dots and Polymer Dots for Bioimaging, Ben Gurion University, Israel, June 2022
- Synthesis and Application of Cadmium Free Luminescent Quantum Dots in Bioimaging Applications, Johns Hopkins University, March 2022
- Synthesis and Application of Cadmium Free Luminescent Quantum Dots in Bioimaging Applications, University of Wisconsin Milwaukee, April 2021.
- Synthesis and Application of Cadmium Free Luminescent Quantum Dots in Bioimaging Applications, University of Sao Paulo, Brazil, March 2020
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, University of California at Berkeley, July 2018.
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, Rice University Department of Chemistry, December 2017
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, Morgan State University Department of Chemistry, May 2017
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, Iona College Department of Chemistry, December 2017
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, Johns Hopkins University Department of Chemistry, March 2017
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, University of Maryland Baltimore Department of Biochemistry and Molecular Biology, February 2017
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, George Washington University Department of Chemistry, November 2016
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, University of North Carolina at Charlotte, October 2015
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, Case Western Reserve University Department of Chemistry, September 2015
- Luminescent Quantum Dots and their Interactions with Human Health and the Environment, University of Maryland Department of Toxicology, April 2014.

SERVICE TO THE DEPARTMENT, UNIVERSITY, COMMUNITY AND PROFESSION

a. Service to the Department

- Safety Committee Chair, University of Maryland Baltimore County (UMBC) Department of Chemistry and Biochemistry, August 2020 – present
- Department Chair, University of Maryland Baltimore County (UMBC) Department of Chemistry and Biochemistry, January 2014 – August 2020

b. Service to the University

Member, UMBC Academic Planning Budget (APB) Committee, August 2014 – May 2020

c. Service to the Community

- American Chemical Society Council for Sustainability member, September 2021 – present (5 year term)
- American Chemical Society Colloid Surface Chemistry Award Committee member, August 2017 – July 2020.

c.1. Service in role of discussant, critic, reviewer for professional meetings or publications

Serving as a referee of articles in the following journals:

- Journal of the American Chemical Society
- ECS Nano
- Environmental Science and Technology
- ACS Nano
- J. Phys. Chem. C
- Analytical Chemistry
- Analytica Chimica Acta
- Journal of Analytical and Bioanalytical Chemistry
- Langmuir

c.2 Service in role of officer of professional organization, program committee member, session organizer for professional meetings (since 2005)

- ACS Fall 2018 National Meeting, Molecular Interactions of Synthetic Nanoparticles with Membranes, Boston, MA 2018.
- ACS 2007 National Meeting, "Biomedical Sensors", Symposium organizer, Boston, MA, August 2007.
- Photonics East Symposium Co-Chair and member of the program committee, Boston, MA October 2006.
- Pittcon 2006, "Advanced Analytical Methods for Cancer Detection", Symposium Organizer, Orlando, FL, March 2006.
- Gordon Research Conference on Bioanalytical Sensors, Co-Chair, Ventura, CA, February 2006.
- Gordon Conference Graduate Research Seminar on Bioanalytical Sensors, Mentor and Organizer, Ventura, CA, February 2006.
- Pittcon 2005, "Optical Nanosensors", Presider, Orlando, FL, March 2005
- Photonics East Symposium Co-Chair and member of the program committee, Philadelphia, PA, October 2004.
- Gordon Research Conference on Bioanalytical Sensors Vice Chair, Oxford, UK, July 2004.

c. Service to the Profession

Served as Program Director in the NSF Division of Chemistry, August 2005 – January 2014

As a Program Director at the NSF Chemistry Division I led and was involved in many management aspects including developing and managing funding programs with multi-million dollar budgets, supervising administrative personnel, assembling and leading multi-disciplinary working groups, composing whole solicitations and contributing sections to strategic plans and science policy documents., recruiting program directors to the NSF Division of Chemistry and to other NSF units, developing relationships with managers in other US and international funding agencies, and representing the NSF in a countless of outreach events.

Program management

- Program Director, Centers for Chemical Innovation (CCI) program, January 2012- Present (annual budget \$29M)
- Program Director, Macromolecular, Supramolecular and Nanochemistry (MSN) program, August 2009- Present (annual budget \$27M)
- Program Director and Co-Chair, Sustainable Energy Pathways (SEP), October 2011-present (NSF wide) (budget \$37M)
- Program lead, International Collaboration in Chemistry (ICC) program, January 2006-present (annual budget \$10M)
- Program Director and program lead, Division of Chemistry, Environmental Chemical Sciences (ECS) program, September 2009- January 2012 (annual budget \$7M)
- Program Director and Program Lead, Division of Chemistry, Analytical and Surface Chemistry (ASC) program, September 2005 - August 2009 (annual budget \$28M)

Division management and representation

- Committee Chair, Program Director (rotator) recruiting, January 2011- present. The committee overseas and coordinates the recruiting of program directors (rotators) to the Division.
- Committee Chair, International Activities, January 2006 - present. The committee overseas the International Collaboration in Chemistry (ICC) program and other international activities of the Division.
- Committee Member, Division Realignment Committee, 2007-2009. The work of the committee led to the reorganization of the NSF Chemistry Division for the first time in 60 years!
- Representative to the International Union for Pure and Applied Chemistry (IUPAC) Committee on Chemistry Research Funding (CCRF), September 2008- present

NSF wide activities

- Program Founder and Lead, Chemistry and materials research in cultural heritage science (CHS, also known as SCIART), September 2009- July 2013.
- Member of the NSF Sensor working group, March 2006 -February 2008
- Member of the NSF Broadening Participation working group, September 2009- August 2010
- Member of the NSF Math and Physical sciences Directorate MPS international activities working group, September 2007 - present

International Experience and Activities

- NSF representative in State Department Joint Commission Meeting with Poland (2009), Chile and Singapore (2011), and Japan (2012).
- Represented NSF and gave invited outreach lectures about the International Collaboration in Chemistry (ICC) program in the UK (EPSRC 2007), France (ANR 2007), Germany (DFG and the 2nd European Conference for Chemistry 2008), Czech Republic (Czech Science Foundation, and the US Embassy 2009), Hungary (OTKA 2009), China (NSFC 2008 and 2011), and Taiwan (NSC 2011)

Workshops Organization

- Workshop organizer, Interactions between Nanomaterials and the Environment :from a Molecular Perspective, June 2011, Arlington, VA
- Workshop organizer, Chemistry and materials Science at the Interface between Science and Art (SCIART), June 2009, Arlington, VA.

I certify this document accurate and true.

Signature:



Date: 11/14/2025