

Shervin Nia
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Education

- **University of California, Los Angeles** Los Angeles, CA
Ph.D., Biochemistry, Molecular and Structural Biology
Advisors: Z. Hong Zhou and Matthew Mecklenburg
2022-2027 (expected)
- **University of California, Los Angeles** Los Angeles, CA
B.S., Biochemistry, GPA 3.96, Departmental Honors
2019-2021
- **Moorpark Community College** Moorpark, CA
GPA 4.00
2017-2019

Conferences

38th Annual Symposium of the Protein Society (2024)

Poster Presentation - Awarded "Best Poster Presentation"

"Spatial, temporal, and mechanistic analyses of radiation damage in cryoEM by 4D-STEM"

6th Annual Southern California CryoEM Symposium (2021)

Invited Speaker

"Charting alkaline dissolution of cell-grown insecticidal pro-toxin Cry11B crystals by time-series cryo-electron tomography"

Publications

1. **Nia SS**, Mecklenburg MH, Zhou ZH. Analysis of local radiation damage to biological cryoEM samples embedded in deuterated ice. *Acta Crystallogr. D*. 2025. *invited publication*.
2. Davoodi E, Li J, Ma X, Najafabadi AH, Yoo J, Lu G, Sani ES, Lee S, Montazerian H, Kim G, Williams J, Yang JW, Zeng Y, Li L, Jin Z, Sadri B, **Nia SS**, Wang LV, Hsiai TK, Weiss PS, Zhou Q, Khademhosseini Ali, Wu D, Shapiro MG, Gao W. Imaging-guided deep tissue in vivo sound printing. *Science*. 2025 May 8; 388(6747):616-623. doi.org/10.1126/science.adt0293
3. Das D, Sharma M, Gahlot D, **Nia SS**, Mecklenburg M, Zhou ZH, Bourdenx M, Thukral L, Martinez-Lopez N, Singh R. VPS4A is the selective receptor for lipophagy in mice and humans. *Molecular Cell*. 2024 Nov 21; 40(22):4436-4453. doi.org/10.1016/j.molcel.2024.10.022
4. Mecklenburg M, **Nia SS**, Saha A, Zhou ZH. Paths to Attenuate Radiolysis-Induced Secondary Damage in Biological cryoEM. *Microsc. Microanal.* 2024 Jul 24; 30(S1):1772-1774. doi.org/10.1093/mam/ozae044.877
5. Saha A, **Nia SS**, Rodríguez JA. Electron Diffraction of 3D Molecular Crystals. *Chem Rev*. 2022 Sep 14; 122(17):13883-13914. doi.org/10.1021/acs.chemrev.1c00879

Awards and Honors

- **2025** John Stauffer Excellence in Second Year Academics and Research Award, UCLA
- **2025** Herbert Newby McCoy Mentorship Award, UCLA
- **2023-2025** Cellular and Molecular Biology Fellowship, UCLA
- **2022** Excellence in Biochemistry Fellowship, UCLA

Research Experience

- **Zhou Lab** UCLA
Graduate Student Researcher March 2023 - present
 - Studying radiation damage to biological samples in cryoEM and investigating novel mitigation techniques.
 - Applying electron energy loss spectroscopy to biological samples to extract chemical information along with images.
 - Taking advantage of bespoke electron microscopes (TEAM 0.5 and TEAM I) at Lawrence Berkeley National Laboratory to make novel biological discoveries.
 - Setup, upgrade, and maintenance of electron microscopes and infrastructure at the Electron Imaging Center for Nanomachines (EICN).
- **Rodríguez Lab** UCLA
Research Associate March 2021 - June 2022
 - Primary project consisted of elucidating the dissolution mechanism of notable mosquitocidal pro-toxin Cry11B by leveraging cryogenic electron tomography methods.
 - Developed a workflow for high-throughput generation of high-resolution (1.57Å/px) tomograms and subsequent analysis using RELION 4.0.
 - Trimming, processing, and analyzing 50+ large (> 500GB each) tomograms exclusively by scripting in Python.
 - Leading in design, setup, and use of high-performance desktop computers, mainly for creating tomography reconstructions from tilt-series data sets.

Teaching Experience

- **Teaching Assistant** Jan 2023 - June 2023
University of California, Los Angeles Los Angeles, CA
 - Held discussion sections and office hours, and graded exams.
 - Intro. to Biochemistry - 540 students total, 90 students per TA - Student reviews: 8.9/10
 - Physical Biochemistry - 100 students total, 50 students per TA - Student reviews: 9.8/10
- **Writing and STEM Tutor** Aug 2018 - Sep 2019
Moorpark College Tutoring Center Moorpark, CA
 - Provided private instruction to individual or small groups of students to improve academic performance, improved occupational skills, or prepared for academic or occupational tests.

- Assisted students with study skills, note-taking skills, and test-taking strategies.
 - Participated in diversity training seminars to make sure all members of the campus community felt properly welcome.
 - Taught Writing Skills, Calculus, Chemistry, and Biology to peers.
- **Computer Management Instructor** May 2018 - Sep 2018
Thousand Oaks Teen Center *Thousand Oaks, CA*
 - Taught weekly computer assembly courses to classes of 10-15 students.
 - Designed curriculum aimed at providing job skills to underprivileged communities.
 - Assembled and distributed repurposed, donated computers with Linux operating systems to students to continue learning after the end of the course.

Activities

- **Undergraduate Research Center - Sciences** 2024-Present
University of California, Los Angeles *Los Angeles, CA*
 - Mentoring undergraduate students in demystifying the academic research process
 - Tabling at on-campus events for newly admitted freshmen and transfers to get involved
 - Moderating research panels at UCLA Undergraduate Research Week Symposium
- **PCB Journal Club** 2023-Present
University of California, Los Angeles *Los Angeles, CA*
 - Weekly journal club aimed at sharing electron microscopy knowledge between disciplines
 - Founded, administrate, and participate weekly
 - Website with past talks hosted at www.pcbjournal.club
- **BioPACIFIC Outreach** 2023-Present
University of California, Los Angeles *Los Angeles, CA*
 - Giving tours to groups of high school students from the greater LA area
 - Tours mainly consist of electron microscopy facilities
- **STROBE NSF Science & Technology Center** 2024-Present
University of Colorado, Boulder (Remote) *Boulder, CO*
 - Mentor the STROBE Summer Undergraduate Research Scholars preparing their final presentations
- **Exploring Your Universe** 2022, 2023, 2024
University of California, Los Angeles *Los Angeles, CA*
 - Volunteer at the “Building Blocks of Life” booth
 - Created an AR program for children to explore protein structures. Demo at bioviewer.net/flyer
- **Wikipedia** 2024-Present
wikipedia.org/wiki/user:niashervin *Wikipedia*
 - Editing articles to provide equitable access to educational resources
 - Articles primarily related to structural biology and electron microscopy
 - Over 500 total edits made