# *Curriculum Vitae*

**Sarah EJ Bowman**
**Associate Professor, Department of Biochemistry**
**Director, National Crystallization Center**
**Jacobs School of Medicine and Biomedical Sciences**
**University at Buffalo, State University of New York**

## ADDRESS

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## EDUCATION

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|---|---|
| 2010 | PhD Chemistry, University of Rochester, Rochester, NY<br>Thesis Advisor: Professor Kara L Bren<br>Thesis Title: *Development of Spectroscopic Probes of Second-sphere Interactions in Cytochromes c* |
| 2006 | MS Chemistry, University of Rochester, Rochester, NY |
| 2005 | BS Chemistry, Metropolitan State University of Denver, Denver, CO |
| 1996 | Bachelor of Special Studies English Literature & Women's Studies, Cornell College, Mt Vernon, IA |

## PROFESSIONAL APPOINTMENTS

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|---|---|
| 2025 – Present | **Associate Professor (with tenure effective January 2026)**<br>Department of Biochemistry, Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, Buffalo, NY |
| 2017 – Present | **Director**<br>National Crystallization Center, UB HWI (previously Hauptman-Woodward Medical Research Institute), Buffalo, NY |
| 2024 – 2025 | **Research Associate Professor (Volunteer Appointment)**<br>Department of Structural Biology, Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, Buffalo, NY |
| 2022 – 2025 | **Associate Investigator**<br>Hauptman-Woodward Medical Research Institute, Buffalo, NY |
| 2018 – 2025 | **Research Associate Professor (Volunteer Appointment)**<br>Department of Biochemistry, Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, Buffalo, NY |
| 2017 – 2022 | **Assistant Investigator**<br>Hauptman-Woodward Medical Research Institute, Buffalo, NY |
| 2016 – 2017 | **Postdoctoral Research Associate**<br>Advisors: Robert Williams and Michelle Espy, Bioscience: Bioenergy and Biome Science Division, Los Alamos National Laboratory, Los Alamos, NM |

2013 – 2016 **HHMI Postdoctoral Research Associate**
Advisors: Catherine L Drennan and Collin M Stultz, Departments of Chemistry and Biology, Computational Biophysics Group in the Research Lab for Electronics, Massachusetts Institute of Technology, Boston, MA

2012 – 2013 **Assistant Professor**
Chemistry and Biochemistry Department, University of Minnesota Duluth, Duluth, MN

2011 – 2012 **NIH F32 National Research Service Award Postdoctoral Fellow**
Advisors: Catherine L Drennan and Collin M Stultz, Departments of Chemistry and Biology, Computational Biophysics Group in the Research Lab for Electronics, Massachusetts Institute of Technology, Boston, MA

## PUBLICATIONS – PEER REVIEWED

orcid.org/0000-0002-7426-7328
Google Scholar link

Annotations: Direct Mentee, [U]Undergraduate, [G]Graduate, [P]Postdoc, [#]Mentee (Other),
*Corresponding Author

***Peer reviewed journal publications since beginning my independent career***

1. Saha, S[G], Chen, Y[G], Budziszewski, GR[#], Koprek, S, Seifert, K, Cohen, A, Russi, S, **Bowman, SEJ**, Perry, SL*. (2026) LEGO-Inspired Electrically-Actuated Microfluidics For On-Chip Protein Crystallization and In-Situ X-Ray Crystallography. *Lab on a Chip* **26**, 3213-3228. https://doi.org/10.1039/D6LC00021E

2. Budziszewski, GR[#], Stojanoff, V, **Bowman, SEJ***. (2025) Preparing for successful protein crystallization experiments. Acta Crystallographica Section F, Structural Biology Communications, 81(7):272-280; doi.org/10.1107/S2053230X25004650
   **Recognition: Featured on journal cover**
   **Recognition: Author interview: https://www.youtube.com/watch?v=m34RI500OFU**
   **Top 5% of all research outputs ever scored by Altmetric**

3. **Bowman, SEJ**, Byrnes, J, Russi, S, Zimanyi, CM*. (2024) Preparing research samples for safe arrival at centers and facilities: recipes for successful experiments. Acta Crystallographica Section F, Structural Biology Communications, 80(8): 165-172. doi:10.1107/S2053230X24006174
   All authors equal and listed alphabetically

4. Aragon, M, **Bowman, SEJ**, Chen, CH, Cruz, MJ, Decato, DA*, Eng, ET, Flatt, KM, Gulati, S, Li, Y, Lomba, CJ[G], Mercado, B, Miller, J, Palatinus, L, Rice, WJ, Waterman, D, Zimanyi, CM. (2024) Applying 3D ED/MicroED workflows toward the next frontiers. Acta Crystallographica Section C, Structural Chemistry, 6(80): 179-189. doi.org/10.1107/S2053229624004078
   All authors equal and listed alphabetically

5. Acehan, D, Spoth, KA, Budziszewski, GR[#], Snell, ME[#], Campomizzi, CS[P], Lynch, ML, **Bowman, SEJ***. (2024) Reaching the potential of electron diffraction. Cell Reports Physical Science, 6(5): 102007. doi.org/10.1016/j.xcrp.2024.102007

6. Lynch, ML, Snell, ME[#], Potter, SA, Snell, EH, **Bowman, SEJ***. (2023) 20 years of crystal hits: progress and promise in ultrahigh-throughput crystallization screening. Acta crystallographica. Section D, Structural Biology, 79(3): 198-205. doi:10.1107/S2059798323001274
   **Recognition: Featured on journal cover**
   **Recognition: Wiley Top Cited Article published in 2023**
   **Recognition: Wiley Top Read Article published in 2023**

7. Budziszewski, GR[#], Snell, ME[#], Wright, TR[#], Lynch, ML, **Bowman, SEJ***. (2023) High-Throughput Screening to Obtain Crystal Hits for Protein Crystallography. Journal of Visualized Experiments: JoVE, (193):e65211. doi:10.3791/65211

8. Miller, RD[G], Iinishi, A, Modaresi, SM, Yoo, BK[P], Curtis, TD, Lariviere, PJ, Liang, L, Son, S, Nicolau, S, Bargabos, R, Morrissette, M, Gates, MF, Pitt, N, Jakob, RP, Rath, P, Maier, T, Malyutin, AG, Kaiser, JT, Niles, S, Karavas, B, Ghiglieri, M, **Bowman, SEJ**, Rees, DC, Hiller, S*, Lewis, K*. (2022) Computational identification of a systemic antibiotic for gram-negative bacteria. Nature Microbiology, 7(10): 1661-1672. doi:10.1038/s41564-022-01227-4
   **Top 5% of all research outputs ever scored by Altmetric**

9. Chattopadhyay, S, Mukherjee, M, Kandemir, B, **Bowman, SEJ**, Bren, KL*, Dey, A*. (2021) Contributions to cytochrome c inner- and outer-sphere reorganization energy. Chemical Science, 12(35): 11894-11913. doi:10.1039/d1sc02865k

10. Lynch, ML, Snell, EH, **Bowman, SEJ***. (2021) Structural biology in the time of COVID-19: perspectives on methods and milestones. IUCrJ, 8(3): 335-341. doi:10.1107/S2052252521003948
    **Top 5% of all research outputs ever scored by Altmetric**

11. Holleman ET[U], Duguid E, Keefe LJ, **Bowman SEJ***. (2021) Polo: an open-source graphical user interface for crystallization screening. Journal of Applied Crystallography, 54(2): 673-679. doi:10.1107/S1600576721000108

