Richard Posert

CryoEM · Biochemistry · Computation
Scientific communication · Data visualization and design

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Education

2018 – 2023 **Ph.D.** in biochemistry and molecular biology — Vollum Institute, OHSU, Portland, OR

- Extensive experience with cryoEM single-particle analysis, focused on small, flexible membrane proteins. Improved best map of ENaC extracellular domain from 3.1 to 2.4 Å.
- Developed multiple functional assays and automated processing and presentation scripts for each.
- Developed several software tools, including Appia, a chromatography suite; Exawatcher, a RELION job monitor; and Mortimer, a real-time cryoEM screening processor and organizer.

2011 – 2015 **BA** in biochemistry and molecular biology — Reed College, Portland, OR

Thesis in Janis Shampay's lab: *Structural Characteristics of the PinX1 Telomerase Inhibitory Domain*

Publications

1. **Richard Posert**, Isabelle Baconguis. *Appia: Simpler chromatography analysis and visualization*. In *PLoS ONE*, 2023. doi: 10.1371/journal.pone.0280255
2. Sigrid Noreng, **Richard Posert**, Arpita Bharadwaj, Alexandra Houser, Isabelle Baconguis. *Molecular principles of assembly, activation, and inhibition in epithelial sodium channel*. In *eLife*, 2020. doi: 10.7554/eLife.59038
3. Johannes Elferich, **Rich Posert**, Craig Yoshioka, and Eric Gouaux. *HOTSPUR: A Real-time Interactive Preprocessing System for Cryo-EM Data*. In *Microscopy and Microanalysis*, 2019. doi: 10.1017/S1431927619006792
4. Sigrid Noreng, Arpita Bharadwaj, **Richard Posert**, Craig Yoshioka, Isabelle Baconguis. *Structure of the human epithelial sodium channel by cryo-electron microscopy*. In *eLife*. doi: 10.7554/eLife.39340

In preparation (draft available upon request)

5. **Richard Posert**, Arpita Bharadwaj, Isabelle Baconguis. *Activating conditions of ENaC do not produce expected conformational changes*.

Teaching and Service

2022 NEUS 619, Neuroscience Graduate Program, OHSU — Co-instructor

I was one of two instructors for the required course on scientific speaking. I led classes covering topics including talk writing, slide design, audience management, and Q&A sessions.

2019 – 2022 Biochemistry lectures — Guest lecturer

I have been invited to give guest lectures for *Chem330 - Structural Biochemistry* at Lewis and Clark and the structural biochemistry course at Reed.

2018–2020 AFSCME Local 402 — Lead organizer, bargaining team, executive board

In my role as a lead organizer, I helped grow our union through one-on-one conversations from eight people to over 300, and built systems to manage that growth. I also organized, processed, and communicated the results of issue and priority surveys. As a member of the bargaining team, I was a member of a team of four that wrote and negotated a contract worth, in total, over $3,000,000 and coordinated several teams focused on individual issues. As a member of the first e-board, I helped build a governing structure focused on equity and representation.

2019 CONJ 661 - Structure and Function of Biological Molecules — Teaching assistant

Coordinated and ran study sessions, journal clubs, and review for the required structural biochemistry course at OHSU.

Awards and Funding

2019 Program in Enhanced Research Training — NIH T32GM071338-13

2019 Emerging Leader — AFSCME