

Po-Lin Chiu, Ph.D.

School of Molecular Sciences | Biodesign Center for Applied Structural Discovery
Arizona State University
1001 South McAllister Avenue
PO Box 871604
Tempe, Arizona 85287
480 727 2058 | plchiu@asu.edu
<http://plchiulab.org/>
ORCID ID: 0000-0001-8608-7650

EDUCATION

- | | | |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 10/2004 – 07/2009 | Ph.D. Biophysics | Mentor: Henning Stahlberg |
| | Biophysics Graduate Group, University of California, Davis, California
<i>Dissertation: Structural studies of a prokaryotic potassium channel, MloK1, by transmission electron microscopy</i> | |
| 09/1999 – 06/2001 | M.EE. Electrical Engineering | Mentor: Jen-Ho Tsao |
| | Institute of Electrical Engineering, National Taiwan University, Taipei, Taiwan
<i>Thesis: Drug delivery through liposome using ultrasonic imaging and cavitation</i> | |
| 09/1995 – 06/1999 | B.Sc. Pharmacy | |
| | School of Pharmacy, National Taiwan University, Taipei, Taiwan
Intern at the National Taiwan University Hospital, Taipei, Taiwan | |

APPOINTMENTS AND POSTGRADUATE TRAINING

- | | | |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 08/2016 – present | Assistant Professor | |
| | School of Molecular Sciences, Biodesign Center for Applied Structural Discovery, Arizona State University, Tempe, Arizona | |
| 09/2010 – 07/2016 | Postdoctoral Fellow | Mentor: Thomas Walz |
| | Department of Cell Biology, Harvard Medical School, Boston, Massachusetts
<i>Studies of lipid-protein interactions using cryogenic electron microscopy</i> | |
| 08/2009 – 08/2010 | Postdoctoral Researcher | Mentor: Henning Stahlberg |
| | Section of Molecular and Cellular Biology, University of California, Davis, California
<i>In-situ cryogenic electron microscopic study on biological specimens</i> | |

FELLOWSHIPS AND AWARDS

- | | |
|-------------|------------------------------------------------|
| 2016 | NVIDIA's GPU Grant Program |
| 1999 – 2001 | Taiwan National Science Foundation Scholarship |

1999 Certified by National Qualification Examination for Medical Professionals
 1995 – 1999 Taiwan Nan-Ya Incorporation Scholarship

PUBLICATIONS

List of peer-reviewed publications after arriving at ASU (†corresponding author; underlined group member)

