



Center for Undergraduate Research  
& Fellowships

# 2018 RESEARCH AND FELLOWSHIPS WEEK POSTER EXHIBITION

Thursday, February 1<sup>st</sup> 2018  
5:30 – 7:00 pm  
Bodek Lounge, Houston Hall

*The University of Pennsylvania's Center for Undergraduate Research and Fellowships is the University's hub for undergraduate student research, as well as the launch pad for Penn graduates awarded the most prestigious international scholarships and fellowships*

*Welcome to CURF's Annual Research and Fellowships  
Week Poster Exhibition!*

*Over 200 undergraduate researchers are eager to share  
their research with you, so enjoy learning about the array  
of opportunities embraced by undergraduates at one of the  
world's leading research universities.*

**Adamseged Abebe (COL 2019)<sup>19</sup>**

Advisor: Hans-Peter Kohler  
*Malawi*

**Maramawit Abera (COL 2018), Sarah Huang (NUR 2019), and Elizabeth Lazarus (COL 2020)<sup>26</sup>**

Advisor: Robin Stevens  
*CityU Intervention*

**Fahad Ahmed (COL 2020)<sup>8</sup>**

Advisor: Kalil Abdullah  
*Glioblastoma in Elderly Patients*

**Emiliya Al Yafei (EAS 2020)<sup>19</sup>**

Advisor: Norman Badler  
*Re-Animating the Past*

**Rebecca Alifimoff (COL 2020) and Ethan Nelson (COL 2017)<sup>19</sup>**

Advisor: Susan Meyer  
*Beyond Contempt: Political Dialogue and Disagreement in the Age of Trump*

**Ana Alonso (COL 2018)<sup>18</sup>**

Advisor: Simon Richter  
*The Transitioning Traditional: Using Cards as a Vehicle for Traditional Ecological Knowledge Transmission*

**Mauricio Alvarez (LPS 2019), David Gordon (COL 2019), Kathryn Khaw (EAS 2019), Griffin Murphy (EAS 2020), and Jane Shmushkis (EAS 2017)<sup>15, 22</sup>**

Advisor: Daeyeon Lee  
*Graphene Nanoplatelet-Based Superhydrophobic Spray-Coatings Applied to Rapidly Deployable Humanitarian Relief Tents*

**Abigail Anmuth (EAS 2019)<sup>19</sup>**

Advisor: Cynthia Otto  
*Thermoregulatory Factors in Exercising Working Dogs*

**Ransford Antwi (EAS 2020) and Raouf Tawfik (EAS/WH 2019)<sup>19</sup>**

Advisor: Megan Ryerson  
*Highway Safety*

**Rhosean Asmah (COL 2020) and Leila Pearlman (COL 2020)<sup>19</sup>**

Advisor: Jianjing Kuang  
*The Effect of Musicality on Linguistic Tone Perception*

**Zoe Barbati (COL 2018)<sup>16</sup>**

Advisor: Kent Bream  
*The Implementation of an Electronic Health Registry and the Use of Mobile Health in Santiago Atitlán, Guatemala*

**Casey Barkan (EAS 2018),  
Vignesh Bhethanabotla  
(COL/EAS 2020), Daniel  
Hyeong-Seok (COL 2018),  
Radhika Katti (COL/EAS 2019),  
and Veer Sobti (COL/EAS  
2020)<sup>23</sup>**

Advisor: Andrew Rappe  
*Computational Materials  
Development for a Sustainable  
Future*

**Javier Becerra (EAS 2020), Ellen  
Duong (EAS 2018), Ella Konefal  
(COL 2019), Tong Pow (COL  
2019), Antonio Rinaldi (COL  
2020), and Zachary Whitlock  
(COL/EAS 2020)<sup>23</sup>**

Advisor: Michelle Lopez  
*Joplin Project*

**Rachel Beeson (COL 2018)<sup>13</sup>**

Advisor: Gareth Roberts  
*Exaggeration in Moderation and  
Simple Signal*

**Ella Bei (COL 2020)<sup>19</sup>**

Advisor: Eleni Katifori  
*The topology of the network of  
semantic relations in the English  
language*

**Helen Berhanu (COL 2018)<sup>8</sup>**

Advisor: Alex Chase-Levenson  
*Afro-Caribbean Immigration to  
London, 1948-1968*