12. Westerman, EL*, **Bowman, SEJ**, Davidson, B, Davis, MC, Larson, ER, Sanford, CPJ. (2020) Deploying Big Data to Crack the Genotype to Phenotype Code. Integrative and comparative biology, 60(2): 385-396. doi.org/10.1093/icb/icaa055
    All authors equal

13. Lynch, ML, Dudek, MF[U], **Bowman, SEJ***. (2020) A Searchable Database of Crystallization Cocktails in the PDB: Analyzing the Chemical Condition Space. Patterns, 1(4): 100024. doi:10.1016/j.patter.2020.100024
    **Recognition: Featured on journal cover**
    Associated database available online at Zenodo: DOI 10.5281/zenodo.3931012*
        *downloaded 961 times as of June 2026

14. **Bowman, SEJ**, Backman, LRF[U/G], Bjork, RE, Andorfer, MC[P], Yori, S[U], Caruso, A[U], Stultz, CM, Drennan, CL*. (2019) Solution structure and biochemical characterization of a spare part protein that restores activity to an oxygen-damaged glycyl radical enzyme. Journal of Biological Inorganic Chemistry, 24(6): 817-829. doi:10.1007/s00775-019-01681-2

***Peer reviewed journal publications prior to beginning my independent career***

15. Nakashige, TG[G], **Bowman, SEJ**, Zygiel, EM[G], Drennan, CL*, Nolan, EM*. (2018) Biophysical Examination of the Calcium-Modulated Nickel-Binding Properties of Human Calprotectin Reveals Conformational Change in the EF-Hand Domains and His3Asp Site. Biochemistry, 57(28): 4155-4164. doi:10.1021/acs.biochem.8b00415

16. Gagnon, DM, Brophy, MB, **Bowman, SEJ**, Stich, TA, Drennan, CL, Britt, RD*, Nolan, EM*. (2015) Manganese binding properties of human calprotectin under conditions of high and low calcium: X-ray crystallographic and advanced electron paramagnetic resonance spectroscopic analysis. Journal of the American Chemical Society, 137(8): 3004-16. doi:10.1021/ja512204s

17. Galinato, MG, **Bowman, SEJ**, Kleingardner, JG, Martin, S, Zhao, J, Sturhahn, W, Alp, EE, Bren, KL*, Lehnert, N*. (2015) Effects of protein structure on iron-polypeptide vibrational dynamic coupling in cytochrome c. Biochemistry, 54(4): 1064-76. doi:10.1021/bi501430z

18. Kleingardner, JG, **Bowman, SEJ**, Bren, KL*. (2013) The influence of heme ruffling on spin densities in ferricytochromes c probed by heme core 13C NMR. Inorganic Chemistry, 52(22): 12933-46. doi:10.1021/ic401250d

19. Galinato, MG, Kleingardner, JG, **Bowman, SEJ**, Alp, EE, Zhao, J, Bren, KL*, Lehnert, N*. (2012) Heme-protein vibrational couplings in cytochrome c provide a dynamic link that connects the heme-iron and the protein surface. Proceedings of the National Academy of Sciences of the United States of America, 109(23): 8896-900. doi:10.1073/pnas.1200345109

20. Levin, BD, Can, M, **Bowman, SEJ**, Bren, KL, Elliott, SJ*. (2011) Methionine ligand lability in bacterial monoheme cytochromes c: an electrochemical study. The Journal of Physical Chemistry B, 115(40): 11718-26. doi:10.1021/jp203292h

21. Chung, JK, Thielges, MC, **Bowman, SEJ**, Bren, KL, Fayer, MD*. (2011) Temperature dependent equilibrium native to unfolded protein dynamics and properties observed with IR absorption and 2D IR vibrational echo experiments. Journal of the American Chemical Society, 133(17): 6681-91. doi:10.1021/ja111009s

22. **Bowman SEJ**, Bren KL*. (2010) Variation and analysis of second-sphere interactions and axial histidinate character in c-type cytochromes. Inorganic Chemistry, 49(17): 7890-7. doi:10.1021/ic100899k

23. Kim S, Chung JK, Kwak K, **Bowman SEJ**, Bren KL, Bagchi B, Fayer MD*. (2008) Native and unfolded cytochrome c--comparison of dynamics using 2D-IR vibrational echo spectroscopy. The Journal of Physical Chemistry B, 112(32): 10054-63. doi:10.1021/jp802246h

24. Michel, LV, Ye, T, **Bowman, SEJ**, Levin, BD, Hahn, MA, Russell, BS, Elliott, SJ, Bren, KL*. (2007) Heme attachment motif mobility tunes cytochrome c redox potential. Biochemistry, 46(42): 11753-60. doi:10.1021/bi701177j

***Peer reviewed journal articles submitted and pending submission***

25. Budziszewski, GR[#], Snell, ME[#], Lynch, ML, Monteiro, DCF*, **Bowman, SEJ***. (2026) *Burkholderia pseudomallei* Rubrerythrin promiscuously binds metals in a structurally pre-formed bimetallic binding site. *Submitted and in revision. Posted to bioRxiv:* doi: https://doi.org/10.1101/2025.06.01.657255

26. Campomizzi, CS[P], Snell, ME[#], Mikolajek, H, Sandy, J, Sanchez-Weatherby, J, Budziszewski, GR[#], Russi, S, Cohen, AE, Hough, MA, **Bowman, SEJ***. (2026) An investigation on the feasibility of shipping protein crystals in plates for room temperature in situ data collection. *Submitted and in revision. Posted to bioRxiv:* doi: https://doi.org/10.1101/2025.06.12.659325

27. Henthorn, CL[G], Bruchs, AT[G], O'Steen, M[G], Dowdle, W[G], Wang, E[G], Wang, H[G], Knapp, M[G], Budziszewski, GR[#], **Bowman, SEJ**, Keane, SC, Bridwell-Rabb, J*. (2026) Structure-function Relationships in the Chlorophyll Catabolic Enzyme Pheophytinase. *Submitted and in revision*

28. Marchany-Rivera, D, Lynch, ML, Budziszewski, GR[#], **Bowman, SEJ*.** (2026) Data processing *in crystallo* spectroscopy for assessing crystal damage and oxidation state changes in metalloprotein X-ray crystallography: Tools for learning as you go. *in preparation*

29. **Bowman, SEJ**, Spoth, KA, Snell, ME[#], Budziszewski, GR[#], Lynch, ML*. (2026) A focus on seeing: Tools and techniques for visualizing ultrasmall protein crystals for cutting-edge structural methods. *In preparation*

***Non-peer reviewed journal for a professional audience (prior to beginning my independent lab)***

30. **Bowman, SEJ**, Bren, KL*. (2006) Condensation Article: Direct-Detected 13C NMR to Investigate the Iron(III) Hemophore HasA. Chemtracts - Inorganic Chemistry, 19, 344-349.