18. **Chiu, P.-L.** and †Walz, T. Structure of aquaporin-0 arrays in sphingomyelin/cholesterol membranes and implications for lipid rafts. (2023). [*bioRxiv* preprint: 10.1101/2023.05.16.540959] (*submitted*)
17. Orjuela, J.D., **Chiu, P.-L.**, Walz, T., de Groot, B.L., and †Aponte-Santamaria, C. Cholesterol mechanically stabilizes aquaporin-0 arrays by strengthening the association of adjacent tetramers. (2023). [*bioRxiv* preprint: 10.1101/2023.05.17.541099] (*submitted*)
16. Waheeda, K., Kitchel, H., Wang, Q., and †**Chiu, P.-L.** Molecular mechanism of Rubisco activase: dynamic assembly and Rubisco remodeling. *Front Mole Biosci* **10** (2023).
15. Puskar, R., Truong, C.D., Swain, K., Chowdhury, S., Chan, K.-Y., Li, S., Cheng, K.-W., Wang, T.Y., Poh, Y.-P., Mazor, Y., Liu, H., Chou, T.-F., Nannenga, B.L., and †**Chiu, P.-L.** Molecular asymmetry of a photosynthetic assembly from green sulfur bacteria. *Nat Commun* **13**:1-12 (2022).
14. Narayanan, R.P., Procyk, J., Nandi, P., Prasad, A., Xu, Y., Poppleton, E., Williams, D.R., Zhang, F., Yan, H., †**Chiu, P.-L.**, †Stephanopoulos, N., and †Šulc, P. Coarse-grained simulations for the characterization and optimization of hybrid protein-DNA nanostructures. *ACS Nano* **16**:14086-14096 (2022).
13. DeVore, K. and †**Chiu, P.-L.** Probing structural perturbation of biomolecules by extracting cryo-EM data heterogeneity. *Biomolecules* **12**:628 (2022). (invited review)
12. Baker, A.T., Boyd, R.J., Sarkar, D., Crespo, A.T., Chan, C.K., Bates, E., Waraich, K., Vant, J., Wilson, E., Truong, C.D., Lipka-Lloyd, M., Fromme, P., Vermaas, J., Williams, D., Machiesky, L., Heurich, M., Nagalo, B.M., Coughlan, L., Umlauf, S., **Chiu, P.-L.**, Rizkallah, P.J., Cohen, T.S., Parker, A.L., †Singharoy, A., and †Borad, M.J. ChAdOx1 interacts with CAR and PF4 with implications for thrombosis with thrombocytopenia syndrome. *Sci Adv* **7**:eabl8213 (2021). [*bioRxiv* preprint: 10.1101/2021.05.19.444882]
11. Truong, C.D., Williams, D., Zhu, M., Wang, J.C.-H. and †**Chiu, P.-L.** Sample preparation using lipid monolayer for electron crystallographic studies. *J Vis Exp* **177**, e63015 (2021). (invited review)
10. *Zhang, X., *Gui, L., *Li, S., *Nandi, P., Columbres, R.C., Wong, D.E., Moen, D.R., Lin, H.J., †**Chiu, P.-L.**, and †Chou, T.-F. Conserved L464 in p97 D1-D2 linker is critical for p97 cofactor regulated ATPase activity. *Biochem J* **478**, 3185-3204 (2021). (*equal contributions)
9. Nandi, P., Li, S., Columbres, R.C.A., Wang, F., Williams, D.R., Poh, Y.-P., †Chou, T.-F., and †**Chiu, P.-L.** Structural and functional analysis of disease-linked p97 ATPase mutant complexes. *Int J Mole Sci* **22**, 8079 (2021).
8. Truong, C.D., Craig, T.A., Cui, G., Botuyan, M.V., Serkasevich, R.A., Chan, K.-Y., †Mer, G., †**Chiu, P.-L.**, and †Kumar, R. Cryo-EM reveals conformational flexibility in apo DNA polymerase ζ . *J Biol Chem* **297**, 100912 (2021).
7. March, K., Venkatraman, K., Truong, C.D., Williams, D., **Chiu, P.-L.**, and †Rez, P. Protein

- secondary structure signatures from energy loss spectra recorded in the electron microscopy. *J Microsc* **282**, 215-223 (2021).
6. Godeshala, S., Miryala, B., Dutta, S., Christensen, M.D., Nandi, P., **Chiu, P.-L.**, and †Rege, K. A library of aminoglycoside-derived lipopolymer nanoparticles for delivery of small molecules and nucleic acids. *J Materials Chem B* **8**, 8558-8572 (2020).
 5. Yang, J.-H., Williams, D., Kandiah, E., †Fromme, P., and †**Chiu, P.-L.** Structural basis of redox modulation on chloroplast ATP synthase. *Commun Biol* **3**, 482 (2020).
 4. Chang, S.L.Y., Reineck, P., Williams, D., Bryant, G., Opletal, G., El-Demrardash, S.A., **Chiu, P.-L.**, Ōsawa, E., Barnard, A.S., and †Dwyer, C. Dynamic self-assembly of detonation nanodiamond in water. *Nanoscale* **12**, 5363-5367 (2020).
 3. Robertson, K.E., Craciunescu, F.M., Truong, C., **Chiu, P.-L.**, Fromme, P., and †Hansen, D.T. Membrane directed expression in *Escherichia coli* of virulence factors from the Lyme disease agent *Borrelia burgdorferi*. *Sci Rep* **9**, 1-15 (2019).
 2. Steber, H.S., Gallante, C., **Chiu, P.-L.**, and †Mangone, M. The *C. elegans* 3'UTRome V2: an updated genomic resource to study 3'UTR biology. *Genome Res* **29**, 2104-2116 (2019). [*bioRxiv* preprint: 10.1101/704098]
 1. Toporik, H., Li, J., Williams, D., **Chiu, P.-L.**, and †Mazor, Y. The structure of the photosystem I IsiA supercomplex. *Nat Struct Mole Biol* **26**, 443-449 (2019).

