

Roger Shek

Structural Biologist

rshek@uw.edu

Cell: (808) 386-3879

Website: <https://www.rogershek.com>

Skills:

Proficient in molecular biology (Western blot, Site-directed mutagenesis, cloning), protein purification (affinity, IEX, SEC), FPLC, and protein biochemistry (enzyme kinetics, biophysical characterization)

Experience with **protein crystallography**, negative stain EM, **cryoEM SPA**, membrane proteins, and bacterial/insect/mammalian cell culture

Software: **Linux, XDS, Phenix, CCP4, Coot, Relion**, Chimera, DOCK

Education:

- 2013 - 2019 Ph.D. in Biochemistry and Structural Biology. Stony Brook University, NY
- 2008 - 2013 B.A. in Biology (minor CHEM). University of Hawaii, Manoa

Professional Experience:

- 2019 - Current Research Scientist Assistant (SSGCID, PI: Dr. Van Voorhis, University of Washington)
- 2014 - 2019 Graduate Research Assistant (PI: Dr. Jarrod French, Stony Brook)
Identification and characterization of nucleobase transporters
- 2011 - 2013 Undergraduate Research Assistant (PI: Dr. David Christopher, UH Manoa)
Characterization of PDI-8 in Arabidopsis thaliana
- 2011 REU Student (PI: Dr. Richard Quinn, SETI Institute, Mountain View, CA)
Detection of peroxides in gamma irradiated perchlorates

Honors and Awards:

- 2016 - 2017 Departmental Training Grant Fellowship (NIH T32)
- 2013 Phi Beta Kappa
- 2013 University of Hawaii UROP Fellowship
- 2008 - 2013 Dean's List

Service:

- 2017 - 2018 Graduate Student Organization Senate Speaker
- 2016 - 2019 Stony Brook Integrative Structural Biology Organization (Founder, President-2016, webmaster-2017)
- 2015 - 2017 Graduate Student Organization Department Senator
- 2008 - 2010 Volunteer (Fleetwing) The Queen's Medical Center, Honolulu, Hawaii

Teaching Activities:

- Fall 2014 Stony Brook. Graduate Teaching Assistant, Biochemistry Lab
- Spring 2014 Stony Brook. Graduate Teaching Assistant, General Biology Lecture
- 2009 - 2011 Online Tutor, UH Online Learning Academy
- Fall 2010 Manoa. Undergraduate Teaching Intern, General Biology Lab

Publications:

1. **Shek, R.**, Hilaire, T., Sim, J., and French, J. B. (2019) Structural determinants for substrate selectivity in guanine deaminase enzymes of the amidohydrolase superfamily, *Biochemistry* 58, 3280-3292
2. **Shek, R.**, Dattmore, D. A., Stives, D. P., Jackson, A. L., Chatfield, C. H., Hicks, K. A., and French, J. B. (2017) Structural and functional basis for targeting *Campylobacter jejuni* agmatine deiminase to overcome antibiotic resistance, *Biochemistry* 56, 6734-6742
3. Yuen, C. Y., **Shek, R.**, Kang, B.-H., Matsumoto, K., Cho, E. J., and Christopher, D. A. (2016) Arabidopsis protein disulfide isomerase-8 is a type I endoplasmic reticulum transmembrane protein with thiol-disulfide oxidase activity, *BMC plant biology* 16, 181.
4. Matarlo, J. S., Evans, C. E., Sharma, I., Lavaud, L. J., Ngo, S. C., **Shek, R.**, Rajashankar, K. R., French, J. B., Tan, D. S., and Tonge, P. J. (2015) Mechanism of MenE inhibition by acyl-adenylate analogues and discovery of novel antibacterial agents, *Biochemistry* 54, 6514.