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<td>Muffly, Matthew</td>
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<td>Pham, Trung</td>
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<td>Scaling and spreading the Stanford Children's Health Family Healthy Weight Program</td>
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<td>Rosen, Michael</td>
<td>Role of IL-13 receptor alpha 2 in fibroblasts in pediatric ulcerative colitis</td>
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<td>Russell, Christopher</td>
<td>Health disparities and caregiver stress in respiratory-related hospitalizations for children with medical complexity</td>
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<td>Simons, Laura</td>
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<td>Stevenson, David</td>
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<td>Sylvester, Karl</td>
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<td>Zhao, Moss</td>
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<td>Zuchero, Brad</td>
<td>Mechanisms of myelin tuning during development of the central nervous system</td>
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<tr>
<td>Wang, Nancy Ewen</td>
<td><em>NEW PROJECT ADDED</em> Hybrid type 1 Evaluation of Feasibility, Effectiveness, and Implementation of a community-based social service navigator for newcomer immigrant children and families</td>
</tr>
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DRIVE Faculty Mentor Project List

**Faculty Mentor:**
Dr. Ananta Addala

**Email:** aaddala@stanford.edu

**Project Title:**
Building Evidence to Address Disparities in T1D (BEAD-T1D)

**Keywords:** Type 1 diabetes; health equity; diabetes technology

**Project Description:**
Building the Evidence to Address Disparities in T1D (BEAD-T1D) aims to discover the drivers of disparities in diabetes technology use in youth with T1D and public insurance and develop a brief intervention, as a means to understand and address pediatric T1D disparities. This will be accomplished through 2 aims. In aim 1, focusing on the family, the study will construct and evidence base of barriers and promoters to diabetes technology use in youth with public insurance in order to formulate and test a brief pilot intervention aimed at increasing uptake. In aim 2, focusing on the providers, the study will construct the evidence base on barriers and promoters to recommending diabetes technology to youth with public insurance in order to formulate and test a brief pilot intervention to increase provider recommendation of diabetes technology. Taken together, findings from both aims will result in the development of an intervention aimed at increasing diabetes technology uptake and access in youth from low socioeconomic and racial/ethnic minority groups, thereby improving T1D outcomes.

Students will have the opportunity to gain skills in research coordination and data analysis, and learn about disparities in diabetes care. By the end of the program, students will A) improve their understanding of clinical research; B) participate in study activities such as outreach, recruitment, and focus group facilitation; C) support data collection and analysis; D) support manuscript publication; and E) influence protocol development and research practices for populations typically excluded from research and address disparities in clinical research.

**Additional Information:**
1. CAP Profile - [https://med.stanford.edu/profiles/ananta-addala](https://med.stanford.edu/profiles/ananta-addala)
2. Contact Lauren Figg, MSW (Research Manager) for questions or more information. Email: lefigg@stanford.edu
3. This project is heavily focused on diabetes health disparities, and we value the insight of individuals who can help us understand the lived experience of minoritized populations.
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<tr>
<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tbody>
<tr>
<td>Dr. Kanwaljeet Anand</td>
<td>Hair Biomarkers for Positive and Negative Experiences in Early Childhood</td>
</tr>
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</table>

*Email: anandam@stanford.edu*

**Keywords:** child development, adversity, disparities

**Project Description:**
Children admitted to hospital for severe illness, or traumatic injury, or surgery are exposed to scary experiences, or painful procedures, and parental separation – all of which cause severe stress among sick children. Previous studies found that exposures to severe stress in early life lead to life-long negative effects on a child’s health, brain development, and behaviors lasting for decades, even into adult life. Our biomarkers (hair cortisol and hair oxytocin) can define cumulative stress in young children, but we don’t know their values among normal, healthy children. Like the height, weight, or blood pressures checked in a doctor’s office, these biomarkers have different values in children of different ages, genders, or racial/ethnic groups. From 1200 preschool children and their parents, we will obtain hair samples painlessly by cutting the hair close to the scalp and also survey the parents about themselves, their child’s development, and their family environment. This study will help establish normative ranges for these biomarkers at ages 9 to 72 months, thereby helping us to define the degrees of stress occurring among hospitalized children or in special populations of children exposed to adversity (like war, famine, natural disasters, poverty, domestic violence, physical or mental abuse, homelessness, etc.).

**Additional Information:**
[https://childwellness.stanford.edu/](https://childwellness.stanford.edu/)
DRIVE Faculty Mentor Project List

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<tr>
<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tbody>
<tr>
<td>Dr. Suzan Carmichael</td>
<td><strong>Severe maternal morbidities: Population-based research to identify causes and prevent disparities</strong></td>
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*Email:* suzanc@stanford.edu

<table>
<thead>
<tr>
<th>Keywords:</th>
<th>Project Description:</th>
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</thead>
<tbody>
<tr>
<td>maternal health, pregnancy, health equity</td>
<td>We conduct population-level research on severe maternal morbidities (SMM includes conditions and procedures that identify people most at risk of maternal mortality, such as postpartum hemorrhage and sepsis). We are focused on understanding what drives disparities, including societal-structural determinants, care, and clinical conditions, and also focused on finding prevention strategies. Multiple grants support this work, providing multiple opportunities for learning about research, eg, epidemiology, data analysis, quality improvement interventions (to improve care), and projects related to community engagement and dissemination of results.</td>
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<th>Additional Information:</th>
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<td><a href="https://med.stanford.edu/carmichaellab.html">https://med.stanford.edu/carmichaellab.html</a></td>
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<tr>
<td>Dr. Stephanie Chao</td>
<td>P.L.E.D.G.E. campaign to reduce gun violence in kids through school-based education</td>
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</table>

**Email:** sdchao1@stanford.edu  
**Keywords:** firearms/guns, primary prevention, child health

**Project Description:**
Firearms are the leading cause of death among US children and adolescents. Guns kill over 4,000 children and account for nearly 18,000 non-fatal traumatic injuries in children yearly. This surpasses mortality from car accidents and childhood cancer. Annual pediatric death rates from guns continue to rise. This is due, in part, to the gross disproportionate widespread gun availability in the US. While accounting for only 4% of the global population, the US possesses 50% of the world’s civilian guns. Research to date has focused on: (1) describing the scope of the firearms epidemic, and (2) the efficacy of gun regulation. Methods for primary prevention of pediatric firearm injuries are less studied. Decreasing demand for gun ownership is also less studied. Our long-term goal is to focus on childhood education to reduce firearm injury. In turn, change the generational mindset around firearm ownership. We have started to develop the P.L.E.D.G.E. campaign to reduce firearm injury through school-based education. In this phase our focus is to gather input from students, parents, and teachers about a school-based firearm safety education curriculum. In the next phase, we plan to create working groups to develop the core principles of our curriculum. Working groups will include school officers, law enforcements, psychologists, pediatricians, and behavioral scientists.