List of peer-reviewed publications before arriving ASU (†corresponding author)

16. Aryal, R.P., Kwak, P.B., Tamayo, A.G., **Chiu, P.-L.**, Walz, T., and †Weitz, C.J. Macromolecular assemblies of the mammalian circadian clock. *Mol Cell* **67**, 770-782 (2017).
15. *Kalbermatter, D., ***Chiu, P.-L.**, Jeckelmann, J.-M., Ucurum, Z., Walz, T., and †Fotiadis, D. Electron crystallography reveals that substrate release from the PTS IIC glucose transporter is coupled to a subtle conformational change. *J Struct Biol* **199**, 39-45 (2017). (*equal contributions)
14. Leksa, N.C., **Chiu, P.-L.**, Bou-Assaf, G.M., Quan, C., Liu, Z., Goodman, A.B., Chambers, M.G., Tsutakawa, S.E., Hammel, M., Peters, R.T., Walz, T., and †Kulman, J.D. The structural basis for the functional comparability of factor VIII and the long-acting variant rFVIII_{Fc}. *J Thromb Haemost* **15**, 1167-1179 (2017).
13. Klara, S.S., Saboe, P.O., Sines, I.T., Babaei, M., **Chiu, P.-L.**, DeZorzi, R., Dayal, K., Walz, T., †Kumar, M., and †Mauter, M.S. Magnetically directed two-dimensional crystallization of OmpF membrane proteins in block copolymers. *J Am Chem Soc* **138**, 28-31 (2016).
12. ***Chiu, P.-L.**, *Li, X., Li, Z., Beckett, B., Brilot, A.F., †Grigorieff, N., †Agard, D.A., †Cheng, Y., and †Walz, T. Evaluation of super-resolution performance of the K2 electron counting camera using 2D crystals of aquaporin-0. *J Struct Biol* **192**, 163-173 (2015). (*equal contributions)
11. Kalbermatter, D., Jeckelmann, J.-M., **Chiu, P.-L.**, Ucurum, Z., Walz, T., and †Fotiadis, D. 2D and 3D crystallization of the wild-type IIC domain of the glucose PTS transporter from *Escherichia coli*. *J Struct Biol* **191**, 376-380 (2015).
10. ***Chiu, P.-L.**, *Bou-Assaf, G., Chhabra, E.S., Chambers, M.G., Liu, L., Peters, R., †Kulman, J.D., and †Walz, T. Mapping the interaction between factor VIII and von Willebrand factor by electron microscopy and mass spectrometry. *Blood* **126**, 935-938 (2015). [Commentary in *Blood*: Krishnaswamy, S. FVIII-VWF dos-à-dos. *Blood* **126**, 923-924 (2015).] (*equal contributions)
9. *Hite, R.K., ***Chiu, P.-L.**, Schuller, J., and †Walz, T. Effect of lipid head groups on double-