## PUBLICATIONS – SCHOLARLY REVIEWS

31. **Bowman, SEJ**, Bridwell-Rabb, J, Drennan, CL*. (2016) Metalloprotein Crystallography: More than a Structure. Accounts of Chemical Research, 49(4): 695-702. doi:10.1021/acs.accounts.5b00538
    **Recognition: Featured on journal cover**
    **Recognition: ACS Editors' Choice**

32. **Bowman, SEJ**, Bren, KL. (2008) The chemistry and biochemistry of heme c: functional bases for covalent attachment. Natural Product Reports, 25(6): 1118-30. doi:10.1039/b717196j

## PUBLICATIONS – BOOK CHAPTER

33. Lynch, ML and **Bowman, SEJ***. (2026) Chapter 3: Contributions from Structural Biology to the Pandemic Response During the SARS-CoV-2 Pandemic: Lessons Learned for the Future. In: The COVID Information Commons – Research Insights from the Coronavirus. Springer Nature, ISBN 978-3-032-06124-9

## GRANTS & RESEARCH AWARDS

***Over $14M USD Total Awarded Grant Funding***

***Grants & Research Awards – Active***

7/2021 – 7/2031 Funding Agency: NIH NIGMS (Federal) R24GM141256
Title: National Crystallization Center: Enabling Access to State-of-the-Art Crystallization Capabilities
PI name: Bowman; Role: PI
Direct all aspects of the project, manage the budget, supervise the researchers in the lab, develop educational and training materials, write up and present results, and write all grant reports
Total Costs: $10,410,000

9/2022 – 8/2027 Funding Agency: NIH NIGMS (Federal) R01GM141273
Title: New techniques for detecting and handling nanocrystals for cutting edge structural biology methods
PI name: Bowman; Role: MPI/Contact PI
Direct all aspects of the experimental research, coordinate with MPI computational collaborator, manage the budget, supervise the researchers in the lab, write up and present results, and write all grant reports
Total Costs: $1,570,000

11/2025 – 12/2026 Funding Agency: University at Buffalo Undergraduate Research and Creative Activities Program
Title**:** Studying structure and function of bacterial proteins using structural biology and enzymatic assays
PI name: Bowman; Role: PI and undergraduate student mentor
Direct all aspects of the project, mentor UB undergraduate students
Total Costs: $15,500

7/2026 – 6/2028 Funding Agency: Royal Society of New Zealand
Title: Advancing Microgravity Protein Crystallisation Capacity
PI name: Kessans; Role: International PI
Collaborative funding for travel between US and New Zealand and to the April 2027 launch to the International Space Station
Total Costs: $80,000 NZD

8/2026 – 7/2027 Funding Agency: New York State Empire Development Program through University at Buffalo Center for Advanced Technology
Title: Validating High-Throughput X-ray Crystallography Devices for Next Generation Drug Discovery
PI name: Bowman; Role: PI
Direct all aspects of the project in partnership with industry partner MiTeGen to develop serial crystallography
Total Costs: $75,000

10/2026 – 9/2028 Funding Agency: University at Buffalo Office of International Education
Title: Establishing an international aerospace partnership for protein crystallization in microgravity
PI name: Bowman; Role: PI
Funding to support international collaboration with Kessans Group in New Zealand for experiments on the International Space Station
Total Costs: $10,000

***Grants & Research Awards – Completed***

11/2025 – 8/2026 Funding Agency: University at Buffalo Bridge Funding Opportunity-UB LAUNCH & Department of Biochemistry
Title: Probing evolutionary pathways in metalloprotein structure and function from emerging bacterial pathogens
PI name: Bowman; Role: PI
Direct all aspects of the project, manage the budget to purchase the equipment funded, will write all grant reports
Total Costs: $50,000

8/2025 – 7/2026 Funding Agency: NIH NIGMS (Federal) R24GM141256-06S1 Admin Supplement
Title: Acquisition of an SPT Labtech Mosquito Administrative Supplement – National HTX Center: Enabling Access to State-of-the-Art Crystallization Capabilities
PI name: Bowman; Role: PI
Direct all aspects of the project, manage the budget to purchase the equipment funded, will write all grant reports
Total Costs: $167,746

7/2023 – 12/2024 Funding Agency: James H Cummings Foundation (Private Foundation)
Title: Supporting successful researchers at HWI – expanding capabilities for new discoveries
PI name: Bowman; Role: PI
Directed all aspects of the project, managed the budget to purchase the equipment funded, met with the Foundation Board of Directors, wrote all grant reports
Total Costs: $100,000

1/2023 – 12/2024 Funding Agency: Australian Research Council Linkage Infrastructure, Equipment, and Facilities
Title: Integrated Crystallisation Facility (Australia)
PI name: C Bond, University of Western Australia; Role: Expert International Consultant
Provided expertise and advice on equipment to set up the crystallization facility in Australia
Total Costs: A$410,195

7/2023 – 6/2024 Funding Agency: NIH NIGMS (Federal) R24GM141256-03S1
Title: Acquisition of a Rock Imager 1000 with SONICC Administrative Supplement – National HTX Center: Enabling Access to State-of-the-Art Crystallization Capabilities
PI name: Bowman; Role: PI
Directed all aspects of the project, managed the budget to purchase the equipment funded, wrote all grant reports
Total Costs: $200,000

7/2023 – 6/2024 Funding Agency: Empire State Development Matching Grant Leverage Program (New York State)
Title: Acquisition of a Rock Imager 1000 with SONICC Matching Grant Fund
PI name: Bowman; Role: PI
Directed all aspects of the project, managed the budget to purchase the equipment funded, and wrote all grant reports
Total Costs: $100,000

4/2022 – 5/2024 Funding Agency: Dr. Louis Skarlow Memorial Fund (Private Foundation)
Title: New Tools to Develop New Drugs: An Application to Antibiotics
PI name: Bowman; Role: PI
Directed all aspects of the research, managed the budget, supervised the researchers in the lab, and wrote up and presented results
Total Costs: $25,000

5/2020 – 4/2022 Funding Agency: NSF (Federal) BIO DBI 2029943
Title: RAPID Enhanced SARS-CoV-2 High-throughput Crystallization for Structural Studies
PI name: Bowman; Role: PI
Directed all aspects of the research, managed the budget, supervised all staff, wrote up and presented results, and wrote all grant reports
Total Costs: $200,000

9/2017 – 8/2021 Funding Agency: NIH NIGMS (Federal) R24GM124135
Title: Community Crystallization Resource for Biological Macromolecules
PI name: Snell; Role: Co-Investigator
Directed the crystallization center, managed all staff, managed the grant budget, wrote up and presented results, and wrote all grant reports
Total Costs: $1,276,000

9/2019 – 8/2021 Funding Agency: NIH NIGMS (Federal) R24GM124135-02S1
Title: COVID Administrative Supplement Community Crystallization Resource for Biological Macromolecules
PI name: Snell; Role: Co-Investigator
Directed the crystallization center, managed all staff, managed the grant budget, wrote the Administrative Supplement, wrote all grant reports
Total Costs: $246,000

9/2018 – 8/2019 Funding Agency: NIH NIGMS (Federal) R24GM124135-01S1
Title: Acquisition of a Rock Imager 54 Administrative Supplement Community Crystallization Resource for Biological Macromolecules
PI name: Snell; Role: Co-Investigator
Wrote the Administrative Supplement, managed the budget to purchase the equipment funded, wrote all grant reports
Total Costs: $149,000

1/2018 – 12/2019 Funding Agency: Dr. Louis Skarlow Memorial Fund (Private Foundation)
Title: The Structure of the EML4-ALK Fusion Protein: Shaping a Solution in Non-small Cell Lung Cancer
PI name: Bowman; Role: PI
Directed all aspects of the research, managed the budget, supervised all staff, wrote up and presented results, and wrote all grant reports
Total Costs: $20,000

11/2017 – 10/2019 Funding Agency: Seymour Knox Foundation (Private Foundation)
Title: Enhancing the Impact of Buffalo's High-throughput Crystallization Screening Center and Accelerating Pharmaceutical Development Nationwide
PI name: Bowman; Role: PI
Directed all aspects of the research, managed the budget, supervised all staff, wrote up and presented results, and wrote all grant reports
Total Costs: $20,000

8/2011 – 8/2012 Funding Agency: NIH NIGMS (Federal) F32GM099257
Title: Structural investigation of *Helicobacter pylori* Transcription Regulator NikR
PI name: Bowman; Role: PI, Postdoctoral fellowship at MIT
Total Costs: $46,000

## AWARDS & HONORS

### *Awards & Honors since beginning my independent career*

2026 **Elected United States Delegate** to the 27th Congress and General Assembly of the International Union of Crystallography

2026 **Editorial Board Member of Biophysical Journal**; Protein Section

2026 **Elected Board Member of the American Union for Crystallography (AUC)**; The AUC represents crystallographers from the United States in the International Union of Crystallography (IUCr) as of 1/1/2026. The IUCr strives to promote international cooperation and publication in crystallography, to facilitate standardization of methods, units, nomenclatures and symbols, and to form a focus for the relations of crystallography to other sciences.