**Specific Aims:**
- Describe high school students’ knowledge, experience, and buy-in with firearm safety education.
- Gather parents’ concerns, wishes, and values about firearm safety education.
- Understand experts’ priorities and experiences with firearm safety education.

**Additional Information:**
chaolab.stanford.edu  
[https://profiles.stanford.edu/stephanie-chao](https://profiles.stanford.edu/stephanie-chao)
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<th>Faculty Mentor:</th>
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<tr>
<td>Dr. Valerie Chock</td>
<td>Tissue oxygenation monitoring in the neonate</td>
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</table>

*Email: vchock@stanford.edu*

*Keywords: neonate, monitoring, oxygen*

**Project Description:**
Monitoring of tissue oxygen levels in a newborn provides important information about critically ill babies in the neonatal intensive care unit. The NeuroNICU at Stanford coordinates non-invasive monitoring of brain and somatic tissue with a goal of utilizing this information to improve neurodevelopmental outcomes in babies. We have several ongoing projects in the area of neuromonitoring including assessment of babies after birth asphyxia undergoing therapeutic hypothermia, babies with congenital heart disease, and premature infants. Analyzing the brain and somatic tissue oxygen levels in these critically ill babies along with risk factors and outcomes from their medical records will help with development of care guidelines. Learning objectives and skill/training from this project include:

1. Develop knowledge of tissue oxygenation monitoring and its use in the newborn
2. Understand acquisition of data from the medical record
3. Develop database management skills
4. Develop data processing and validation skills
5. Develop basic statistical summary skills
6. Project presentation and written summarization of data

**Additional Information:**
- [https://neonatology.stanford.edu/Clinical-Care/NeuroNICU.html#NIRS](https://neonatology.stanford.edu/Clinical-Care/NeuroNICU.html#NIRS)
- [https://www.neocardiolab.com/neonatal-nirs-consortium](https://www.neocardiolab.com/neonatal-nirs-consortium)
- [https://profiles.stanford.edu/intranet/valerie-chock](https://profiles.stanford.edu/intranet/valerie-chock)
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<th>Faculty Mentor: Dr. Ruben Colman</th>
<th>Project Title: Microbial Predictors to Optimize Therapies for Children with Crohn's Disease</th>
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<tbody>
<tr>
<td>Email: <a href="mailto:rcolman@stanford.edu">rcolman@stanford.edu</a></td>
<td>Keywords: Crohn's disease; microbiome; ultrasound</td>
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**Project Description:**
Crohn's disease (CD) is an inflammatory disease that can affect the entire gastrointestinal GI tract and progressively worsens throughout life. There are only a limited number of therapeutic options for children with CD. Our lab evaluates ways to optimize therapies for children with Crohn's disease by leveraging microbial/metabolite predictors to better guide therapeutic dosing. Objectives for this project include: 1. Gain familiarity about Crohn's disease, pathology, and treatment mechanisms. 2. Explore clinical and microbiome/metabolomics data to further optimize therapies such as infliximab. 3. Evaluate a novel endpoint of transmural healing (healing throughout the bowel) assessed by intestinal ultrasound for Crohn's disease.

**Additional Information:**
https://med.stanford.edu/profiles/ruben-colman
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<td>Dr. Gary Darmstadt</td>
<td>Impact of topical emollient therapy on survival and health of very low birthweight infants</td>
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</table>

**Keywords:** Newborn health, Global health, Maternal and child health

**Project Description:**
Up to 30% of newborn deaths in low- and middle-income countries (LMICs) in sub-Saharan Africa and South Asia occur in very low birthweight (VLBW, <1500 g) infants. The skin is the infant’s largest organ and plays a vital role in survival and health. The skin barrier is developmentally compromised in VLBW infants, posing risks for transepidermal loss of water and energy, growth faltering, systemic infection, impaired neurodevelopment, and death. Oil massage of newborns is a widespread practice globally, yet in studies using mouse models of human infant skin, all selected local products routinely applied to newborn infants in LMICs have shown harmful effects. In contrast, high-linoleate (>60%) sunflower seed oil (SSO) enhances skin barrier function.
Clinical trials of therapy with SSO for VLBW neonates in LMICs have shown improved skin barrier function, enhanced growth, and reduced risk for bloodstream infections (sepsis). The World Health Organization has recommended that the use of sunflower seed oil in the care of preterm or low birthweight infants be considered, but has also asked for further trials to assess the impacts, especially on mortality and on the development of the microbiome.

Dr. Darmstadt is in the process of launching three trials to test the impact of emollient therapy on survival, growth, serious infections, and skin barrier integrity in hospitalized, very low birthweight infants in Zimbabwe, Uganda and India. A proposal is under review which would also enable assessment of effects on the microbiome. The DRIVE student will work with Dr Darmstadt and with teams at the study sites to launch and monitor the studies.

**Additional Information:**
There is the potential to work on trials with similar designs to test the health benefits of topical emollient therapy for very low birth weight infants in Zimbabwe, Uganda and India.
My Stanford CAP profile provides information on my background and areas of research focus:
https://profiles.stanford.edu/gary-darmstadt

The diversity of research that I conduct and publish can be seen at PubMed:
https://pubmed.ncbi.nlm.nih.gov/?term=darmstadt+g&sort=date
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<tr>
<td>Dr. Elizabeth Egan</td>
<td>Host-pathogen interactions in malaria</td>
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</table>

*Email: eegan@stanford.edu*

**Keywords:** Malaria, host-pathogen interactions, microbiology

**Project Description:**
The research in our laboratory focuses on the disease malaria, which is caused by the eukaryotic parasite Plasmodium falciparum. This parasite exclusively infects human red blood cells, and studies have demonstrated that human variation in red blood cells can impact disease outcome. We have identified a number of critical red blood cell host factors for malaria through genetic screens using red blood cells derived from stem cells. In this project, we aim to investigate the precise stage of the parasite invasion process that is affected by one of these host factors, CD44. We will use live cell imaging of parasite invasion in the presence of anti-Cd44 antibodies to advance our understanding of the role of CD44 during infection. We will also investigate the parasite ligands that interact with CD44 to promote invasion. Through this project, the student will work with a postdoc or graduate student in the lab and gain experience in basic laboratory techniques, tissue culture, microscopy, genetic techniques, and image analysis.