- layered two-dimensional crystals formed by aquaporin-0. *PLoS One* **10**, e0117371 (2015).
(*equal contributions)
8. Kowal, J., Chami, M., Baumgartner, P., Arbeit, M., **Chiu, P.-L.**, Rangl, M., Scheuring, S., †Nimigean, C.M., and †Stahlberg, J. Ligand-induced structural changes in the cyclic nucleotide-modulated potassium channel MloK1. *Nat Commun* **5**, 3106-3115 (2014).
 7. Hopkins, L.E., Patchin, E.S., **Chiu, P.-L.**, Brandenberger, C., Smiley-Jewell, S., and †Pinkerton, K.E. Nose-to-brain transport of aerosolized quantum dots following acute exposure. *Nanotoxicol* **8**, 885-893 (2014).
 6. Evans, J.E., Jungjohann, K.L., Wong, P.C.K., **Chiu, P.-L.**, Dutrow, G.H., Arslan, I., and †Browning, N.D. Visualizing macromolecular complexes with *in situ* liquid scanning transmission electron microscopy. *Micron* **43**, 1085-1090 (2013).
 5. **Chiu, P.-L.**, Kelly, D.F., and †Walz, T. The use of trehalose in the preparation of specimens for electron microscopy. *Micron* **42**, 762-772 (2011). (invited review)
 4. Paoli, E.-E., Kruse, D.E., Seo, J.W., Zhang, H., Kheiriloom, A., Watson, K.D., **Chiu, P.-L.**, Stahlberg, H., and †Ferrara, K.W. An optical and microPET assessment of thermally sensitive liposome biodistribution in the Met-1 tumor model: importance of formulation. *J Control Release* **143**, 13-22 (2010).
 3. **Chiu, P.-L.**, Pagel, M.D., Evans, J.E., Chou, H.-T., Zeng, X., Gipson, B., †Stahlberg, H., and †Nimigean, C.M. The structure of the prokaryotic cyclic nucleotide-modulated potassium channel MloK1 at 16 Å resolution. *Structure* **15**, 1053-1064 (2007). [Feature in *Structure*: Taraska, J.W. and Zagotta, W. Cyclic nucleotide-regulated ion channel: Spotlight on symmetry. *Structure* **15**, 1023-1024 (2007).]
 2. Renault, L., Chou, H.-T., **Chiu, P.-L.**, Hill, R.M., Zeng, X., Gipson, B., Zhang, Z.Y., Cheng, A., Unger, V., and †Stahlberg, H. Milestones in electron crystallography. *J Comput Aided Mol Des* **20**, 519-527 (2006).
 1. **Chiu, P.-L.**, Wu, C.-Y., Taso, J.-H., and †Chang, F.-H. Drug delivery through liposome by ultrasonic cavitation. *Biomed Eng-App Basis & Comm* **13**, 47-52 (2001).

List of conference proceedings (underlined presenter)

20. Ranaweera, E., Huseby, C.J., Hansen, D.T., **Chiu, P.-L.**, Coleman, P., and Fromme, P. Cellular models for the investigation of the structural dynamics and activity of human tau protein aggregate formation. *Biophys J* **122**, 41-42a (2023).
19. **Chiu, P.-L.** Structural Basis for excited light transfer within a bacterial photosynthetic supercomplex. *Biophys J* **122**, 242a (2023).
18. Baker, A.T., Boyd, R.J., Sarker, D., Teijeira-Crespo, A., Chan, C.K., Bates, E., Waraich, K., Vant, J.W., Wilson, E., Truong, C.D., Lipka-Lloyd, M., Fromme, P., Vermaas, J., Williams, D., Machiesky, L., Heurich, M., Nagalo, B.M., Coughlan, L., Umlaud, S., **Chiu, P.-L.**, Pizkallah, P.J., Cohen, T.S., Parker, A.L., Singharoy, A., and Borad, M.J. Implications of novel adenovirus-host interactions in thrombosis with thrombocytopenia syndrome. *Human Gene Therapy Methods* A209-A210 (2022).
17. Chan, K.-Y. Structural study of regulated intramembrane proteolysis of p75NTR by γ -secretase. *The Journal of the Alzheimer's Association* **17**, e053458 (2022). (doi: 10.1002/alz.053458)
16. Chan, K.-Y., Poh, Y.-P., and **Chiu, P.-L.** Structural study of regulated intramembrane proteolysis of the p75 neurotrophin receptor by γ -secretase. *Biophys J* (2022).