2026 **Awarded Individual Development Award** UUP Health Science Chapter

2025 **Elected Chair Stanford Synchrotron Radiation Lightsource User Executive Committee (SSRL UEC)**

2024 **Elected Fellow of the American Crystallographic Association (ACA)**; The ACA Fellows program recognizes the excellence of ACA Members whose efforts on behalf of the advancement of crystallography or its applications are scientifically or socially distinguished. ACA Fellows serve as scientific ambassadors to the broader scientific community and the general public to advance science education, research, knowledge, interaction, and collaboration

2024 **Elected to Membership of the United States National Committee for Crystallography (USNC/Cr)**; The USNC/Cr represented U.S. crystallographers in the International Union of Crystallography (IUCr) through The National Academy of Sciences.

2024 **Elected to American Crystallographic Association (ACA) Meeting Committee**

2024 **Elected Vice-Chair SSRL UEC**

2023 **Outstanding Scientist Award from Association of Biomolecular Resource Facilities (ABRF)**; Awarded to scientists who have made significant contributions to their institutional shared resource facility or to the ABRF

2023 **University of Arkansas Department of Biology Graduate Student Association;** Graduate Student Invited Seminar Speaker

2022 **Elected Chair ACA Biological Macromolecules Special Interest Group**

2022 **Elected to Membership of the Stanford Synchrotron Radiation Lightsource User Executive Committee (SSRL UEC)**; Represent macromolecular crystallography users at SSRL

2021 **Elected Vice-Chair ACA Biological Macromolecules Special Interest Group**

***Awards & Honors before beginning my independent career***

2011 **Ruth L Kirschstein NRSA Postdoctoral F32 Fellowship**

2009 **United States Delegate to the 59th Lindau Meeting of Nobel Laureates and Young Researchers**; International delegate, sponsored by National Institutes of Health; selected as the Young Researcher Delegate to give closing remarks at the meeting

2009 **Agnes M and George Messersmith Fellow**, University of Rochester

2008 **Division of Inorganic Chemistry Student Travel Award**, American Chemical Society

2008 **Elon Huntington Hooker Fellow**, University of Rochester

2008 **Graduate Women in Science Travel Award**, University of Rochester

2007 **Samuel Allen and Ellen Francis Lattimore Fellow**, Department of Chemistry, University of Rochester

2007 **Edward Peck Curtis Teaching Award**, University of Rochester

2006 **GAANN Fellow**, Department of Chemistry, University of Rochester

2006 **WD Walters Teaching Award**, Department of Chemistry, University of Rochester

2005 **Ewart Fellow**, Department of Chemistry, University of Rochester

2005 **Hypercube Scholar for Excellence in Chemistry**, Metropolitan State University of Denver

2004 **Cancer Research Fellow**, University of Colorado at Denver Health Science Center

## PROFESSIONAL ORGANIZATIONS

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|---|---|
| 2005 – | American Chemical Society (Biological and Inorganic Divisions) |
| 2014 – | American Society for Biochemistry and Molecular Biology |
| 2017 – | American Crystallographic Association – The Structural Science Society |
| 2017 – | American Association for the Advancement of Science |
| 2023 – | Pittsburgh Diffraction Society |
| 2024 – | Society of Biological Inorganic Chemistry |
| 2025 – | Biophysical Society |

## INVITED PRESENTATIONS (SELECTED)

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| Feb 2027 | Invited Speaker, Wayne State University, Graduate Student Invited Seminar Speaker, Department of Biochemistry, Microbiology, and Immunology, Detroit, MI |
| Jan 2027 | Invited Speaker, Metals in Biology Gordon Research Conference, Ventura, CA |
| Oct 2026 | Invited Speaker, University of Rochester Department of Biochemistry and Biophysics Seminar Series, *Metalloproteins in Action: Coupling Diffraction and Spectroscopy for Structural Studies,* Rochester, NY |
| Oct 2026 | Invited Speaker, Celebrating Women in Structural Biology and Drug Discovery Symposium: WeINSPIREBio & New England Structural Biology Association, *Making Structures Happen: The Toolbox for Discovery,* Cambridge, MA |
| Sept 2026 | Invited Panelist, 2026 Pittsburgh Diffraction Conference, *Educating the Next Generation of Structural Biologists,* Menlo Park, CA |
| Sept 2026 | Invited Speaker, 2026 Challenges in Structural Biology Summit, (invitation only Meeting), Lake Arrowhead, CA |
| May 2026 | Invited Speaker, Dartmouth College Institute for Biomolecular Targeting *Macromolecular Crystallization*, Hanover, NH |
| Mar 2026 | Invited Spotlight Seminar Speaker, American Society for Biochemistry and Molecular Biology Annual Meeting: Application of AI in Pharma Protein Workflows Session, *High-throughput tools making cutting-edge structural methods work*, National Harbor, MD |
| Jan 2026 | Invited Speaker, Canisius University Department of Chemistry and Biochemistry, *Charting New Territory in Biochemistry with X-Ray Crystallography*, Buffalo, NY |
| Dec 2025 | Invited Speaker, Metropolitan State University of Denver Department of Chemistry and Biochemistry, *Charting New Territory in Biochemistry with Spectroscopy & Diffraction Methods*, Denver, CO |
| Nov 2025 | Invited Speaker, University of Georgia, Department of Chemistry Inorganic Seminar Series, *Investigating metal identity and active site details in metalloproteins using combined structural and spectroscopic approaches*, Athens, GA |
| Oct 2025 | Invited Speaker, Center for Structural Dynamics in Biology P41 Meeting, Linac Coherent Light Source, Menlo Park, CA |
| Oct 2025 | Invited Speaker, Brookhaven National Laboratory Workshop #8 on Future Lightsource Capabilities, Whither Metals in Biology at NSLS-II: Spectroscopy Informed by Structural Biology/Bioimaging and Vice Versa, National Synchrotron Light Source-II, *Ironing out the details of metalloprotein structure and function*, Upton, NY |

