

**UNDERGRADUATES: FRONTIERS OF INNOVATION SCHOLARSHIPS**  
**AMOUNT REQUESTED: \$3,000**

Research Area	Proposal Title	Trainee	Trainee Home Department	Principal Investigator (PI)	PI Home Department
Understanding and Protecting the Planet	Novel Biomarkers Induced by Climate Change and Oncogenesis	Wong, Kevin	Biology	Pasquinelli, Amy	Division of Biology
Understanding and Protecting the Planet	Characterization of VOC Emissions from Large Scale Cultivation of Microalgae by Solid Phase Micro Extraction and Headspace Gas Chromatography/ Mass Spectrometry	Quigle, Alexandra	Chemistry and Biochemistry	Pomeroy, Robert	Chemistry and Biochemistry
Understanding and Protecting the Planet	Novel Multi-Scale Approaches for Molecular Dynamics Simulations of Condensed Phase Biological Systems - Application to Bioenergy Research	TBD	TBD	Walker, Ross	San Diego Supercomputer Center
Understanding and Protecting the Planet	Electric Field Control of Magnetism for Ultra Low Power Memory	Ma, Meng	Physics	Cybart, Shane	Physics
Understanding and Protecting the Planet	Electric Field Control of Magnetism for Ultra Low Power Memory	Zhou, Yuchao	Electrical Engineering	Cybart, Shane	Physics
Understanding and Protecting the Planet	Controlling Radiative Heat Transfer with Metamaterials	Parzivand, Joshua	Mechanical Engineering	Kante, Boubacar	Electrical and computer engineering
Understanding and Protecting the Planet	Engineers for Exploration	Wilby, Antonella	Computer Science and Engineering	Kastner, Ryan	Computer Science and Engineering
Understanding and Protecting the Planet	Engineers for Exploration	Hui, Nathan	Electrical Engineering		Computer Science and Engineering
Understanding and Protecting the Planet	Engineers for Exploration	Pacheco, Jorge	Computer Engineering		Computer Science and Engineering
Understanding and Protecting the Planet	Engineers for Exploration	Meyer, Dominique	Physics		Computer Science and Engineering
Understanding and Protecting the Planet	The Value of Desert	TBD		Herbst, Matthew	E. Roosevelt College
Understanding and Protecting the Planet	Multi-Sensing Micro -Drone Swarms that Save Lives	TBD		Kuester, Falko	Structural Engineering / QI
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Understanding and Protecting the Planet	Multi-Sensing Micro -Drone Swarms that Save Lives	TBD		Kuester, Falko	Structural Engineering / QI
Enriching Human Life and Society	Multimodal machine learning framework for activity and mood recognition using mobile and stationary sensor	Lu, Jennifer	CSE	Lanckriet, Gert	ECE
Enriching Human Life and Society	Multimodal machine learning framework for activity and mood recognition using mobile and stationary sensor	Aguayo, Rafael	ECE		ECE
Enriching Human Life and Society	Adaptation Of Conjugation Based Transfection Techniques To Malaria	Nachon, Marie	Pediatrics	Goldgof, Gregory	Pediatrics
Enriching Human Life and Society	Mental Sex: A Pilot Study on Resting State Connectivity and the Fluidity of Gender Identity	Kimmich, Sara	Cognitive Science	Ramachandran, V.S.	Psychology
Enriching Human Life and Society	Nanotechnology mediated reprogramming of interferon responses in the tumor microenvironment	Zhang, Yue	Biological Sciences	Zhang, Dong-Er	Department of Pathology
Enriching Human Life and Society	MicroRNA Regulation of Neurotransmitter Expression affecting Behavior	Stark, Christina	Neurobiology	Dulcis, Davide	Division of Biological Sciences
Enriching Human Life and Society	Development of Quantitative Analytics for Parkinson's Disease	Li, Adam	Bioengineering & Mathematics	Nguyen, Truong	Neurobiology
Enriching Human Life and Society	Aether Drug Delivery System	Alemu, Benyam	Biological Sciences	Alexander, Laura Crotty	ECE
Enriching Human Life and Society	Discovery of Environmental Determinants of Congenital Heart Disease	Lehmann, Kim	Medicine	Jain, Mohit	Medicine
Enriching Human Life and Society	Determining Environmental Factors that Contribute to Cardiovascular Diseases	Vu, Priscilla	Department of Medicine	Jain, Mohit	Medicine
Enriching Human Life and Society	Biomechanical Strain Sensors and Signaling Pathways	Waller, Lauren	not listed	Lange, Stephen	Medicine
Enriching Human Life and Society	Molecular Mechanisms of Pathogenesis Utilized by Multi-Drug Resistant CA-MRSA	Hernandez, Bernard	Biology	Gonzalez, David	Pharmacology
Enriching Human Life and Society	Molecular Mechanisms of Pathogenesis Utilized by Multi-Drug Resistant CA-MRSA	Esquivel, Nadia	Biology	Gonzalez, David	Pharmacology
Enriching Human Life and Society	Molecular Mechanisms of Pathogenesis Utilized by Multi-Drug Resistant CA-MRSA	Rodriguez, Veronica	Biology	Gonzalez, David	Pharmacology
Enriching Human Life and Society	Designing a Clinical Diagnostic Tool for Rapid Bacterial Species Identification	Ravi, Neeraja	Bioengineering	Fraleay, Stephen	Pharmacology
Enriching Human Life and Society	Quantifying Black Carbon Emissions from Biomass Cookstoves	Koizumi, Masato	Jacobs School of Engineering	Burney, Jennifer	Bioengineering
Enriching Human Life and Society	Obesity and Diabetes, an American Epidemic: Evaluating the affect of disease on placental structure.	Harihara, Anirudha	Reproductive Medicine	Natale, David	School of International Relations and Pacific Studies
Enriching Human Life and Society	A Comparison of Gap Junction to Nucleus Ratio in Saline and PEG injected Cardiac Tissue	Munoz, Adam	Chemical Engineering	Christman, Karen	Reproductive Medicine
Enriching Human Life and Society	Sex Differences in Development of the Pituitary Gonadotrope: Implications for Adult-Onset Disease?	Song, Chris	Reproductive Medicine	Church, Kellie Breen	Bioengineering
Enriching Human Life and Society	Improving Healthy Living Through Indoor Lighting at UCSD	Endo, Bianca	Human Biology and Psychology	Panda, Satchin	Reproductive Medicine
Enriching Human Life and Society	Summer Fellowship for: Testing of an Open-Source Digital PCR Platform for HIV Viral Load Monitoring	Smith, Caitlyn	Nanoengineering		Division of Biological Science
Enriching Human Life and Society	Development of a Simple, Non-Invasive, Easily Applied Test for Early Cognitive Deficits in Infants	TBD	TBD	Strain, Matthew	Medicine
Enriching Human Life and Society				Coleman, Todd	Medicine
Enriching Human Life and Society					Bioengineering
Exploring the Basis of Human Knowledge, Learning and Creativity	The Roles of MicroRNAs in Microenvironment-induced Stem Cell Differentiation	Throrssian, Satenick	Chemical Engineering	Chien, Shu	IEM
Exploring the Basis of Human Knowledge, Learning and Creativity	Genetic Assessment of Positive Traits within the Bipolar Spectrum	Qiu, Frank	Psychiatry	Greenwood, Tiffany	IEM
Exploring the Basis of Human Knowledge, Learning and Creativity	Freehand Sketching on Touchscreens to Improve Spatial Visualization, Technical Communication, and Creativity	Cowan, Elizabeth	Cognitive Science	Delson, Nathan	Psychiatry
Exploring the Basis of Human Knowledge, Learning and Creativity	Electromagnetic Stimulation of Mouse Neuronal Cells Using a Dense Magnetic Coil Array	Nguyen, Quynhmy	Chemistry and Biochemistry	Sievenpiper, Dan	Mechanical and Aerospace Engineering
Exploring the Basis of Human Knowledge, Learning and Creativity	Nano Magnetic Field Sensors for Understanding the Human Brain	Nguyen, Kimberly	Physics	Dynes, Robert	ECE
Exploring the Basis of Human Knowledge, Learning and Creativity	Nano Magnetic Field Sensors for Understanding the Human Brain	Nielson-Konzen, Lance M	Physics	Dynes, Robert	Physics