**Nadira Berman (COL 2019) and  
Kavin Jagnarain (COL/EAS  
2020)<sup>19</sup>**

Advisor: Dawn Teele  
*Women in Parliament and the  
Politics of Abortion*

**Ian Bernardin (COL 2020)<sup>19</sup>**

Advisor: Joseph Farrell  
*Phaedrus, the Roman Aesop: A  
Quantitative Effort to Situate  
Phaedrus in Latin Literary  
History*

**Daniel Blackey (COL/EAS  
2019)<sup>19</sup>**

Advisor: Lyle Ungar  
*The and Formality*

**Austin Borja (COL 2018)<sup>8</sup>**

Advisor: Matt Kayser  
*Key Features of Drosophila  
Larval Sleep – Postural Changes  
and Quiescent Sequence*

**Juan Botero (COL 2020)<sup>19</sup>**

Advisor: Mia Levine  
*Telomeres on a treadmill: causes  
and consequences of telomeres  
protein evolution*

**Rachel Brock (COL 2018)<sup>12</sup>**

Advisor: Keren Weitzberg  
*Harnessing Urbanization to  
Develop the Ethiopian Dairy  
Value Chain*

**Brianna Brooks (COL 2019)<sup>19</sup>**

Advisor: Matthew Hayes  
*Peripheral CCK injection causes changes in neural cFos expression in Liver-specific PGC1a gene knockout mice*

**Molly Bucklin (COL 2018)<sup>8</sup>**

Advisor: John Scholler  
*Ability of Cytokines to Improve CAR T-Cell Efficacy*

**Jessica Burke (COL 2018)<sup>13</sup>**

Advisor: Marc Schmidt  
*Viscerosensory feedback on motor control of song in the adult male zebra finch*

**Natalie Burke (COL 2018)<sup>8</sup>**

Advisor: Leja  
*'Cut Without Hands': The Works of Martha Ann Honeywell*

**Hyuntae Byun (COL 2020)<sup>8</sup>**

Advisor: Jun Zhu  
*Thiol-Based Switch Regulation of Vibrio cholerae*

**Catherine Campbell (COL 2020)<sup>19</sup>**

Advisor: David Barnes  
*Connections to the Past: Quarantine in Philadelphia through the 19th Century*

**Jeffrey Careyva (COL 2018)<sup>8</sup>**

Advisor: Jean-Michel Rabaté  
*Derrida, Heidegger, and the Question of Poetry*

**Luis Felipe Carvao (COL 2019) and Snega Kalapar<sup>19</sup>**

Advisor: Jessica Morgan  
*Investigating Photoreceptor Loss in Retinal Disease*

**Puti Cen (WH 2020)<sup>19</sup>**

Advisor: Michael Platt  
*Eye Tracking: Gazes Reflect Loss Aversion*

**Nok Yin Connie Chan (WH 2020)<sup>19</sup>**

Advisor: Emilie Feldman  
*Why Did They Do It? A Taxonomy of Divestiture Motivations*

**Patricia Chan (COL 2018)<sup>8</sup>**

Advisor: Russ Carstens  
*Investigations into distinct Protein-Protein Interactions by Different Protein Isoforms Produced by ESRP1 Regulated Alternative Splicing*

**Marcello Chang (COL 2019)**

Advisor: Arjun Raj  
*Developing Tools for the Analysis of Spatial Heterogeneity in SNP-FISH Imaging*

**James Chapman (COL 2020)<sup>19</sup>**

Advisor: Vijay Balasubramanian  
*Adaptive Molecular Sensing in the Olfactory and Immune Systems*

**Christy Charnel (NUR 2019)<sup>9</sup>**

Advisor: Dr. Lisa Lewis  
*Perceptions of Spirituality and Religion among Haitian Immigrants/Descendants with Cancer*

**Amy Chen (COL 2018)<sup>18</sup>**

Advisor: David Comberg  
*Sustainable Peru: The Impact of Textile Design on People, Profits, and the Planet*

**Cecily Chen (COL 2020)<sup>19</sup>**

Advisor: Heather Love  
*"Reframing Reading as a Social Science": The intersection between micro-sociology and literary narrative*

**Emily Chen (COL 2020)<sup>19</sup>**

Advisor: Elizabeth Grice  
*Characterization of Novel Natural Products Derived from the Skin Microbiome*

**Kevin Chen (COL 2018)<sup>9</sup>**

Advisor: Larry Gladney  
*Assessment of Experiment Based Learning in Physics Education in West Philadelphia High Schools*