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| Oct 2025 | Invited Speaker, Pittsburgh Diffraction Conference, Metals Matter Session, National Synchrotron Light Source-II, *The iron-y of spectroscopy coupled crystal-based metalloprotein structural methods*, Upton, NY |
| Sept 2025 | Invited Speaker, SSRL/LCLS Annual Users Meeting, High Repetition Rate Sample Environment and Delivery for LCLS II HE Workshop: Heroic Experiments: Pushing the Boundary of the Experimental Envelope Session, *Tricks and tips to generate nano- & microcrystals*, Menlo Park, CA |
| Sept 2025 | Invited Speaker, SSRL/LCLS Annual Users Meeting, The Evolving Role of Macromolecular Crystallography (MX) in Structural Biology Workshop: Computational Advances and AI Integration Session, *AI in MX*, Menlo Park, CA |
| Sept 2025 | Invited Speaker, Department of Biochemistry, Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, *Ironing out the details of metalloprotein structure and function*, Buffalo, NY |
| Jul 2025 | Invited Speaker, 21st International Conference on Biological Inorganic Chemistry *Structure and function in oxidative stress response proteins from emerging pathogens*, Long Beach, CA |
| Jul 2025 | Invited Speaker, 75th Annual Meeting American Crystallographic Association, *Pipe(line) dreams for MicroED/3DED sample preparation*, Lombard, IL |
| May 2025 | Invited Speaker, Stanford Synchrotron Radiation Lightsource, *RapiData Road Trip: Scenic postcards & peeks under the hood*, Menlo Park, CA |
| Apr 2025 | Invited Speaker, Buffalo Protein Science Group, *Shining a spotlight on metalloproteins: Multiple methods tell the story*, Buffalo, NY |
| Mar 2025 | Invited Speaker, Brookhaven National Laboratory, Center for BioMolecular Structures Lecture Series, *Shining light on metalloproteins: Multiple methods tell the story*, virtual |
| Mar 2025 | Invited Speaker, Rochester Institute of Technology Department of Chemistry Seminar Series, *Charting new territory in structural biology with crystal based methods*, Rochester, NY |
| Nov 2024 | Invited **Keynote Speaker** 18th International Conference on Crystallization of Biological Macromolecules, *Taking the High(-throughput) Road: Empowering Crystallization on the Path to Structure Determination*, Phoenix, AZ |
| Oct 2024 | Invited Speaker, 2024 Challenges in Structural Biology Summit, *Challenges & Opportunities in Crystal-Based Structural Biology* (invitation only meeting), Lake Arrowhead, CA |
| Sept 2024 | Invited Speaker, Pittsburgh Diffraction Conference, *Structural and spectroscopic investigations of metal-binding protein rubrerythrin from B. pseudomallei*, Ithaca, NY |
| Jul 2024 | Invited Speaker, 74th Annual Meeting American Crystallographic Association, *Don't Panic! Navigating Scientific Peer Review*, Denver, CO |
| Jul 2024 | Invited Speaker, Department of Biochemistry, Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, *Sleuthing Protein Mysteries with Spectroscopy and Structure*, Buffalo, NY |
| Apr 2024 | Invited Speaker, Expression, Purification & Analysis of Proteins & Protein Complexes Course, Cold Spring Harbor Laboratory, *High-throughput nano-crystallization*, Cold Spring Labor, NY |
| Nov 2023 | Invited Speaker, MicroED Symposium and Short Course, New York Structural Biology Center, *Electron diffraction of biomacromolecules*, Manhattan, NY |

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| Nov 2023 | Invited Speaker, Department of Biology, University at Buffalo, *Adventures and challenges in diffraction-based structural biology*, Buffalo, NY |
| Jul 2023 | Invited Speaker, Meharry Medical College Summer Study Program, *Protein Crystallization*, virtual |
| Jul 2023 | Invited Speaker, X-Ray Science Gordon Research Conference, *Challenges in Metalloprotein X-Ray Science*, Easton, MA |
| Apr 2023 | Invited **Graduate Student Association Speaker**, University of Arkansas, Department of Biology, *At the Edge of the Map: Adventures in Structural Biology*, Fayetteville, AK |
| Mar 2023 | Invited Spotlight Seminar Speaker, American Society for Biochemistry and Molecular Biology Annual Meeting, *Structural investigations of rubrerythrin from B. pseudomallei: Metals, domain swapping, and other interesting features of this ferritin-like superfamily protein*, Seattle, WA |
| Mar 2023 | Invited **Expert Speaker**, Thermo Fisher Ask the Experts Webinar Series, *Leveraging the integration of cryo-EM and X-ray based methods for a comprehensive approach to structural biology*, virtual |
| Nov 2022 | Invited Speaker, New England Biolabs Seminar Series, *At the Edge of the Map in Structural Exploration*, Ipswich, MA |
| Sept 2022 | Invited Speaker, SSRL/LCLS Annual Users Meeting, Metals in Structural Biology Workshop, *Metals in bacterial pathogens*, Menlo Park, CA |
| Jul 2022 | Invited Speaker, Diffraction Methods in Structural Biology Gordon Research Conference, *Growing Good Crystals*, Lewiston, ME |
| Jul 2022 | Invited Speaker, 73rd Annual Meeting American Crystallographic Association, *Advances using machine learning and computational tools for crystal growth and detection*, Portland, OR |
| Jul 2022 | Invited Speaker, 73rd Annual Meeting American Crystallographic Association, *The National High-Throughput Crystallization Center and coming hands-on workshops*, Portland, OR |
| Feb 2022 | Invited Speaker, 9th International BioXFEL Conference, Invited, *What can imaging tell you about how your crystals grow? Advances using machine learning*, virtual |
| Jan 2022 | Invited Speaker, COVID Information Commons, *Crystallization Center at HWI: RAPID Enhanced SARS-CoV-2 High-Throughput Crystallization for Structural Studies*, virtual |
| Nov 2021 | Invited Speaker, Formulatrix Automation Webinar, *A Laser Focus on Crystallization Success,* virtual |
| Apr 2021 | Invited Speaker, Buffalo Protein Science Group, *Metal Detectors: Using EDX to Identify Metals in Biomolecular Samples*, virtual |
| Feb 2021 | Invited Speaker, National Institutes of Health TransNIH Project 5, virtual |
| Aug 2020 | Invited Speaker, 73rd Annual Meeting American Crystallographic Association, *Remote Opener: Breaking Barriers to Crystallization Using Remote Crystal Growth Screening and Imaging*, virtual |
| Mar 2019 | Invited **Keynote Speaker**, Australia CSIRO Collaborative Crystallisation Centre Annual Meeting, *High-Throughput Crystallization Screening*, Parkville, Australia |
| Oct 2018 | Invited Speaker, Formulatrix Protein Crystallization Automation Webinar *High-Throughput Crystallization Screening and Detection: A View from The Cutting Edge*, virtual |

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| Feb 2018 | Invited Speaker, Department of Biochemistry, Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, *Structural investigation of metal tug-of-war protein calprotectin*, Buffalo, NY |
| Dec 2016 | Invited Speaker, Los Alamos National Laboratory Colloquium Series, *Spectroscopic and crystallographic investigation of redox modulation and metal tug-of-war proteins*, Los Alamos, NM |
| Jul 2016 | Invited Speaker, Diffraction Methods in Structural Biology Gordon Research Conference, *What Can Spectroscopic Techniques Tell You About Your Crystal?* Lewiston, ME |
| Apr 2013 | Invited Speaker, Department of Chemistry, St. Cloud State University, *What can biophysical techniques tell us about protein structure and function?* St. Cloud, MN |
| Jan 2009 | Invited Speaker, Gordon Research Seminar in Bioinorganic Chemistry, *NMR Analysis of the His-Fe(III) Interaction and Porphyrin Conformation in Cytochromes c*, Ventura, CA |