15. Waheeda, K. and **Chiu, P.-L.** Complex formation of Rubisco and Rubisco activase. *Biophys J* 452a (2022).
14. **Chiu, P.-L.** Evaluation of hollow-cone electron imaging on biomolecules. *Biophys J* (2022). (doi: 10.1016/j.bpj.2021.11.2077)
13. Orjuela, J.D., **Chiu, P.-L.**, Walz, T., de Groot, B.L., and Aponte-Santamaria, C.A. The interplay between cholesterol and aquaporin-0. *Biophys J* **121**, 312a (2022).
12. Nandi, P., Li, S., Coulmbres, R.C.A., Wang, F., Williams, D.R., Poh, Y.-P., Chou, T.-F., and **Chiu, P.-L.** Cryo-EM reveals altered domain-domain communications in dementia-mutant R155H human p97/VCP ATPase. *Biophys J* (2022).
11. Nandi, P. and **Chiu, P.-L.** Structural and functional analysis of p47 cofactor binding on the p97 disease mutant. *Alzheimers Dement* **17**, e054008 (2021).
10. **Chiu, P.-L.**, Yang, J.-H., Williams, D., Kandiah, E., Fromme, P. Redox modulation on chloroplast ATP synthase. *Acta Crystallogr A Found Adv* **A77**, a167 (2021).
9. Nandi, P., Li, S., Columbres, R.C.A., Wang, F., Williams, D.R., Malyutin, A.G., Poh, Y.-P., Chou, T.-F., and **Chiu, P.-L.** Structural and functional analysis of p47 cofactor binding on the p97 disease mutant. *Microsc & Microana* **27**, 1908-1910 (2021).
8. Nandi, P., Poh, Y.-P., and **Chiu, P.-L.** Structural studies of the neuronal apoptotic complex of proNGF-p75NTR-sortilin. *Biophys J* **120**, 120a (2021).
7. Yang, J.-H., Williams, D., Kandiah, E., Fromme, P., and **Chiu, P.-L.** Redox Modulation on Chloroplast ATP Synthase. *Microsc & Microana* **26**, 120-121 (2020).
6. Nandi, P., and **Chiu, P.-L.** Structural studies using cryo-EM to unravel mechanistic details of p47 binding to p97. *Biophys J* **118**, 501a (2020).
5. Luu, D., **Chiu, P.-L.**, and Van Horn, W.D. Isolation of functional temperature activated transmembrane domain of human TRPM8. *Biophys J* (2020).
4. Yang, J.-H., Fromme, P., and **Chiu, P.-L.** Mechanism of light regulation on chloroplast ATP synthase revealed by single-particle cryo-EM. *BBA-Bioenergetics* **1859**, e84-e85 (2018).
3. Leska, N., Liu, L., Goodman, A., **Chiu, P.-L.**, Walz, T., Peters, R., and Kulman, J. Evidence for flexible tethering of Fc to FVIII in recombinant FVIII-Fc fusion protein rFVIII-Fc. *Blood* **122**, 1102 (2013).
2. **Chiu, P.-L.**, Pagel, M., Evans, J., Chou, H.-T., Zeng, X., Gipson, B., Nimigean, C., and Stahlberg, H. Structural analysis of the cyclic nucleotide modulated potassium channel MloK1. *Microsc & Microana* **13**, 412-413 (2007).
1. Stahlberg, H., Zhang, Z.Y., Gipson, B., Hill, R., Chou, H.-T., **Chiu, P.-L.**, Renault, L., and Zeng, X. High throughput membrane protein structure determination by electron crystallography. *Abstr Pap Am Chem Soc* **231** (2006).

List of book chapters (†corresponding author; underlined group member)

1. Chan, K.-Y., Truong, C.D., Poh, Y.-P., and †**Chiu, P.-L.** Sample preparation and data collection for electron crystallographic studies on membrane protein structures and lipid-protein interaction. *Methods in Mole Biol* **2215**, 247-265 (2021). (invited review)

