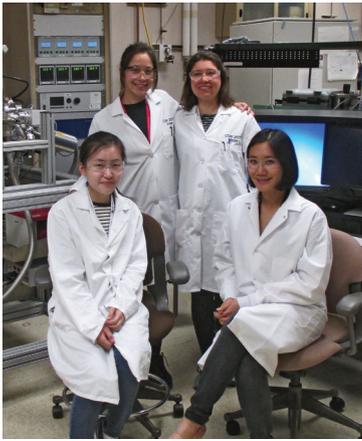


RESEARCH THAT MATTERS

Working with the guidance of biological sciences professor David Stachura, a small group of undergraduates and graduate students are attempting to make new blood from the cells of zebrafish. The goal is to make **scientific breakthroughs in progressive treatment for leukemia**, sickle cell anemia, and other blood disorders. But the team's year-round research in the Holt Hall lab could **go beyond the realm of potential cures**—like discovering how to make more of a person's own blood in a lab or hospital, which could nearly eliminate the need for blood donation.





Chemistry professor Monica So and three students spent summer 2017 at Sandia National Laboratories, where science and technology are used **to resolve the nation's most challenging security issues.** Her team is developing and testing coatings of graphene-like materials, similar to pencil lead, that are less than the width of a human hair and can be used in chemical sensors and electronics.

Communication studies professor Michelle Givertz has been featured internationally for her research on parental over-involvement during young adulthood. She focuses on the **impact of over-parenting on family relationships,** as well as potential consequences for the young adult. Her work helps advise parents how to provide support without smothering to guide children during the transition to adulthood.



Working with professor Garrett Liles, agriculture major Laura Boots is investigating the impact of incorporating walnut shell-based biochar into agricultural plantings. **Aiming to reduce waste and boost plant productivity,** Boots' research earned her second place in the undergraduate poster contest at the 2017 Annual California Plant and Soil Conference.

Funded by a grant from the Environmental Protection Agency, chemistry professor Lisa Ott is working on a cross-disciplinary project with chemistry, economics, and agriculture students to **develop new reusable and environmentally conscious solvents** and evaluate their usefulness as a value-added product in biodiesel.



Microbiology major Elizabeth Bianchini and Chico State virologist Troy Cline are in the middle of a multiyear project **identifying and characterizing avian influenza viruses** in migrating waterfowl. By studying strains of the H5N8 virus in ducks and other birds along the Pacific Flyway, they hope to prevent threats to human health and the US poultry industry.



Mechatronic engineering majors Derek Leen, Neil Rypka, and Daniel Perkins worked side by side with engineers from private practices, NASA, and the European Organization for Nuclear Research in the SpaceX Hyperloop Competition sponsored by Tesla Motors and SolarCity owner Elon Musk. Musk told the students he was "very impressed" with their **high-speed terrestrial transportation vehicle,** and they won the Innovation Award.