## CONTRIBUTED PRESENTATIONS

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|---|---|
| Jan 2025 | *Structural and spectroscopic investigations of metal-binding proteins from bacterial pathogens*, Poster, Metals in Biology Gordon Research Conference, Ventura, CA |
| Jul 2023 | *Structural and spectroscopic investigations of metal-bound rubrerythrin from B. pseudomallei*. Speaker, ACA Annual Meeting, Baltimore, MD |
| May 2023 | *Enabling Access to Biomolecular Crystallization Capabilities with Robotics and Advanced Imaging*, Poster, ABRF Meeting, Boston, MA |
| Dec 2021 | *RAPID Enhanced SARS-CoV-2 High-Throughput Crystallization for Structural Studies*, Speaker, NSF PREPARE RAPID PI Meeting, virtual |
| Aug 2021 | *Pushing the Boundaries in Crystallization Screening: Making Automated, User-accessible Crystallization Work*. Speaker, ACA Annual Meeting, virtual |
| Jul 2018 | *Enhancing high-throughput detection of protein nanocrystals*, Speaker, ACA Annual Meeting, Toronto, Canada |
| Jan 2016 | *Leveraging the unique features of transition metals in metalloprotein crystallography.* Poster, International BioXFEL Conference, San Juan, Puerto Rico |
| Aug 2015 | *Crystallographic studies of the immune-response, metal chelating protein calprotectin*, Speaker, ACS National Meeting, Boston, MA |
| Feb 2015 | *Getting a handle on metal binding in the EF-hand domains in calprotectin*, Speaker, MIT Protein Structure-Function Supergroup, Cambridge, MA |
| Feb 2012 | *Investigating the structural stability of H. pylori NikR using MD simulations*, Poster, Biophysical Society Annual Meeting, San Diego, CA |
| Oct 2009 | *Investigation of axial histidine character and heme planarity in cytochromes c.* Poster, 11th Upstate NY NMR Symposium, Buffalo, NY, Oct 2009. |
| Aug 2008 | *Spectroscopic investigation of the iron-histidine interaction in cytochromes c*, Speaker, ACS National Meeting, Philadelphia, PA |

## SERVICE TO THE PROFESSION

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| 2023 – 2028 | Elected Member, Stanford Synchrotron Radiation Lightsource (SSRL) User Executive Committee (UEC)<br>Duties: Represent macromolecular crystallography users at SSRL |
| 2023 – 2027 | Permanent Member, NIH MSFB Study Section |
| 2024 – 2027 | Elected Member, American Crystallographic Association Meeting Committee<br>Duties: Program chair for the Annual ACA Meeting (4 year term), including arranging the program, collecting session proposals, leading the opening/closing ceremonies, proposing meeting themes, and making recommendations to ACA Council |
| 2024 – 2026 | Elected Board Member, American Union of Crystallography (previously the United States National Committee for Crystallography through the National Academy of Sciences)<br>Duties: Represent US crystallographers in the International Union of Crystallography, Chair of the Public Relations Subcommittee; Member of the Finance Subcommittee |
| 2025 – 2026 | Elected Chair, Stanford Synchrotron Radiation Lightsource UEC<br>Duties: Represent SSRL User Community as a member of the SSRL Scientific Advisory Council, coordinate activities with representatives from national labs to increase awareness and support for basic sciences and the role of user facilities, and serve on LCLS UEC as an ex-officio member |
| 2024 – 2025 | Member, NIH Mature Synchrotron Resources Working Group for NIGMS Council |
| 2024 – 2025 | Elected Vice-Chair, Stanford Synchrotron Radiation Lightsource UEC<br>Duties: SSRL UEC representative for planning the 2025 User Meeting, including arranging the six-day program and chairing the plenary session |
| 2018 – 2026 | Organizer, *Metals in Structural Biology Workshop* at the SSRL/LCLS Users Meeting<br>Duties: Organize an annual full-day workshop focused on tools to investigate metals in biological systems |
| 2026 | Selected Speaker, Department of Energy Office of Science Advisory Committee (SCAC) Facilities Subcommittee Town Hall |
| 2026 | Invited Session Co-Chair, *X-ray and Electron Crystallography: from Single Crystal to Serial Diffraction*, 27$^{th}$ Congress and General Assembly of the International Union of Crystallography (IUCr) Triennial Congress |
| 2026 | Workshop Organizer, *Biomolecular Crystallization*, 27$^{th}$ IUCr Congress |
| 2026 | Editorial Board Member, Protein Section, Biophysical Journal |
| 2025 | Reviewer, 2026 Cottrell Scholar Award, Research Corporation for Science Advancement |
| 2025 | Alternate Chair, NIH MSFB Study Section June Meeting |
| 2025 | Meeting Co-Organizer, SSRL/LCLS Users Meeting, Menlo Park, CA |
| 2025 | Tenure review evaluation, Howard University College of Medicine |
| 2025 | Guest Editor, Frontiers in Chemical Biology, Bioinorganic Chemistry Research Topics Special Issue on Zinc-binding proteins: New perspectives on their roles in health and disease and in biotechnological applications |

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| 2025 | Reviewer, United States Department of Energy, Office of Science, Basic Energy Science, 2025 National Synchrotron Light Source II (NSLS-II) Quadrennial Operations Review at Brookhaven National Laboratory |
| 2025 | Reviewer, Oak Ridge National Laboratory, Science Review Committee |
| 2025 | Member, Phenix R24 National Resource Scientific Advisory Committee |
| 2024 | Organizer, National Academies of Sciences, Engineering and Medicine, Advancing Drug Discovery Webinar Series |
| 2024 | Member, EWALD Advisory Team for Neutrons in Structural Biology |
| 2024 | Session Chair, *Metallobiomolecules*, Pittsburgh Diffraction Conference |
| 2024 | Session Chair, *Structural Biology of Metallobiomolecules*, 74th Annual Meeting American Crystallographic Association |
| 2024 | Session Chair, *Structural Biology Eco-system*, Workshop on Neutrons in Structural Biology, Challenges and Opportunities |
| 2023 | Reviewer, Diamond Light Source Macromolecular Crystallography Beamline Review, United Kingdom |
| 2023 | Session Chair, *Microcrystal Electron Diffraction,* 73rd Annual Meeting American Crystallographic Association |
| 2023 | Organizer, *Sample Attributes for Multiple-techniques and Principal Requirements for Experiments in Pan-structural biology (SAMPREP),* 73rd Annual Meeting American Crystallographic Association |
| 2023 | Reviewer, SLAC National Accelerator Laboratory, Laboratory Directed Research And Development Award |
| 2023 | Discussion Leader, Metals in Biology Gordon Research Conference |
| 2023 | Organizer, Metals in Biology Gordon Research Conference Power Hour |
| 2023 | Tenure review evaluation, Brigham Young University |
| 2022 | Organizer, SciArt Show at the 72nd American Crystallographic Association |
| 2022 | Chair, American Crystallographic Association Biological Macromolecules (BioMac) Special Interest Group (SIG)<br>Duties: Organize sessions for BioMac SIG for 2023 Annual ACA Meeting, including finding session chairs, and present annual report to ACA Council |
| 2022 | Temporary Member, NIH MSFB Study Section |
| 2022 | Member, NSF Bio Review Panel |
| 2022 | Temporary Member, NIH ZRF1 and ZGM1 Special Emphasis Panel |
| 2021 | Vice-Chair, American Crystallographic Association Biological Macromolecules Special Interest Group |
| 2021 | Session Chair, *Getting the First Crystal,* 71st Annual Meeting American Crystallographic Association |
| 2021 | Session Chair, *Structural Biology against Coronavirus* International Union of Crystallography 25th Congress |
| 2021 | Temporary Member, NIH MSFA and MSFB Study Section |
| 2020 | Early Career Reviewer, NIH MSFB Study Section |
| 2012 – present | Ad hoc reviewer: Acta Cryst Sections D & F, Biochemistry, Crystals, Inorganic Chemistry, iScience, IUCrJ, Journal of the American Chemical Society, Journal of Applied Crystallography, Journal of Biological Inorganic Chemistry, Journal of Chemical Education, Journal of Structural Biology X, Nature Communications, Nature Methods |