**Additional Information:**
eganlab.stanford.edu
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<th>Faculty Mentor:</th>
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<tr>
<td>Dr. Heidi Feldman</td>
<td>Project AFECT</td>
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</table>

**Email:** hfeldman@stanford.edu  
**Keywords:** autism, patient navigation, parental efficacy

**Project Description:**  
Families of children with autism face many challenges immediately after their children receive the diagnosis. They must understand the condition, modify their parenting, and locate therapeutic services in the community to support their children's development. The challenges are particularly acute for families from marginalized and under-resourced communities, who depend on Medi-Cal insurance and who speak a language other than English at home. PROJECT AFECT provides coach-navigation for these families at this challenging juncture. The associated research project assesses whether coaching and navigation reduce parental stress, increase parental efficacy, and support the children's language development. Participating students will assist in identifying eligible participants, obtaining informed consent, entering data into an existing database, completing a literature review about patient navigation, and monitoring the participants' use of various resources provided as part of coaching. Participants will be able to witness how families adjust to the diagnosis and to support them in this process.

**Additional Information:**  
Website -- [https://dbpeds.stanford.edu/community-service/project-afect.html](https://dbpeds.stanford.edu/community-service/project-affect.html)  
CAP profile -- [https://profiles.stanford.edu/heidi-feldman](https://profiles.stanford.edu/heidi-feldman)  
Please reach out to me or to Ingrid Lin MD  
The kinds of materials we introduce parents to:  
[https://helpisinyourhands.org/course](https://helpisinyourhands.org/course) and its companion course in Spanish
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<tr>
<td>Dr. Heidi Feldman</td>
<td>PRELUDES: PREterm LangUage DEvelopment Study</td>
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</table>

**Email:** hfeldman@stanford.edu

**Keywords:** prematurity, neuroimaging, neurodevelopmental outcomes

**Project Description:**
This prospective, longitudinal study follows primarily English- and primarily Spanish-speaking children born preterm from birth to 18 months of age (corrected for prematurity) to explore the unique and overlapping contributions of social-environmental and neurobiological factors on the development of language processing efficiency, a skill with short- and long-term consequences for learning. Social-environmental predictors are assessed through day-long naturalistic audio recordings and laboratory observations of caregiver-child interactions while neurobiological predictors are measures of brain white matter, assessed through two complementary methods of structural neuroimaging. The results will contribute to our theoretical understanding of the pathogenesis of impairment after preterm birth and to identification of targets and strategies for intervention in infancy to improve long-term language outcomes in this and other at-risk populations.

**Additional Information:**
[https://profiles.stanford.edu/heidi-feldman](https://profiles.stanford.edu/heidi-feldman)
DRIVE Faculty Mentor Project List

**Faculty Mentor:**
Dr. Jennifer Frankovich

**Email:** jfranko@stanford.edu

**Project Title:**
Evaluating predictive factors for the clinical course of psychiatric symptoms in patients with PANS/PANS-related illness

**Keywords:** Autoimmune Psychiatry, OCD, PANS

**Project Description:**
PANS (Pediatric Acute-onset Neuropsychiatric Syndrome) is characterized by “overnight” onset of obsessive-compulsive disorder and/or eating restriction accompanied by other equally abrupt and severely debilitating neuropsychiatric symptoms. Children who develop PANS can become extremely ill with destructive rage outbursts, debilitating compulsions, abnormal movements, profound cognitive difficulties, inattention, etc. While no one biological marker for PANS has been identified, signs of brain pathology have been found including movements during REM sleep (a predictor of Parkinson’s disease), autoantibodies to cholinergic interneurons, and brain imaging findings (volumetric, PET, and DWI) all of which point to involvement of the basal ganglia as a likely the target structure for this disease. We recently discovered a strong HLA BW4 association in our PANS cohort, which points to the role of autoimmunity in this disease. Further supporting a role for autoimmunity, patients with PANS appear to have a high rate of developing arthritis and other autoimmune diseases.

This project will require review of electronic medical records to abstract clinical data including infection signs/symptoms/lab markers, medications, and psychiatric symptoms. The student will be supervised by a clinician/program director (Dr. Frankovich), a research data operations manager (Meredith Vandermeer, MPH, PMP), and a clinical research assistant (Mikayla Ellis, MPH).

Most of the data collection will be conducted at our clinical research office (Stanford Barn, 700 Welch Rd across from the Stanford Children’s Hospital) and, if space allows, we will invite the student to join us in our clinic at 321 Middlefield, Menlo Park.

**Additional Information:**
1) https://med.stanford.edu/pans.html
2) https://profiles.stanford.edu/jennifer-frankovich
3) our program manager, Jacquelyn Horgan jhorgan@stanford.edu
Faculty Mentor:  
Dr. William Giardino  

Email: willgiar@stanford.edu  

Project Title:  
Neurobiological Mechanisms of Maternal Separation Stress Effects on Anxiety Behavior and Binge Alcohol Drinking  

Keywords: Neuroscience, Stress, Amygdala  

Project Description:  
Women are disproportionately at risk for co-morbid diagnosis of alcohol use disorder together with an anxiety disorder, and childhood neglect is linked to increased risk for alcohol dependence—particularly among women. Despite these correlations, demonstration of causality requires controlled studies that can precisely untangle biobehavioral relationships between early life stress and adult mental health. However, the brain mechanisms underlying sex differences in the effects of childhood stress on emotional regulation and motivated behaviors remain mostly unknown. For these reasons, our project explores a mouse model of early life stress to causally determine the sex-specific impacts of early life adversity on the stress response and reward-seeking behavior in adulthood. Our experiments will use rigorously controlled animal models of anxiety and addiction with a focus on sexually dimorphic emotional brain circuits of the extended amygdala to identify the neural basis of psychiatric conditions resulting from a deleterious maternal environment. Student’s learning objectives and training/skills development include:  
- Hands-on experience collecting data from mouse behavioral experiments aimed at understanding anxiety and addiction  
- Immunohistochemical staining and confocal microscopy of mouse brain samples  
- Develop programming skills (Python & MATLAB)  
- Gain proficiency of the scientific literature on the topics of: neurobiology of stress, developmental influences on addiction, and sex difference  
- Utilize fully-automated pipelines for quantifying fluorescent microscop images, behavioral assays, and neurophysiological recordings  

