Erik Nordquist

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Education

Expected Spring 2023	**PhD Chemistry**, University of Massachusetts Amherst
2018	**BS Chemistry and Physics**, The College of Idaho. Gipson Fellowship. Summa Cum Laude.

Fellowships

2022	**UMass CNS Teaching Fellowship**, funding to teach 2 sections of self-designed FYS (info)
2020 – 2022	**Chemistry-Biology Interface**, NIH/UMass graduate traineeship (info)

Publications

7. **Nordquist E**, Guohui Z, Jiamin C, Chen J. Functional effects of novel mutations of big potassium channel predicted via physics-based and statistical modeling. (forthcoming, April 2022)
6. **Nordquist E**, Zhiguang J, Chen J. Big potassium channel activator modulates dewetting of the inner pore. (forthcoming, March 2022)
5. **Nordquist E**, Zhiguang J, Chen J. Inner pore hydration free energy controls activations of the big potassium channel and its mutants. Biophys. J. (submitted)
4. **Nordquist E**, Clerico E, Chen J, Gierasch L. Computationally-aided modeling of Hsp70-client interactions: past, present, and future. J. Phys. Chem. B 2022. DOI
3. **Nordquist E**[#], Schultz S[#], Chen J. Using metadynamics to explore the free energy of dewetting in biologically-relevant nanopores. J. Phys. Chem. B 2022. DOI
2. **Nordquist E**, English C, Clerico E, Sherman W, Gierasch L, Chen J. Physics-based modeling provides predictive understanding of selectively promiscuous substrate binding by Hsp70 chaperones. PLOS Comp Bio (2021). DOI
1. Gong X, Chiricotto M, Liu X, **Nordquist E**, Feig M, Brooks C, Chen J. Accelerating the GBMV/SA implicit solvent model using GPUs. J Comput Chem (2020). DOI

Presentations

2022	**Talk,** University of Massachusetts Amherst ResearchFest; P.H. Terry Endowment Award. "Predicting protein function with physics, experiments and machine learning." **Poster,** Biophysical Society Annual Meeting; "Free energy of hydrophobic dewetting in gating of BK channels"
2020	**Talk,** Northeastern Structural Symposium, "Physical origins of selective promiscuity to Hsp70s revealed through physics-based modeling" **Poster,** University of Massachusetts Amherst ResearchFest; W.E. McEwen Poster Award; "Physical origins of selective promiscuity to Hsp70s revealed through physics-based modeling"
2019	**Talk,** Biophysics at University of Massachusetts Amherst, "Understanding the origins of DnaK's

	selective promiscuity with physics-based modeling”
	Poster, Molecular Biophysics in the Northeast, “Understanding the origins of DnaK’s selective promiscuity with physics-based modeling”

Teaching and Mentoring

Instructor of record	First-year seminar (self-designed, 2 sections), Fall 2022 (info)
TA/Guest Lectures	General Chemistry I Lab TA, 2018
	Graduate Statistical Mechanics, Molecular mechanics and empirical force fields
Mentoring	**Undergraduates**, Samantha Schultz (2020-2021); Callie Jillson (2019-2020)

Service

2019 – 2021	**ResearchFest organization committee** for Chemistry Dept., University of Massachusetts Amherst
2020, 2022	**Alumni Networking Symposium organization committee,** Chemistry-Biology Interface program, University of Massachusetts Amherst (2020, 2022)
2021	**Search committee,** Grad Program Manager for Chemistry Dept. University of Massachusetts Amherst
Journal Referee	**Biophys. J**, 1 article reviewed

Outreach

2020 –	**Reviewer for Journal of Emerging Investigators**, 15 articles authored by middle- and high-school students (info)
2022	**Girls summer science camp**, Eureka! at University of Massachusetts Amherst (**info**)

Professional Development

2022	CITRL associate certification (info)
2021	**Evidence-based Undergraduate STEM Teaching,** online course (info)
	Inclusive STEM Teaching, online course (info)