**Yiyi Chen (COL 2019)<sup>19</sup>**

Advisor: Robert DeRubeis  
*Machine Learning with the Personalized Advantage Index*

**Nathan Chiu (COL/WH 2020)<sup>19</sup>**

Advisor: Laura Huang  
*American Angel Investors*

**Samantha Claypoole (COL 2020)<sup>19</sup>**

Advisor: Michael Gamer  
*Romantic Dramatic Networks*

**Braden Cordivari (COL 2018)<sup>5</sup>**

Advisor: C. Brian Rose  
*The Beycegiz Tumulus*

**Emma Cruz (EAS 2020)<sup>19</sup>**

Advisor: Jessica Hsu  
*Ultrasml silver sulfide nanoparticles for breast cancer screening with dual-energy mammography or computed tomography*

**Helen Dai (COL 2019)<sup>8</sup>**

Advisor: James Aguirre  
*A New Type of Spectrometer for Finding Nearby Earth-Like Planets*

**Taylor Daniel (COL 2017)<sup>8</sup>**

Advisor: Valder Arruda  
*Enhancing Factor IX through rational site-directed amino acid substitution*

**Mihir Dekhne (COL 2018)<sup>8</sup>**

Advisor: Louis Soslowsky  
*Injury Response in Normal Tendons: Regulatory Roles of Collagen V*

**Cassandra Dinh (COL 2019)<sup>2</sup>**

Advisor: Frances Barg  
*Maternal Healthcare in West Philadelphia*

**Calista Dominy (EAS 2020)<sup>19</sup>**

Advisor: Charles Bailey  
*Clostridium difficile Infection Occurrence and Antibiotic Dosage in Pediatric Cancer Patients*

**Claire Donovan (COL 2020) and Gianna Ferrarin (COL 2020)<sup>19</sup>**

Advisor: Gareth Roberts  
*Language Contact Experiment*

**Hailey Dougherty (COL 2018)<sup>18</sup>**

Advisor: Clark Erickson  
*Adaptive Capacity of Traditional Food Systems in the Peruvian Andes*

**Ashley Douglas (WH 2020)<sup>19</sup>**

Advisor: Peter Conti-Brown  
*The Supreme Court of Finance: A History of the US Federal Reserve*

**Christopher D'Urso (COL 2018)<sup>8</sup>**

Advisor: Sara McGuire  
*Translating Justice: Promoting Criminal Procedure Reforms Abroad*

**Donnisa Edmonds (COL 2020)<sup>8</sup>**

Advisor: Geoffery Goodwin  
*Environmental Decision Making*

**Christina Eng (EAS 2020)<sup>19</sup>**

Advisor: Feng Gai  
*Evaluating the Suitability of 4- and 5-Nitroindole as Probes for Biological Infrared Spectroscopy*

**Claudia Epley (COL 2018)<sup>17</sup>**

Advisor: Cam Grey  
*Baltic Amber on Faliscan Fibulae: Economic Mechanisms and Interpretative Perspectives*

**Nicholas Escobar (COL 2018)**

Advisor: Zachary Lesser  
*Reviving John Dryden's "The State of Innocence and Fall of Man"*

**Jacob Faber-Rico (EAS 2020)<sup>19</sup>**

Advisor: Cherie Kagan  
*Probing Trap States in PbS Quantum Dot Solar Cells*

**Steve Farrell (COL 2019)<sup>19</sup>**

Advisor: Vera Krymskaya  
*Analysis of Flow Cytometry Clinical Datasets Does Not Identify Significant Differences in Lymphoid Cell Proportions Between Cast*

**Alisa Feldman (COL 2018)<sup>10</sup>**

Advisor: Adam Mohr  
*Be Fruitful and Medicalize: IVF Risk Communication and the Politics of Assisted Reproduction in Israel*

**Bryn Ferguson (WH 2019)<sup>19</sup>**

Advisor: Samir Nurmohamed  
*Purpose and Paradox of Retirement*

**John Filosa (COL 2019)<sup>8</sup>**

Advisor: Michael Povelones  
*Crithidia fasciculata as a model to study insect-specific adhesion*

**Emma Finkel (COL 2018)<sup>8</sup>**

Advisor: John Herrington  
*Emotional Coherence in Children with Autism Spectrum Disorder*

**Madeline Fried (COL 2018)<sup>17</sup>**

Advisor: Chantel White  
*The Gardens of Emily Dickinson*

**Benjamin Friedman (COL 2019)<sup>8</sup>**

Advisor: Emile Bruneau  
*The Sacred Divide: Political Polarization and and Sacred Values*