Additional Information:  
1) https://giardinolab.org  
2) https://profiles.stanford.edu/william-giardino  
3) Students can contact me directly: willgiar@stanford.edu  
4) Requires working hands-on with mice
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<tr>
<td>Dr. Anna Gloyn</td>
<td>Investigating genetic causes of beta-cell dysfunction in diabetes</td>
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*Email: agloyn@stanford.edu*

**Keywords:** Diabetes, human genetics, Islet biology

**Project Description:**
The student will have the opportunity to be part of the Translational Genomics of Diabetes Lab team and to work on a project investigating the impact of DNA variants associated with diabetes risk on pancreatic islet function.

During the internship students will become familiar with cell culture and assays to determine transcript (RNA) and protein abundance (western blot) and hormone secretion (ELISA). Students will be able to work on model systems for understanding islet-cell function including human primary tissue, rodent models of diabetes and stem cells.

**Additional Information:**
[https://profiles.stanford.edu/anna-gloyn](https://profiles.stanford.edu/anna-gloyn)
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<th>Faculty Mentor:</th>
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<tr>
<td>Dr. Bonnie Halpern-Felsher</td>
<td>Understanding and preventing adolescent and young adult substance use</td>
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Email: bonnie.halpernfelsher@stanford.edu

**Keywords:** substance use prevention, adolescence, policies, surveys, statistical analyses

**Project Description:**
The REACH Lab examines rates and predictors of adolescent and young adult substance use, including vaping and cannabis use. We conduct large surveys and then analyze the data for publication but also use the data to inform prevention/education and intervention programs and policies.
The DRIVE student will learn:
- how to use R, a statistical program, to analyze data
- how to inform interventions and policies
- participate in prevention and intervention development and evaluation

**Additional Information:**
Lab website: [https://med.stanford.edu/halpern-felsher-reach-lab](https://med.stanford.edu/halpern-felsher-reach-lab)
PI Profile: [https://profiles.stanford.edu/bonnie-halpern-felsher](https://profiles.stanford.edu/bonnie-halpern-felsher)
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<th>Faculty Mentor:</th>
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<tr>
<td>Dr. Josh Knowles</td>
<td>Insulin resistance genes and heart disease</td>
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**Email:** knowlej@stanford.edu

<table>
<thead>
<tr>
<th>Keywords:</th>
<th>-Diabetes, heart disease, genetics</th>
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**Project Description:**
Our lab is focused on understanding the inherited basis of cardiovascular disease, which is the leading cause of death worldwide. We are specifically interested in the insulin resistance (a necessary precursor for the development of type 2 diabetes and a major cardiovascular risk factor). Insulin resistance is largely genetically determined and disproportionately affects non-White populations. It is also increasingly becoming a problem in children and adolescents due to lifestyle changes. The summer project would involve working with senior scientists and postdoctoral fellows using in vitro (cell lines) and in vivo (mouse) to study likely insulin resistance genes we have identified using advanced genetic techniques.

**Additional Information:**
[https://med.stanford.edu/knowleslab.html](https://med.stanford.edu/knowleslab.html)
[https://med.stanford.edu/profiles/joshua-knowles](https://med.stanford.edu/profiles/joshua-knowles)
Faculty Mentor: Dr. Michael Lin

Project Title: Developing next-generation medicines to protect mothers and infants from coronaviral infections

Keywords: COVID-19, pharmacology, biochemistry

Project Description:
Developing next-generation medicines to protect mothers and infants from coronaviral infections
Pregnant mothers are at high risk for severe disease outcomes from SARSCoV2 (COVID19) infections, including hospitalization and ventilation. In addition, SARSCoV2 infection in pregnancy increases the risk of pre-eclampsia premature birth, and infants with SARSCoV2 are at higher risk for hospitalization than children of older ages. Thus to protect the health of pregnant mothers and newborns, safe and efficacious antiviral medications are crucial. However, existing approved drugs are either mutagenic or interfere with the proper metabolism of other drugs and reproductive hormones.
We have developed new oral SARSCoV2 inhibitors that are more effective than existing drugs, and are modifying these lead compounds to reduce interference with drug/hormone metabolism. The DRIVE student can assist on this project by measuring the activity of our newest drugs against the viral enzyme target, generating crystals of protein-drug complexes for the determination of atomic structures, and arranging tests of genotoxicity and drug-drug interactions with collaborating labs.
The student is expected to learn biochemical enzymatic assays, protein purification, protein structural visualization, and collaborative project management.

Additional Information:
The Lin Lab website is linlab.stanford.edu
DRIVE Faculty Mentor Project List

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<tr>
<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tbody>
<tr>
<td>Dr. Rishi Mediratta</td>
<td>Validating Pediatric Respiratory Distress Curriculum</td>
</tr>
</tbody>
</table>

*Email: rishimd@stanford.edu*

**Keywords:** Global health, pediatrics

**Project Description:**
Pediatric respiratory distress is the top cause of pediatric emergency department visits in the U.S., especially among black and infants of color. No scalable and sustainable online curricula exist for teaching providers how to identify pediatric respiratory distress.

The PI led a team of undergraduates and pediatricians at Stanford University and collaborated with experts from various medical fields and global health practitioners in Ethiopia to create an instructional video curriculum on pediatric respiratory distress using real cases. Six videos were created: overview, fast breathing, retractions, nasal flaring/head bobbing/cyanosis, grunting, and airway obstruction.

Our project initiates a collaboration between pediatric educators, psychometricians, biostatisticians, trainees, and global health practitioners. By generating face, context, and construct validity among different types of providers in the U.S. and globally, the project promotes an inclusive learning setting. By helping providers identify clinical signs and symptoms that occur frequently among minority infants domestically and worldwide, we confront racial inequities in medical education. After watching the instructional videos, providers should be better equipped to identify pediatric respiratory distress and teach parents to recognize it too. Validating a tool about knowledge, self-efficacy, and attitudes will support the dissemination of our curriculum. The online, open-access, and realistic cases included in our videos contribute to the impact and sustainability of our project.