PRESENTATIONS

Seminars and talks

- 06/2023 Seminal talk, Department of Life Sciences, National Tsing Hua University, Hsinchu, Taiwan **(invited talk)**
“Visualizing molecular assembly dynamics using electron imaging”
- 05/2022 Seminal talk, Center for Mechanism of Evolution (CME) Joint Lab Meeting, Tempe, AZ
“Probing biomolecular mechanisms of energy transduction using cryo-EM”
- 01/2022 Seminal talk, Biophysics Seminar, University of California, Davis, CA **(invited talk)**
“Structural and functional analysis on the p97 disease mutant complexes”
- 11/2021 Seminal talk, Pharmacological Sciences Seminar, Stonybrook University, Stonybrook, NY **(invited talk)**
“Structural and functional characterization of p97 disease mutant complexes”
- 04/2021 Seminal talk, BMB Seminar, University of Texas Health Science Center at Houston, TX **(invited talk)**
“Structural and functional analysis of disease-linked p97 ATPase mutant complexes”
- 01/2018 Chalk Talk Series, Biodesign Institute, Tempe, AZ
“Use electrons to image biological molecules in their native-like environment”
- 12/2017 Seminal talk, University of California, Los Angeles Harbor Medical School, Torrance, CA **(invited talk)**
“Probing membrane protein structures in their native-like environment using cryo-EM”
- 09/2017 Center for Biophysical Seminar Series, Department of Physics, Tempe, AZ
“Probing membrane protein structures in their native-like environment using cryo-EM”
- 04/2016 Department of Biological Sciences, Purdue University, West Lafayette, IN **(invited talk)**
- 02/2016 Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan **(invited talk)**
- 02/2016 Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan **(invited talk)**
“Probing lipid-protein interaction using cryo-electron microscopy”
- 03/2014 “Pizza Talk” Series, Department of Cell Biology, Harvard Medical School, Boston, MA
- 06/2012 Institute of Chemistry, Academia Sinica, Taipei, Taiwan **(invited talk)**
“Probing lipid-protein interaction using cryo-electron microscopy”
- 06/2012 Department of Life Sciences, National Yang-Ming University, Taipei, Taiwan **(invited talk)**

Conferences and meetings (oral presentations)

- 01/2023 The 2023 Structural Biology Summit Meeting, Los Angeles, CA **(invited talk)**
“Probing the architecture for a photosynthetic machinery from photosynthetic bacteria”
- 10/2022 Spence Memorial Symposium, Tempe, AZ
“Cryogenic electron imaging reveals structural asymmetry of green sulfur bacterial photosynthetic supercomplex”
- 07/2022 International Congress on Photosynthesis Research 2022 (ICPR), New Zealand **(invited talk)**
 Reaction Centers: Structure and Function, *“Molecular asymmetry of the photosynthetic supercomplex in Chlorobaculum tepidum”*
- 09/2021 2021 VCP Scientific Conference, Main Stage speaker, virtual format
“Structural and functional analysis of disease-linked p97 ATPase mutant complexes”

- 08/2021 American Crystallography Association (ACA) Annual Meeting – Redox Enzymes session, virtual format
 “Redox modulation of chloroplast ATP synthase”
- 08/2020 2020 Microscopy and Microanalysis Society (M&M), virtual format
 “Redox Modulation on Chloroplast ATP Synthase”
- 03/2019 ASU Biodesign Retreat FUSION 2019, Phoenix, AZ (**invited talk**)
 “Structural studies of a cofactor-bound p97 disease mutant”
- 08/2018 EMSL Integration Meeting 2018, Richland, WA (**invited talk**)
 Session of “Molecular Structure and Dynamics in Biology and the Environment”
 “Probing membrane protein structures in their native-like environment using cryo-EM”
- 01/2017 10th International Conference on Computational Physics, Macau, China (**invited talk**)
 “Probing lipid-protein interaction using cryo-electron microscopy”
- 08/2015 EITC 2015, Massachusetts Institute of Technology, Cambridge, MA (**invited talk**)
 “Probing membrane protein structures in their native-like environment using cryo-EM”
- 08/2007 Center for Structures of Membrane Proteins (CSMP), UCSF, San Francisco, CA
- 05/2007 Bay Area Cryo-EM Meeting, Davis, CA

Poster presentations

- 02/2023 2023 Biophysical Annual Meeting, San Diego, CA
 “Structural Basis for Excited Light Transfer within Bacterial Photosynthetic Supercomplex”
- 02/2022 2022 Biophysical Annual Meeting, San Francisco, CA
 “Evaluation of hollow-cone electron imaging on biomolecules”
- 01/2012 Gordon Research Conference on Ligand Recognition & Molecular Gating, Ventura, CA
- 06/2007 Gordon Research Conference on Mechanisms of Membrane Transport, Tilton, NH
- 09/2005 The National Resource for Automated Molecular Microscopy, The Scripps Research Institute, La Jolla, CA

