Ryan Boyd

rjboyd.com | rjboyd00@gmail.com | 415.306.2941

EDUCATION

ARIZONA STATE UNIVERSITY
PhD Biochemistry, Fromme Lab
Nov 2021 | Tempe, AZ
Center for Applied Structural Discovery, Biodesign Institute

UNIVERSITY OF CALIFORNIA, DAVIS
BS in Pharmaceutical Chemistry
June 2015 | Davis, CA

LINKS

github.com/**rjboyd00**
linkedin.com/in/**rjboyd00**
twitter.com/**rjboyd000**

SKILLS

Primary Techniques
Protein structure analysis • Protein structure modeling (PyMol, ChimeraX, VMD) • Cryo-EM • Relion • Phenix • Crystallography • Chromatography • Protein purification (ÄKTA FPLC) • Protein QC • Protein developability assessment • Analytical SEC • Mass spectrometry • Post-translational modification characterization • DLS • Protein-protein interaction (SPR, MST, Mass photometry, & co-crystallization) • Antibodies • GEFs • Small G-proteins
Other skills:
Protein engineering (Rosetta) • Structural bioinformatics • Homology modeling (AlphaFold) • Python • Unix/Bash • Molecular Dynamics (NAMD) • Ligand docking • Membrane proteins • Detergents & lipids • Enzyme kinetics • HT assay • Western blot • Vector engineering (Geneious) • Gibson assembly • Bispecifics • Knob-in-holes • Cell culture • Protein expression

COURSEWORK

Advanced immunology
Cancer biochemistry
Microbiology & virology lab
Systemic physiology
Computational drug design
Biomolecular engineering
Data science boot camp (online)
Deep learning boot camp (online)
Rosetta workshop

EXPERIENCE

NGM BIOPHARMACEUTICALS | Scientist I, Protein Science
June 2022 - May 2023 | South San Francisco, CA
- Performed purification, formulation, QC, and developability assessment of proteins to support research operations at NGM
- Supported protein engineering efforts for novel, highly innovative antibody platform technologies
- Delivered developability assessments of late-stage therapeutic targets as part of ocular projects to facilitate collaboration with a major pharma company
- Optimized modular bispecific assembly and purification pipeline for early stage IND enabling immuneo-oncology research

WEISS ASSET MANAGEMENT | Consultant
March 2023 – Present | San Francisco, CA
- I support equity research in the biotech sector by reading background literature and assessing the technical viability of new drugs and technologies.

MARRONE BIO INNOVATIONS | Junior scientist
May 2013 – Aug 2013 | Mountain View, CA
- Performed natural products chemistry tasks, including extraction, purification, and fractionation of plant and microbial samples, and analysis of small molecules with techniques including HPLC, LCMS, GC, FT-IR, and NMR.

RESEARCH

FROMME LAB | Graduate student researcher
Aug 2016 – Nov 2021 | Center for Applied Structural Discovery, Biodesign Institute | Tempe, AZ
Highly independent structural biologist PhD student responsible for all aspects of experimental planning, execution, and analysis of multiple projects using cryo-EM and crystallography to study cancer, immunology, and virology.

BORAD LAB | Research affiliate
Mar 2020 – Dec 2021 | Mayo Clinic | Scottsdale, AZ
Co-lead scientist in ASU-Mayo-AstraZeneca collaboration, responsible for structural elucidation of AstraZeneca's Vaxzevria Covid-19 vaccine vector. Advised and supported several projects related to VSV virology and oncology.

SIEGEL LAB | Research assistant
Aug 2013 – Jun 2016 | UC Davis Genome Center | Davis, CA
Lead researcher mentoring a team of undergraduates using computational methods for rational enzyme engineering.

PUBLICATIONS

[1] A. T. Baker†, **Boyd, Ryan J.†**, D. Sarkar, et al. ChAdOx1 interacts with CAR and PF4 with implications for thrombosis with thrombocytopenia syndrome. *Science Advances*, 7(49):eabl8213, Dec. 2021.

[2] **Boyd, Ryan J.**, T. L. Olson, J. D. Zook, et al. Characterization and computational simulation of human Syx, a RhoGEF implicated in glioblastoma. *The FASEB Journal*, 36(7), July 2022.

[3] E. Wilson, J. Vant, J. Layton, **Boyd, Ryan J.**, et al. Large-Scale Molecular Dynamics Simulations of Cellular Compartments. In I. Schmidt-Krey and J. C. Gumbart, editors, *Structure and Function of Membrane Proteins*, volume 2302, pages 335–356. Springer US, New York, NY, 2021. Series Title: Methods in Molecular Biology.