**Additional Information:**
<table>
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<tr>
<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tbody>
<tr>
<td>Dr. Elizabeth Mellins</td>
<td>Investigating brain-homing monocytes in Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS)</td>
</tr>
</tbody>
</table>

Email: mellins@stanford.edu

**Keywords:** Immunology, inflammation, neuropsychiatry

**Project Description:**

Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS) is characterized by the sudden onset of neuropsychiatric symptoms including obsessions/compulsions or food restrictions. PANS is commonly observed after infection (e.g., group A streptococcus or influenza), suggesting that an immune response, first triggered against infection, is likely involved in developing PANS. We have identified a novel, brain-homing human monocyte subset in the peripheral blood that can be found in the cerebral spinal fluid during flares of PANS. These cells have immunoregulatory properties based on the profile of the cytokines they produce. Normal monocytes can be induced to express surface protein markers of this brain-homing subset by exposure to plasma from active (flaring) PANS patients. The student’s project will investigate (1) the function of monocytes exposed to PANS plasma using in vitro assays and (2) the regulation of these cells development using transcriptional and proteomic approaches. These studies will advance the potential use of these monocytes in new therapeutic strategies for PANS and possibly other neuro-inflammatory diseases. The overall goal for the student is to be trained to conduct laboratory-based research. The student will learn how to perform independent research, from generating initial hypotheses and designing experiments to test them, experimental execution, analysis of results, writing a report and presentation of their research. The student will acquire skills in laboratory research (tissue culture, RNA and protein analysis related procedures), data analysis, how to perform literature review, write a scientific report and present their research to a peer audience.

**Additional Information:**

[https://profiles.stanford.edu/elizabeth-mellins](https://profiles.stanford.edu/elizabeth-mellins)
# DRIVE Faculty Mentor Project List

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<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tbody>
<tr>
<td>Dr. Matthew Muffly</td>
<td><strong>Tracheal Acoustic Monitoring for the Detection of Respiratory Airflow</strong></td>
</tr>
</tbody>
</table>

**Email:** mmuffly@stanford.edu

**Keywords:** Machine Learning, Novel Device Design, Operating Room

**Project Description:**
We are developing a wearable device to convert breath sounds heard over the neck into a visual waveform of breathing. We envision this device being used in the operating room during cases where monitoring exhaled CO2 is not reliable or possible. The student(s) would be responsible for using the prototype device to gather breath sound recordings of children undergoing various procedures in the operating room and in the preoperative setting. The breath sound recordings will then be used to train a machine learning algorithm to recognize breaths in various settings.

**Additional Information:**
1. [https://med.stanford.edu/profiles/matthew-muffly](https://med.stanford.edu/profiles/matthew-muffly)
2. The student can contact me directly.
<table>
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<tr>
<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tbody>
<tr>
<td>Dr. Anca Pasca</td>
<td>Identification of neuroprotectives for hypoxic brain injury</td>
</tr>
</tbody>
</table>

**Email:** apasca@stanford.edu

**Keywords:** brain, hypoxia, drug development

**Project Description:**
Our lab studies hypoxic brain injury in the neonatal period, with the goal of identifying new therapies. We are using brain organoids derived from stem cells to understand how different cell types respond to hypoxic stress using multi-omics approaches and which drugs improve cell survival and function. We have funding from multiple sources, including MCHRI, Dunlevie Center, NIH, and the Bill and Melinda Gates Foundation.

**Additional Information:**
- [www.neopascalab.org](http://www.neopascalab.org)
- [https://profiles.stanford.edu/anca-pasca](https://profiles.stanford.edu/anca-pasca)
### DRIVE Faculty Mentor Project List

**Faculty Mentor:**  
Dr. Anisha Patel  
*Email: anipatel@stanford.edu*

**Project Title:**  
Healthy Drinks, Healthy Futures

**Keywords:** children, nutrition, policy

**Project Description:**  
Sugar-sweetened beverages (SSBs) are a major source of added sugar and calories, and promote obesity and poor cardiometabolic health, especially when consumed during early childhood. Childcare centers, which serve 12.5 million children per year, provide an efficient way to intervene early by engaging childcare providers and parents to make resonant, mutually reinforcing changes in both the home and childcare environment. Interventions that promote water consumption in place of SSBs have shown promise for preventing childhood obesity in schoolchildren. Yet, no studies have examined whether interventions to promote intake of water instead of SSBs in childcare could prevent childhood obesity at an even earlier stage of development. The proposed cluster-randomized controlled trial will test the efficacy of an intervention called Healthy Drinks, Healthy Futures (Bebidas Saludables, Futuros Saludables) that is culturally adapted for Latino children and families. The intervention supports complementary changes in the childcare and home food environments that promote water consumption while reducing SSB availability. This is combined with education for childcare providers and children, and a one-on-one brief motivational counseling intervention with parents to reduce SSB intake and encourage water consumption in the home. Fourteen childcare centers serving low-income, predominately Latino children (n=420) will participate in this trial. The primary outcome is child BMI z-score (BMI standard deviation score). Key secondary outcomes are intake of water and beverage calories at centers and at home. If shown to be effective, the Healthy Drinks, Healthy Futures intervention will offer a strategy for intervening early to prevent obesity for millions of low-income children attending childcare centers. Students in the DRIVE program will learn about participatory research, child nutrition, public health and a clinician-scientist path. The student will also gain skills in literature review, data collection with families, data entry, data cleaning, data analysis, and dissemination of research for impact.

In addition to this study, our team is also working on other studies related to healthy beverages in schools and improving school meal programs in the San Joaquin Valley. See study team website for additional projects: [https://researchinchildhealth.org/](https://researchinchildhealth.org/)

**Additional Information:**  
Please visit our website Partnerships for Research in Child Health to learn more about our team and this project: [https://researchinchildhealth.org/healthydrinks](https://researchinchildhealth.org/healthydrinks)
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<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tr>
<td>Dr. Trung Pham</td>
<td>Tissue Immunity and Immunophysiology During Persistent Infection</td>
</tr>
</tbody>
</table>

**Email:** tpham8@stanford.edu

**Keywords:** immunology, infectious diseases, tissue physiology

**Project Description:**
The immune system safeguards the health of complex organisms by rapidly eliminating invading pathogens, curbing infection-induced tissue disruptions, and maintaining tissue homeostasis. Many bacterial pathogens evade host antimicrobial mechanisms and persist in infected tissues for long periods of time even in the presence of innate and adaptive immune resistance. During persistent infection, the immune system simultaneously orchestrates antimicrobial responses to contain the pathogen, repairs damaged tissue, regulates nutrient resources, and maintains other tissue physiologic functions to ensure host survival. Failure of these tasks leads to uncontrolled infection, devastating disease, and even death. The goals of our research are to understand:

1) What are the innate and adaptive immune cellular mechanisms that contain pathogens during persistent infection?
2) How are tissue physiological functions, such as tissue repair and nutrient regulation, maintained during persistent infection?
3) How do pathogens survive innate and adaptive antimicrobial mechanisms in infected tissues?
4) How does persistent infection impact host immunity to secondary infections of a similar or different pathogen?