## SERVICE TO THE UNIVERSITY/INSTITUTE

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| 2025 – | Member, Biomedical Research Advisory Panel, Office of Biomedical Research, Jacobs School of Medicine and Biomedical Sciences |
| 2023 – 2025 | Chair, Scientific Governance Council, HWI (now UB HWI) |
| 2023 – 2025 | Member, HWI Board of Directors, HWI (now UB HWI) |
| 2020 – 2024 | Member, HWI/IMCA-CAT Science Seminar Series, HWI (now UB HWI) |
| 2020 – 2024 | Member, Marketing and Communication Committee (HWI Board of Directors), HWI (now UB HWI) |
| 2018 – 2024 | Member, Development Committee (HWI Board of Directors), HWI (now UB HWI) |
| 2019 – 2024 | Member, IMCA-CAT New Technologies Working Group |
| 2021 – 2023 | Vice-Chair, Scientific Governance Council, HWI (now UB HWI) |
| 2021 – 2022 | Member, Science Safety Committee, HWI (now UB HWI) |
| 2021 | Member, Search Committee, CryoEM Center Director, HWI (now UB HWI) |
| 2020 | Member, Search Committee, Business Development Director, HWI (now UB HWI) |

## SERVICE TO UB DEPARTMENT OF BIOCHEMISTRY

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|---|---|
| May 2026 | Graduate Student Presentation Judge, Biochemistry Department Research Day |
| Nov 2025 – | Member, Biochemistry Faculty Search Committee |
| Aug 2025 – | Member, Biochemistry Graduate Affairs Committee |
| May 2025 | Poster Judge, Biochemistry Department Research Day |
| Jan 2025 – | Member, Biochemistry IFR Committee |
| Jan 2025 – | Director, National Crystallization Center, UB-HWI<br>While I have been Director of the National Crystallization Center since joining HWI in 2017, with the merger between HWI and UB, as of January 2025 the Center is now part of the Biochemistry Department in the Jacobs School of Medicine and Biomedical Sciences. It is one of only 20 NIGMS supported National Resources in the US. |

## SERVICE TO THE COMMUNITY & OUTREACH

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|---|---|
| 2017 – | Tours of the National Crystallization Center |
| 2026 | Buffalo Niagara Medical Center Outreach Day, Hosted ~300 students and chaperones for STEM Outreach Activities |
| 2025 | Judge, United States Crystal Growing Competition, Buffalo, NY |
| 2024 | Organizer, American Crystallographic Association Outreach Event at the Buffalo Museum of Science |
| 2024 | Science Expert, Buffalo Museum of Science SciNight: Snowflake Studies, Volunteer Outreach with American Crystallographic Association |
| 2024 | Poster Judge, 18$^{th}$ International Conference on Crystallization of Biological Macromolecules, Phoenix, AZ |
| 2024 | Moderator, NASEM, Advancing Drug Discovery Webinar, *Protein Data Bank: From two epidemics and the global pandemic to mRNA vaccines and Paxlovid* presented by Stephen Burley, Virtual |
| 2024 | Poster Judge, SSRL/LCLS User Meeting, SLAC National Accelerator Lab at Stanford, Menlo Park, CA |

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| 2023 | SBGrid Member Tale *The Crystal Whisperer*<br>https://sbgrid.org/members/tale/the-crystal-whisperer |
| 2023 | Nerdy Jobs Pilot Episode with Dr. Raven the Science Maven Baxter<br>https://www.youtube.com/watch?v=siFfzoFv61I |
| 2023 | Crystallization Center Outreach Video<br>https://www.youtube.com/watch?v=_Xo8E5Wqv04 |
| 2023 | Poster Judge, SSRL/LCLS User Meeting, SLAC National Accelerator Lab at Stanford, Menlo Park, CA |
| 2021 | Crystal Clear Red Magazine Article<br>https://red.msudenver.edu/2021/crystal-clear/ |
| 2021 | Photograph 51 Panelist. Jewish Repertory Theater, Buffalo, NY |
| 2021 | Crystallizing Coronavirus with Sarah Bowman. Point of Learning Podcast<br>https://hornedconsulting.org/pointoflearningpodcast/crystals |
| 2021 | Buffalo News Front Page Article 2/7/2021<br>*A crystallization lab in Buffalo is at center of global war against coronavirus* |
| 2021 | Presentation at the Buffalo Sunrise Rotary Club |
| 2021 | Presentation at the BNMC Rotary Club |
| 2020 | Crystal Clear. Buffalo-Niagara Invest Bell Ringer Podcast<br>https://investbuffaloniagara.podbean.com/e/crystal-clear-1597858264/ |
| 2020 | Science Panel Discussion. Bunker Hill Community College, Virtual |
| 2018 | Poster Judge, SSRL/LCLS User Meeting, SLAC National Accelerator Lab at Stanford, Menlo Park, CA |
| 2013 | Behind the Scenes at MIT Video Series<br>*Targeting Ulcer-causing H. pylori Bacteria and Personal Story*<br>http://chemvideos.mit.edu |

## COURSES TAUGHT & OTHER EDUCATIONAL ACTIVITIES

**University at Buffalo**

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|---|---|
| Fall 2026 | BCH498 Undergraduate Research, Biochemistry Undergraduate Research Laboratory Research in the Bowman Lab |
| Fall 2026 | BCH405 Research Topics in Biochemistry, **Course Coordinator**, Undergraduate Biochemistry Course |
| Fall 2026 | Crystallography Outreach Workshop on Harvesting Crystals, Loyola Marymount University, Los Angeles, CA |
| Summer 2026 | Biomolecular Crystallization Workshop, 27th Congress and General Assembly of the International Union of Crystallography (IUCr) Triennial Congress, **Course Director**, Course Organizer, Lecturer, Calgary, Canada |
| Summer 2026 | Undergraduate Research, Laboratory Research in the Bowman Lab |
| Spring 2026 | BCH507 Protein Structure and Function, Graduate Biochemistry Course |
| Spring 2026 | BCH498 Undergraduate Research, Biochemistry Undergraduate Research Laboratory Research in the Bowman Lab (1-3 BCH undergraduates) |
| Spring 2026 | Applied Crystallization Workshop, National Crystallization Center, **Course Director**, Course Organizer, Lecturer, Lab Instructor (two on-site workshops), Buffalo, NY |
| Spring 2026 | Macromolecular Crystallography Workshop at BioMT, Dartmouth College, Hanover, NH |
| Fall 2025 | BCH498 Undergraduate Research, Biochemistry Undergraduate Research Laboratory Research in the Bowman Lab |