PROFESSIONAL SERVICES

Peer-review services

- 2022 – present Review Editor Board of *Frontiers in Physics – Biophysics* (including *Physiology* and *Molecular Biosciences*)
- 2022 – present Proposal Review Committee of the Pacific Northwest Center for Cryo-EM (PNCC)
- 2019 – present User Review Committee (URC) of the National Center for Cryo-EM Access and Training (NCCAT)
- 2018 – present Alzheimer’s Association Research Grant and Fellowship review
- 2021 Editor board of *Membranes*
- 2021 – 2022 NSF reviewer
- 2020 UK MRC grant review

Ad hoc peer reviewer in *Biomolecules* (1), *Bio-protocols* (1), *Biophysical Journal* (1), *Cell Reports Physical Science* (1), *Communications Biology* (1), *Communications Chemistry* (1), *International Journal of Molecular Sciences* (1), *Journal of Experimental Microbiology and Immunology (JEMI+)* (1), *Journal of Visualized Experiments (JoVE)* (2), *Membranes* (1), *Micron* (1), *Nature Communications* (2), *Nature Methods* (1), *PNAS* (1), *Science Advances* (1), *Scientific Reports* (2), *Structure* (1), and *Viruses* (2)

Membership

2021 – present	Member, American Chemical Society (ACS)
2021 – present	Member, American Crystallographic Association (ACA)
2016 – present	Member, Arizona Imaging and Microanalysis Society (AIMS)
2014 – 2015, 2023 – present	Member, The American Association for the Advancement of Science (AAAS)
2009 – 2011, 2017 – present	Member, Biophysical Society
2022 – present	Member, International Society of Photosynthesis Research (ISPR)
2020 – present	Member, Microscopy Society of America (MSA)
2020 – 2021	Member, Sigma Xi

Conference and workshop activities

2022 Biodesign FUSION Scientific Breakout session chair
 2021 Biophysical Society SRAA Virtual Platform Judge – 2021 BPS Meeting
 2019 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) – session chair
 2018 ASU HREM Winter School – Cryo-EM Workshop – Organizer and instructor
 2017 ASU HREM Winter School – Cryo-EM Workshop – Organizer and instructor
 2008 International Workshop on Electron Crystallography of Membrane Proteins, UC Davis – Hands-on instructor on electron diffraction and 2D crystal sample preparation
 2006 Electron Crystallography Workshop, UC Davis – Hands-on instructor on 2D crystal sample preparation

UNIVERSITY SERVICES AND OUTREACH ACTIVITIES

University services

2023 – present	NSF BII internal advisory committee – ASU Biodesign Center for Mechanisms of Cellular Evolution
2022 – present	ASU SMS Committee on Undergraduate Programs and Awards
2018 – present	ASU Biodesign Laboratory Safety Committee

2016 – present	John M. Cowley Center for High-Resolution Electron Microscopy (JCCHREM) Steering Committee
2018 – 2021	ASU Eyring Materials Characterization & Synthesis Governance Board
2021 – 2022	ASU SMS Committee on Undergraduate Student Research
2020 – 2021	ASU SMS Lecturer Search Committee
2018 – 2021	ASU SMS Committee on Graduate Recruitment

Outreach activities and media coverage

- 02/2023 – The Open Door by the ASU Biodesign Institute, Tempe, AZ
- 12/2021 – Arizona ABC 15
ASU researchers may have found cause of blood clots after AstraZeneca COVID vaccine
- 12/2021 – BBC News, UK
Covid: Trigger of rare blood clots with AstraZeneca jab found by scientists
- 12/2021 – Science Daily, Rockville, MD
Potential mechanism behind rare vaccine-related clotting disorder
- 11/2021 – ASU News, Tempe, AZ
Freeze frame: Scientists use new electron microscope to explore the mysteries of life
- 07/2021 – ASU News, Tempe, AZ
Researchers at ASU’s School of Molecular Sciences, Biodesign Institute, Mayo Clinic unravel DNA repair mechanism
- 02/2020 – The Open Door by the ASU Biodesign Institute, Tempe, AZ
- 06/2019 – Space Daily
ASU team throws new light on photosynthetic supercomplex structure
- 12/2017 – “Life and Technology Talk Show”, the Radio Golden Vintage, Los Angeles, CA
Using electron microscopy to understand structures of biological molecules
- 02/2017 – The Night of the Open Door by the ASU Biodesign Institute