LOMA LINDA UNIVERSITY
School of Medicine

SURF Mentors 2026*

Key:
💻 = computer-based (dry lab) projects
💻+✋ = projects have element of both bench (wet lab) and dry lab
✋ = predominantly bench (wet lab) projects
🐀 = projects may involve animal work or use animal tissues or cells

Anatomy

Kerby Oberg

The molecular basis of limb outgrowth, patterning, asymmetry, and regeneration. Examining cis-regulatory modules (non-coding DNA involved in regulating nearby target genes) involved with regulating the signaling centers that control the three axes of limb asymmetry. 💻+✋, 🐀 (chick embryos)

Nathan Wall

1) Investigating exosomal mediation of apoptosis inhibition in pediatric brain tumors by focusing on inhibitors of apoptosis proteins that are packaged and secreted under proton radiation. 💻+✋, +/-🐀
2) Leveraging small non-coding RNAs (miRNAs) as diagnostic biomarkers and therapeutic targets in pancreatic ductal adenocarcinoma. 💻+✋

Biochemistry

Danilo Boskovic

Perturbations of human platelet functions. How hemostatic responses are impacted by i) prior platelet exposure to inflammation or bacterial infection, and ii) washed platelets or platelet rich plasma in comparison to human whole blood. 💻+✋

Juli Unternarhrer

Stem cells that cause chemoresistance and recurrence of ovarian cancer. Using molecular biology and cell biology approaches to study the molecular pathways that make ovarian cancer cells more aggressive. 💻+✋

Biomedical Engineering Sciences

Reinhard Schulte

Using biomedical engineering methods to study the effects of radiation on biological systems:
1) Lactic acid radiosensitization of cardiac cells to understand mechanisms of radiation-induced cardiac injury and potential therapeutic strategies to mitigate them. 💻+✋
2) Using plasmid DNA exposed to X-rays, gamma rays, and protons exposed to base excision enzymes to study the clustering of damage. 💻+✋

Cancer Sciences

Christian Hurtz

Developing less-toxic, mechanism-based therapies to treat high-risk B-cell acute lymphoblastic leukemia. Projects combine CRISPR functional genomics, single-cell RNA-seq/ATAC-seq, metabolomics, and chromatin-targeted pharmacology with leukemia cell lines, patient samples, and in vivo patient-derived xenograft/mouse models to uncover subtype-specific vulnerabilities and rational drug combinations. 💻+🖐️, 🐁

Rameshwar Patil

Interventional treatment strategies for brain tumor treatment, including Boron Neutron Capture Therapy (BNCT) and targeted drug delivery using gold nanoparticles as well as polymers. 💻+🖐️, possibly 🐁

Pharmacology

Sean Wilson

1) Exploring the impact of stress on developmental regulation of various tissues, including the development of novel biomarkers in cardiovascular disease of the neonate. 💻+🖐️, 🐁 tissues
2) Using microscopy and computational biology to examine changes in cell signaling.💻+🖐️, 🐁 tissue
3) Exploring how a nationwide in-school cycling education program has positive impact on youth mental health and wellness.💻

Erik Behringer

Fundamental and therapeutic mechanisms underlying optimal brain perfusion and cognition throughout the entire lifespan. The primary disease interest is Alzheimer's disease and mechanistic/therapeutic targets include cerebrovascular K+ channels. Projects entail comprehensive molecular (e.g., transcriptome, metabolome), cellular (e.g., cellular electrophysiology, intracellular calcium imaging), and integrative (e.g., ultrasonography, behavior) analyses. 💻, 💻+🖐️, 🐁

Chris Wilson

Understanding the pathophysiology of preterm infants using animal models and human data to improve outcomes for preterm babies. 💻, 🖐️, 🐁

**You may list an alternative LLU faculty member on your SURF application if that faculty member has agreed to mentor you in the event that your SURF application is successful.*