Through investigating these fundamental questions, we may be able to decode the underlying cellular and molecular mechanisms that can be harnessed to eradicate infections and help restore health after an infectious attack. We employ animal infection models and bring together immunology, tissue biology, microbiology, and genetics to uncover the mechanisms of tissue immunity and immunophysiology during persistent infection from the molecular to organismal level.

**Additional Information:**
1) http://trungphamlab.su.domains
2) https://profiles.stanford.edu/trung-pham
3) The student should contact me directly
4) In some experiments in the lab, we use mice as a study model. The student may not work with mice but should be aware that they may see others work with mice in the lab.
### DRIVE Faculty Mentor Project List

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<tr>
<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tr>
<td>Dr. Jochen Profit</td>
<td>Revealing and Resolving Institutional Racism in the NICU</td>
</tr>
</tbody>
</table>

**Email:** Profit@stanford.edu

**Keywords:** Equity, neonatal outcomes

**Project Description:**
Poor Black and Hispanic preterm infants often receive care in newborn intensive care units (NICUs) in safety net hospitals. These NICUs tend to have worse performance than those in better resourced hospitals. The student will participate in a systematic review of literature surrounding safety net hospital performance specifically focusing on leadership and neonatal outcomes. The student's learning objective will include content expertise around the study question as well as exposure to the formulate study questions to address these issues in a quality improvement prospective. The student will be included in the normal dry lab activities as well as participate in our breastmilk feeding quality improvement collaborative (QIC) where they can learn the inner workings of a QIC. This work is part of an NIH R01 award.

**Additional Information:**
- https://med.stanford.edu/profiles/jochen-profit
- https://med.stanford.edu/profitlab.html
Faculty Mentor: Dr. Tawna Roberts

Email: tawnar@stanford.edu

Project Title: Vision Development in Infants at Risk for Strabismus

Keywords: Human vision development, eye movements, pediatrics

Project Description:
Babies are born with poor vision that rapidly improves during the first year of life. Over the course of the first year, infants gradually learn to use their eyes together. Some babies, however, do not achieve normal binocular vision and develop vision disorders such as strabismus (eye misalignment) later in childhood. Although it is known that significant hyperopia (farsightedness) in infancy represents a risk factor for later strabismus, the underlying mechanisms remain unclear. To better understand vision development in infants with and without hyperopia, we study both the oculomotor system – measuring accommodation (eye focusing) and vergence (eye teaming) using photorefraction – and the visual sensory system – measuring activity in the visual brain areas using visual evoked potentials (VEP).

Two students will be working with other lab members and vision scientists to collect data from 3- and 8-month-old infants and contribute to completing data collection of this multi-year study. One summer project will focus on the oculomotor system by collecting accommodative and vergence responses from infants. The other summer project will focus on collecting VEP data. Both projects will provide the opportunity to gain theoretical foundations about vision development processes in early life, acquire hands-on research experience in conducting prospective human infant research, experience using eye movement recording techniques, and learn about data processing and analysis procedures for photorefraction (project 1) and VEP (project 2). Students will collaborate with other team members, take part in weekly team meetings, and attend the departmental vision science seminars as part of wider learning.

Additional Information:
For more information, visit https://profiles.stanford.edu/tawna-roberts
Interested students can contact Jen Haensel jhaensel@stanford.edu for questions and further information.
### DRIVE Faculty Mentor Project List

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<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tr>
<td>Dr. Thomas Robinson</td>
<td>The effects of adolescents' smartphone use on health and well-being: Screenomics</td>
</tr>
</tbody>
</table>

**Email:** tom.robinson@stanford.edu

**Keywords:** technology, data science, health & well-being

**Project Description:**
More and more of an adolescent's life is experienced on their smartphone. This project is providing the first-ever comprehensive characterization of adolescents' experiences on their smartphones, and relationships with their health and well-being. We have developed a novel method to capture everything that appears on teens' smartphone screens – a fully encrypted record of digital life – by unobtrusively taking a snapshot of those screens every 5 seconds the devices are on. The resulting sequence of screenshots, constitute an individual’s “screenome,” the unique, detailed structure of which can inform precision interventions and policy initiatives to improve health and well-being. We are collecting smartphone screenshots and health measures from a national sample of adolescents (13-17 years, approximately 50% low-income and/or racial/ethnic minority). Students will help develop new taxonomies for the health related content, context, functions and timing on adolescents’ smartphone screens (in text and images), drawing from theory and descriptions in other media (television, movies, print) and from inductive analysis of screenomes. Roles can vary from data management and statistical analysis to machine learning, based on the student's specific skills and interests. Opportunities to also learn from a team of graduate students, postdocs and additional faculty. Computational skills (e.g., python, R, json, cloud computing) are a plus but not required.

**Additional Information:**
[https://profiles.stanford.edu/thomas-robinson](https://profiles.stanford.edu/thomas-robinson)
[https://screenomics.stanford.edu](https://screenomics.stanford.edu)

Desire a highly motivated student eager to expand their knowledge and skill set. The summer project can be tailored to the specific skills and interests of the student. Opportunities (and encouragement) for continuing research after the summer.
**DRIVE Faculty Mentor Project List**

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<tr>
<th>Faculty Mentor:</th>
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<tbody>
<tr>
<td>Dr. Thomas Robinson</td>
<td>Scaling and spreading the Stanford Children's Health Family Healthy Weight Program</td>
</tr>
</tbody>
</table>

*Email: tom.robinson@stanford.edu

**Keywords:** obesity, nutrition, public health

**Project Description:**
The Stanford Children’s Family Healthy Weight Program uses technology, behavioral science, biodesign, and implementation science, to make effective weight control more feasible, cost-effective and equitably available for all children with obesity throughout the US. Obesity is one of the most significant burdens to our nation’s health and health care. This program is a first-of-its-kind, online, comprehensive program enabling any health care professional, hospital, clinic, public health agency, medical insurer, employer or other interested organization to deliver a state-of-the-art pediatric weight management program for their patients and families, members, employees, and/or community.