Research Area	Proposal Title	Trainee	Trainee Home Department	Principal Investigator (PI)	PI Home Department
Exploring the Basis of Human Knowledge, Learning and Creativity	Evolution and Development of Prefrontal cortex in Humans and Great apes: Exploring the Neural substrates of Human Knowledge, Learning and Creativity	Orfant, Hailee	Anthropology	Semendeferi, Katerina	Anthropology
Exploring the Basis of Human Knowledge, Learning and Creativity	Evolution and Development of Prefrontal cortex in Humans and Great apes: Exploring the Neural substrates of Human Knowledge, Learning and Creativity	Judd, Valerie	Anthropology	Semendeferi, Katerina	Anthropology
Exploring the Basis of Human Knowledge, Learning and Creativity	Research Within the Museum: The Science of People Playing Video Games with the Eyes	Suarez, Nicole	Human Biology and Psychology	Chukoskie, Leanne	Institute for Neural Computation
Exploring the Basis of Human Knowledge, Learning and Creativity	Research Within the Museum: The Science of People Playing Video Games with the Eyes	Yu, Shuying	Cognitive Science and Psychology	Chukoskie, Leanne	Institute for Neural Computation
Exploring the Basis of Human Knowledge, Learning and Creativity	Research Within the Museum: The Science of People Playing Video Games with the Eyes	Samano, Marlene	Psychology	Chukoskie, Leanne	Institute for Neural Computation
Exploring the Basis of Human Knowledge, Learning and Creativity	Feeling your pain: combining flexible neuro-technologies with the emerging field of social neuroscience to understand helping behavior	Johnson, Teryn	Unknown	Chiba, Andrea	Cognitive Science
Exploring the Basis of Human Knowledge, Learning and Creativity	Feeling your pain: combining flexible neuro-technologies with the emerging field of social neuroscience to understand helping behavior	Schuster, Luisa	Unknown	Chiba, Andrea	Cognitive Science
Understanding Cultures and Addressing Disparities in Society	The Myth Project: border2shift	Varela, Claudia Elena	Dance	Rincon, Patricia	Theatre and Dance
Understanding Cultures and Addressing Disparities in Society	The BLUM Summer Field Internship (BSFI) 2015	TBD	Various/Diverse	Forman, Fonna	Political Science / CGJ
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Understanding Cultures and Addressing Disparities in Society	The BLUM Summer Field Internship (BSFI) 2015	TBD	Various/Diverse	Forman, Fonna	Political Science / CGJ
Understanding Cultures and Addressing Disparities in Society	Urban Agriculture and Food Disparities	Matios, Edward	Nano Engineer	Pezzoli, Keith	Communication
Understanding Cultures and Addressing Disparities in Society	Urban Agriculture and Food Disparities	Amin, Abdurrahman	Public Health	Pezzoli, Keith	Communication
Understanding Cultures and Addressing Disparities in Society	Urban Agriculture and Food Disparities	Jordan, Gwendolyn	Urban Studies and Planning	Pezzoli, Keith	Communication