**Connor Gallagher (EAS 2020)<sup>19</sup>**

Advisor: David Abrams  
*Drug Patents, Economic and Health Outcomes*

**Cooper Gardner (COL 2019)<sup>19</sup>**

Advisor: Vera Krymskaya  
*Castleman Disease: Analysis of Current Treatment Through ACCELERATE International Registry*

**Rebecca Gelfer (COL 2019)<sup>26</sup>**

Advisor: Paul Titchenell  
*Glucose Signaling and the Regulation of Liver Metabolism*

**Irene Gendelman (COL/WH 2020) and Jordyn Schor (COL 2020)<sup>19</sup>**

Advisor: Paul Rozin  
*Evaluating the Greater Variability Hypothesis: Are Males More Variable than Females?*

**Isabel Gendler (COL 2018)<sup>8</sup>**

Advisor: Alex Chase-Levenson  
*Re-Imagining the Past and Questioning the Present: Oliver Cromwell in Nineteenth-Century British and Irish Historical Fiction*

**Joshua Glahn (COL 2018)**

Advisor: Josh Glahn  
*Disembodied Narrative: Aesthetic Identities and Meaning in Michael Ondaatje's The English Patient*

**Amy Goldfischer (COL 2019)<sup>19</sup>**

Advisor: Michael Weisberg  
*Community-Based Ecology in the Galapagos Archipelago*

**Brandon Gonzalez (EAS 2019) and Grace O'Neil (COL 2019)<sup>19</sup>**

Advisor: Josh Klein  
*Atmospheric Neutrino Studies with the Sudbury Neutrino Observatory*

**Mileidy Gonzalez (COL 2018)**

Advisor: Jean MacIntosh Turfa  
*Rethinking the Brontosopic Calendar: Epidemiology, Climate, and Trade in Iron Age Etruria*

**Mahip Grewal (COL 2020)<sup>19</sup>**

Advisor: Edward Brodtkin  
*Bioinformatic Investigation of NRXN1 Mutations Relevant to Autism Spectrum Disorder (ASD)*

**Qiaochu Guo (EAS 2020) and Adi Somasundaram (COL 2020)<sup>19</sup>**

Advisor: Masao Sako  
*Search for Planet Nine*

**Heide Gutierrez (COL 2019)<sup>19</sup>**

Advisor: Amada Armenta  
*Victimization among the Latino immigrant community in Philadelphia*

**Ben Habermeyer (EAS 2020)<sup>19</sup>**

Advisor: Christopher Fang-Yen  
*Sensory Arousal During Stress-Induced Sleep*

**Renee Hastings (COL 2019)<sup>19</sup>**

Advisor: Marisa Kozlowski  
*Predicting the site-selectivity of Phosphine Ligands*

**Olivia Hess (COL 2018)<sup>10</sup>**

Advisor: Devesh Kapur  
*Cataract Surgery Care (CSC): A pilot study analyzing the efficacy of a collaborative approach to postoperative ophthalmic care*

**Emma Hetrick (COL 2018)<sup>25</sup>**

Advisor: Paul Saint-Amour  
*The Reprinting of English Literature in America, 1750-1850*

**Eliza Kieu Anh Hoang (COL 2020)<sup>19</sup>**

Advisor: Guobin Yang  
*The Changing Landscape of Environmental Activism in China*

**Abigail Hong (COL 2018) and Daniel Kargilis (COL 2021), Marie Lim (LPS 2018), Ibukunoluwa Olubowale (COL 2018), and Rohit Shinde (EAS 2019)<sup>8</sup>**

Advisor: Chamith Rajapakse  
*3D Printing Bone Scaffolds*

**Kendra Hong (COL 2018)<sup>8</sup>**

Advisor: John Maris  
*Allelic specific expression of TERT in pediatric cancers*

**Jack Hostager (COL 2019) and Pei Hsuan Tseng (COL 2020)<sup>19</sup>**

Advisor: Paul Robinson  
*Bringing Criminal Law Principles and Controversies to a Popular Audience*

**Lynn Hur (COL 2019)<sup>8</sup>**

Advisor: Fran Barg

*Is obesity the cost of being food insecure? An analysis of food environments and behaviors in rural Guatemala*

**Youn Young Hur (NUR 2019)<sup>7</sup>**

Advisor: Jinyoung Kim

*Prospective Investigation of the Impact of Smoking and Smoking Cessation on Obstructive Sleep Apnea*