The student will receive hands-on learning about behavior change, implementation science and public health program evaluation. Emphases can vary from direct interaction with potential partner/provider organizations to curriculum development to data management and analytics to social media marketing, depending on the skills and interests of the student. Familiarity with and/or interest in learning to use Qualtrics, REDCap and/or R, are a plus but not required.

**Additional Information:**
http://med.stanford.edu/solutions.html
https://profiles.stanford.edu/thomas-robinson

We desire a highly motivated student eager to expand their knowledge and skill set. The summer project can be tailored to the specific skills and interests of the student. Opportunities (and encouragement) for continuing research after the summer.
**DRIVE Faculty Mentor Project List**

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<th>Faculty Mentor:</th>
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<tr>
<td>Dr. Michael Rosen</td>
<td>Role of IL-13 receptor alpha 2 in fibroblasts in pediatric ulcerative colitis</td>
</tr>
</tbody>
</table>

*Email: rosenm@stanford.edu*  
*Keywords:* digestive disease, immunology, pediatrics

**Project Description:**  
Ulcerative colitis is a chronic inflammatory disorder of the large intestine and affects over 50,000 children in the United States. The disease causes severe abdominal pain, malnutrition, and diarrhea and leads to substantial decreased quality of life when not adequately treated. IL13RA2 is one of the most upregulated genes in the tissue of pediatric patients with UC and its expression is associated with more severe disease and poor long term outcomes. However, little is known about how it drives inflammation. It is expressed mostly on cells called inflammatory fibroblasts. The student would work with genetically manipulated cell lines and cells from patients with UC and perform experiments to understand how IL13RA2 regulates the function of inflammatory fibroblasts to drive intestinal inflammation. Techniques learned may include, but are not limited to, tissue culture, real time qPCR, western blot, ELISA, and microscopy.

**Additional Information:**  
Students can contact my assistant Alexandra Lauzardo <lauzardo@stanford.edu> to schedule a meeting.  
https://profiles.stanford.edu/266447  
https://med.stanford.edu/ibd-celiac-disease.html
DRIVE Faculty Mentor Project List

Faculty Mentor:  
Dr. Christopher Russell  
Email: cjruess@stanford.edu

Project Title:  
Health disparities and caregiver stress in respiratory-related hospitalizations for children with medical complexity

Keywords: pediatrics, health disparities/equity, clinical research

Project Description:  
Most children with medical complexity receive medical care at home, the preferred long-term clinical care setting for children. At home, caregivers and home health nursing (HHN) provide life-sustaining care that is as intense as the hospital or subacute care settings. Their survival requires parents and home health nurses to safely administer intricate medication regimens and manage airway equipment, including mechanical ventilators. In children with medical complexity, acute respiratory infections (e.g., pneumonia) are one of the most common reason for hospitalization, accounting for billions of dollars in annual U.S. hospital charges and high cumulative antibiotic exposure. Previous studies have demonstrated that home health nursing decreases hospital admissions and costs. Despite this, home health nursing and other factors that decrease healthcare utilization are not available equitably to all children with medical complexity. Thus, the stressors caregivers experience by taking on advanced nursing-level tasks with limited or no support in the home setting are placed on groups that have been disproportionally marginalized. Our overall goal is to identifying modifiable strategies to design interventions that improve health equity, reduce infection-related hospitalizations, and maximize patient and caregiver quality of life (QOL).

To do this, we will enroll children with medical complexity at Lucile Packard Children's Hospital living at home in a longitudinal, observational cohort study to measure the impact of an acute respiratory infection hospitalization on the patient and caregiver QOL. Participants will complete validated measures of patient and caregiver QOL, HHN, caregiver self-efficacy about their child’s care, and caregiver activation to identify factors that hasten return to pre-hospitalization caregiver and patient QOL. The student will learn how to conduct patient-centered research, including conducting a literature review and synthesis, consenting patients and their families to participate and complete surveys, participating in data collection/cleaning/analysis, and presentation of data. The student will participate in our regular lab meetings and will have the chance to present at these meetings. If interested, they can also shadow Dr. Russell on clinical rounds.

Additional Information:  
CAP Profile: https://profiles.stanford.edu/314127
### DRIVE Faculty Mentor Project List

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<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tr>
<td>Dr. Laura Simons</td>
<td><strong>TrainPain: a Gamified Sensory Training Technology for Youth With Chronic Pain</strong></td>
</tr>
</tbody>
</table>

*Email: lesimons@stanford.edu*

**Keywords:**

**Project Description:**
Sensory rehabilitation training is emerging as an efficacious treatment for both adults and youth with chronic pain. The TrainPain team recently developed a technology platform (“TrainPain”) to enable patients with chronic pain to perform sensory rehabilitation exercises at home in a gamified manner, leveraging an inexpensive sensory hardware device in combination with a patient’s personal smartphone.

In preliminary studies with adults, TrainPain is shown to be highly engaging and somewhat effective at reducing current pain in adults with MSK pain. The purpose of this project is to establish, for the first time, the feasibility and acceptability of using the TrainPain system among youth with chronic MSK pain. Results from this study will support building clinical protocols for using TrainPain with youth with chronic pain, which can ultimately be instituted into daily practice at Stanford and disseminated at other institutions. Ultimately we hope that TrainPain will prove to be an effective and affordable solution available direct to patients and healthcare providers worldwide in an effort to both foster collaboration and reduce the global burden of pediatric pain.

A prospective student working on this project and within our lab will gain familiarity in several psychological and neuroscience research methods across various chronic pain populations. They will develop skills in implementation of experiments, subject recruitment, data analysis and much more.

Students will also hear weekly talks with experts in the field, participate in journal clubs and receive mentorship from postdocs/early faculty in the lab.