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| Fall 2025 | BCH405 Research Topics in Biochemistry, **Course Coordinator**, Undergraduate Biochemistry Course |
| Summer 2025 | Undergraduate Research, Laboratory Research in the Bowman Lab |
| Spring 2025 | BCH507 Protein Structure and Function, Graduate Biochemistry Course |
| Spring 2025 | BCH498 Undergraduate Research, Biochemistry Undergraduate Research Laboratory Research in the Bowman Lab (1 BCH undergraduate) |
| Fall 2024 | BCH405 Research Topics in Biochemistry, Undergraduate Biochemistry Course (Volunteer Instructor) |
| Fall 2022 | BCH405 Research Topics in Biochemistry, Undergraduate Biochemistry Course (Volunteer Instructor) |
| Fall 2019 | BCH405 Research Topics in Biochemistry, Undergraduate Biochemistry Course (Volunteer Instructor) |

**Hauptman-Woodward Medical Research Institute**

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| Fall 2024 | Macromolecular Crystallization Satellite Workshop at the Pittsburgh Diffraction Conference, **Course Director**, Course Organizer, Lecturer, Lab Instructor, Ithaca, NY |
| Summer 2024 | Applied Crystallization Workshop, National Crystallization Center, **Course Director**, Course Organizer, Lecturer, Lab Instructor (two on-site workshops), Buffalo, NY |
| Spring 2024 | Applied Crystallization Workshop, National Crystallization Center, **Course Director**, Course Organizer, Lecturer, virtual |
| Spring 2024 | Expression, Purification, & Analysis of Proteins & Protein Complexes, Lecturer, Cold Spring Harbor Laboratory Course, Cold Spring Harbor, NY |
| Spring 2024 | Breakthrough Capabilities for Neutron Macromolecular Crystallography, Workshop on Neutrons in Structural Biology, Panelist, Arlington, VA |
| Summer 2023 | Sample Attributes for Multiple-techniques and Principal Requirements for Experiments in Pan-structural biology (SAMPREP) Workshop at the American Crystallographic Association Meeting, **Course Director**, Course Organizer, Lecturer, Baltimore, MD |
| Summer 2021 | Structural Biology Workshop, HWI (now UB HWI), Lecturer, virtual |
| Summer 2019 | Structural Biology Workshop, HWI (now UB HWI), Lecturer, Buffalo, NY |
| Summer 2018 | Structural Biology Workshop, HWI (now UB HWI), Lecturer, Buffalo, NY |
| Summer 2018 | Bioinorganic Workshop, Nuclear Magnetic Resonance Section, Penn State University Bioinorganic Workshop, Lecturer, State College, PA |

## RESEARCH SUPERVISION & MENTORING

***Mentoring since beginning my independent career***

*Undergraduate Research Mentoring*

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|---|---|
| 5/2026 – present | Emily Reed, Biology undergraduate (UB), expected graduation 2027<br>**Recognition: Experiential Learning Network URCA Research Funding** |
| 1/2026 – present | Tanmayi Kapalli, Biomedical Sciences undergraduate (UB), expected graduation 2027<br>**Recognition: Experiential Learning Network URCA Research Funding** |
| 1/2025 – 05/2026 | Samantha Arnone, Biochemistry undergraduate (UB)<br>**Recognition: Experiential Learning Network Travel Award to attend ASBMB 2026** |
| Summer 2021 | Luz Alfaro, BioXFEL Summer Intern (HWI) |

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| Summer 2020 | Ethan Holleman, BioXFEL Summer Intern (HWI)<br>PhD UC Davis, Current: Postdoc Northwestern University<br>**Recognition: Poster Award at the 2020 SSRL/LCLS User Meeting** |
| Summer 2019 | Kailey Ferger, HWI Summer Intern (HWI)<br>PhD UC Berkeley, Current: Postdoc Dana Farber |
| Summer 2018 | Max Dudek, HWI Summer Intern (HWI)<br>PhD UPenn, Current: Postdoc UPenn<br>**Recognition: NSF Graduate Fellowship** |

*Graduate Research Mentoring*

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|---|---|
| Spring 2026 | Vaishnavi Mahankal, graduate student from collaborator's lab (Perry Lab), University of Massachusetts Amherst Department of Chemical and Biomolecular Engineering |
| Spring 2025 | Cole Masuga, PPBS PhD Rotation (UB) |
| Fall 2024 | Sean Johnson, Biochemistry Masters Rotation (UB) |
| Fall 2023 | William Dowdle, visiting graduate student from Bridwell-Rabb Lab, University of Michigan Department of Chemistry (HWI) |
| 2020 – 2021 | Yana Shimanovich, Materials Design and Innovation Masters Student (HWI) |

*Postdoctoral Fellow Supervised and Mentored*

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| 8/2023 – present | Dr. Christopher Campomizzi<br>**Recognition: 2025 Travel Award, American Crystallographic Association Annual Conference**<br>**Recognition: 2025 Structural Dynamics Poster Award, American Crystallographic Association Annual Conference** |

*Research Supervision and Mentoring*

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|---|---|
| 11/2022 – present | Tiffany Wright, Research Associate<br>**Recognition: 2024 Travel Award, Pittsburgh Diffraction Conference** |
| 9/2022 – present | Dr. Gabrielle Budziszewski, Research Scientist; Operations Manager in the NCC<br>**Recognition: 2026 Sidhu Award Winner, Pittsburgh Diffraction Society**<br>**Recognition: 2024 Outstanding Scientist Award, ABRF**<br>**Recognition: 2024 Travel Award, Pittsburgh Diffraction Conference**<br>**Recognition: NIH Loan Repayment Program Award** |
| 2/2022 – present | M Elizabeth Snell, Research Associate<br>**Recognition: 2024 Travel Award, Pittsburgh Diffraction Conference** |
| 2017 – Jul 2022 | Angela Lauricella, Research Associate (HWI) |

*Dissertation Committees*

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|---|---|
| 3/2026 – | Brandon Mcilvain, MS student in Department of Biochemistry, University at Buffalo |
| 1/2026 – | Veronica Nickerson, PhD student in Department of Biochemistry, University at Buffalo |
| 1/2026 – | Vaishnavi Mahankal, PhD student in Department of Chemical and Biomolecular Engineering, UMass Amherst |

***Mentoring prior to beginning my independent career***

*Undergraduate Research Mentoring*

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|---|---|
| Summer 2014 | Lindsey Richelle Fernandez Backman, PhD MIT (MIT MSRP Summer Intern)<br>Current: Whitehead Institute Fellow |

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| Summer 2014 | Alessio Caruso, PhD Princeton (MIT MSRP Summer Intern)<br>Current: Postdoc Harvard University |
| Summer 2011 | Tsehai Grell, PhD MIT (MIT MSRP Summer Intern)<br>Current: Research Scientist at Janssen |
| Summer 2011 | Abdulquadri Olawin, MD (MIT MSRP Summer Intern)<br>Current: MD |
| Spring 2011 | Andrew Van Benschoten, PhD UCSF (MIT Undergraduate Researcher)<br>Current: Director of Advanced Analytics at Land O'Lakes, Minneapolis, MN |
| 2008 – 2009 | Ferdous Zannat, MD (University of Rochester Undergraduate Researcher)<br>Current: MD |
| 2007 – 2008 | Breanne Holmes, PhD (University of Rochester Undergraduate Researcher)<br>Current: Scientist at Ecotox Centre, Switzerland |
| Summer 2007 | Erin Kleingardner, RN (University of Rochester Summer Intern)<br>Current: RN |
| 2006 – 2007 | Benjamin Levin, PhD (University of Rochester Undergraduate Researcher)<br>Current: Scientist at Stablix, Boston, MA |
| 2006 | Yelena Lerman, PhD (University of Rochester Summer Intern) |