**Additional Information:**
[https://bpp.stanford.edu/](https://bpp.stanford.edu/)

Contact pedspainlab@stanford.edu for inquiries.
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<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tr>
<td>Dr. David Stevenson</td>
<td>Omics Profiling of Maternal and Neonatal Outcomes using Machine Learning</td>
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</table>

**Email:** dks750@stanford.edu

**Keywords:** Machine learning, artificial intelligence, maternal and neonatal health.

**Project Description:**
The student will be introduced to machine learning (ML) approaches to build predictive models for maternal and neonatal outcomes including preterm birth and neurodevelopmental delay of infants. Models will be trained on maternal and neonatal clinical and metabolomic data measured from blood samples collected during pregnancy or at birth. The large number of measured metabolites (about 16,000) offers an opportunity for hands-on learning and application of sparsity-promoting ML methods such as Lasso, and ML methods specifically suited for biomarker discovery such as Stabl. The student will learn how to use existing programming packages in R or Python to train and evaluate models and will be introduced to their biological interpretation.

**Additional Information:**
David Stevenson Stanford profile: [https://profiles.stanford.edu/david-stevenson](https://profiles.stanford.edu/david-stevenson)
Ivana Maric Stanford profile: [https://profiles.stanford.edu/ivana-maric](https://profiles.stanford.edu/ivana-maric)
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<th>Faculty Mentor:</th>
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<tr>
<td>Dr. Karl Sylvester</td>
<td>Stanford Kids CAMP Study</td>
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</table>

*Email: karls@stanford.edu*

**Keywords:** Diabetes, Digital health, Community health

**Project Description:**
The Stanford Kids CAMP (Continuous Advanced Metabolic Profiling) Study is a multi-year study that is implementing an innovative model of leveraging community partnership (with the YMCA) and implementing remote monitoring devices (activity monitor, continuous glucose monitor). The study has two overarching goals: 1) to increase participation by children in underrepresented demographics in clinical research and 2) to collect quantitative measurements to understand children's health and identify early risks factors of and opportunities for intervention in obesity and prediabetes. The study finished its second year in summer 2023 and is looking to expand in subsequent years, so students would be given opportunities to participate in recruitment, study setup, and study execution. These activities will not only be a hands-on experience in clinical research but also an opportunity to refine their skills in communication, interdisciplinary teamwork, and presenting to multiple audiences.

**Additional Information:**
Karl Sylvester's CAP profile link: [https://med.stanford.edu/profiles/Karl_Sylvester](https://med.stanford.edu/profiles/Karl_Sylvester)


Alternate contacts: Grant Wells (gwells2@stanford.edu), Jessica Li (jesli@stanford.edu)
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<tr>
<th>Faculty Mentor:</th>
<th>Project Title:</th>
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<tr>
<td>Dr. Moss Zhao</td>
<td>Next-Generation Medical Imaging for Pediatric Brain Diseases</td>
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</table>

*Email:* mosszhao@stanford.edu

**Keywords:** image-guided neurosurgery, medical image analysis, machine learning

**Project Description:**
Stroke is a mortifying disease that disrupts the blood flow in the brain. It causes around 5.5 million deaths worldwide each year. While stroke occurs more commonly in adults, its impact in children is more devastating that over 75% of survivors suffer lifelong disabilities. Identifying patients at high risk for stroke is crucial for saving lives. Doctors have found that scanning the brain before and after a ‘stress-test’ can effectively reveal this risk using medical imaging. However, the current imaging technique is suboptimal in the pediatric population due to radiation and side effects. This project will create a novel method combining MRI and artificial intelligence to safely identify stroke risk without side effects. The project participant will have the opportunity to acquire MRI scans, observe neurosurgeries, and analyze medical imaging data. Completing this project will allow the participant to gain clinical experiences, improve analytical skills, and establish interdisciplinary networks for career development.

**Additional Information:**
Profile
https://profiles.stanford.edu/mosszhao
Press release of our project
### DRIVE Faculty Mentor Project List

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<th>Faculty Mentor:</th>
<th>Project Title:</th>
<th>Keywords:</th>
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<tbody>
<tr>
<td>Dr. Brad Zuchero</td>
<td>Mechanisms of myelin tuning during development of the central nervous system</td>
<td>neurodevelopment, glia, myelin</td>
</tr>
</tbody>
</table>

**Email:** zuchero@stanford.edu

**Project Description:**
Myelin—the electrical insulator around neurons—is essential for rapid nerve signaling. The bulk of myelin is formed in humans during late gestation and in the first few years of life, where it is critical for the development of motor, sensory, and cognitive functions. Disruptions in myelination can lead to a range of neurological disorders that affect children. Understanding how myelin develops could lead to much-needed treatments for these conditions.

Rather than just being “hard-wired” during development, myelin is increasingly appreciated to be a dynamic player in regulating central nervous system plasticity with key roles in learning, memory, and disease. It has been known for decades that myelin parameters like thickness and sheath length are set by neuronal properties including axon diameter and neuron type—and more recently, by neuronal activity. This “myelin tuning” is likely required to precisely regulate neuronal circuit function. A major knowledge gap is what cell biological mechanisms within oligodendrocytes respond to neuronal properties to tune wrapping and sheath length during CNS development.

In this project, we are testing the elegant hypothesis that calcium signaling in myelin sheaths is the fundamental mechanism by which myelin sheaths correctly tune themselves to match neuronal properties.

Learning objectives and training opportunities for the DRIVE student include cutting-edge techniques for the purification and culture of oligodendrocytes, live-cell imaging of oligodendrocytes and myelin formation, and gaining familiarity and critical reading experience with the scientific literature on myelination.

**Additional Information:**
http://zucherolab.stanford.edu/
**NEW PROJECT ADDED**

DRIVE Faculty Mentor Project List

**Faculty Mentor:**
Dr. Nancy Ewen Wang  
*Email:* ewen@stanford.edu

**Project Title:**

**Keywords:** implementation science, newcomer immigrant children, qualitative research

**Project Description:**
This is an evaluation of the implementation of a community-based social service navigator for newcomer immigrant children and families. The student will work alongside the PI and our community partners (Catholic Charities Santa Clara).

Student learning objectives:
1) Gain familiarity with implementation science frameworks;
2) Learn and practice qualitative research techniques
3) Describe and summarize qualitative interview results.

The student will develop training and skills through working with our lab faculty, students and staffs. There will be a combination of didactic, as well as practical experience.

**Additional Information:**
https://impact.stanford.edu/el-encuentro  
https://profiles.stanford.edu/N%20Ewen%20wang?releaseVersion=10.5.2

Students must be fluent in another language spoken by newcomers.  
This project is embedded with our community partners.