**Amanda Hurd (COL 2019) and Jason Kim (COL/WH 2020)<sup>19</sup>**

Advisor: Ryan Brutger

*International Negotiations, Leader's Strategies, and Public Opinion*

**Yunhee Hyun (COL 2020) and Hannah Listerud (COL 2020)<sup>19</sup>**

Advisor: Rinad Beidas

*Adolescent Suicide Prevention in Routine Clinical Encounters (ASPIRE)*

**Shivansh Inamdar (COL 2019)<sup>8</sup>**

Advisor: Cullen Blake

*Simulation of Data to be Produced by NEID Spectrometer*

**Yasmine Issah (COL 2018)<sup>12</sup>**

Advisor: Hans-Peter Kohler

*The Impact of the Malawi Longitudinal Study of Families and Health Intervention Research on the Residents of Balaka, Malawi*

**Adiel Izilov (COL 2020)<sup>19</sup>**

Advisor: Dorothy Roberts

*Interracial Marriage & Racial Justice in Chicago, 1937-1967*

**Amanda Jankelovits (COL 2019) and Matthew Peng (COL/WH 2019)<sup>19</sup>**

Advisor: Chamith Rajapakse

*3D Bioprinting of Bone Scaffolds*

**Jakub Jarmula (COL 2019)<sup>8</sup>**

Advisor: Dr. Marc Schmidt

*Neuromuscular Circuitry of the Copulation Solicitation Display in Female Cowbirds*

**Kuanhao Jiang (COL/EAS 2020)<sup>19</sup>**

Advisor: Vijay Balasubramanian  
*Statistics of Natural Scenes and the Perception of Visual Textures*

**Nathan Jiang (COL 2020)<sup>19</sup>**

Advisor: Holger Sieg  
*Predicting the Presence of Political Institutions in Municipalities*

**Celine Jo (COL 2019)<sup>8</sup>**

Advisor: Kent Bream

*Experiences around Diet among Patients with Type II Diabetes in Cobbs Creek*

**Hannah Juhel (COL 2018)<sup>11</sup>**

Advisor: Roy Hamilton

*Modulating Word Retrieval through Learning and Neural Stimulation*

**Tae Wook Kang (EAS 2019)<sup>19</sup>**

Advisor: Shivani Agarwal  
*Learning underlying nested tree models of choice data*

**Nidhi Kapate (EAS 2020)<sup>19</sup>**

Advisor: Ritesh Agarwal  
*Optimizing the Growth of WS2 Monolayers*

**Jillian Karande (COL 2018)**

Advisor: Jed Esty  
*The Poetic Representation of a Mind Divided: Margot Ruddock's Impact on the Work of W.B. Yeats*

**Adrian Kase (COL 2018)<sup>8</sup>**

Advisor: Timothy Linksvayer  
*Pharaoh Ant Colonies Choose to Cannibalize Different Larval Stages Based on the Presence of Queens*

**Hareena Kaur (COL 2020)<sup>19</sup>**

Advisor: Erica Carpenter  
*A highly sensitive digital droplet PCR assay for analysis of circulating tumor DNA in pancreatic adenocarcinoma*

**Kathryn Khaw (EAS 2019)<sup>9</sup>**

Advisor: Daniel Gillion  
*Using Twitter as a Prediction Model for the United States Presidential Election of 2016*

**Hali Kim (COL 2020)<sup>19</sup>**

Advisor: Erica Carpenter  
*Workflow for analysis of ctDNA and case study of non-small cell lung cancer patient utilizing digital droplet PCR*

**Jisoo Kim (COL 2018)<sup>3</sup>**

Advisor: Jeremy Dickens  
*Distribution of Fishes in the Lower Paraguay River*

**Vivian Kitainda (COL 2018)<sup>13</sup>**

Advisor: Fevzi Daldal  
*Fused protein complexes in *Rhodobacter capsulatus**

**Noah Klayman (COL 2018)<sup>8</sup>**

Advisor: Coren Apicella  
*Hadza Folk Psychology for the Existence of Moral Exemplars*

**Marc Klinger (COL 2020)<sup>19</sup>**

Advisor: Abraham Wyner  
*Why the NFL Needs a High School Football Draft, and How Much It Would Be Worth*

**Sai Kodukula (COL 2019)<sup>19</sup>**

Advisor: Jonathan Raper  
*Role of BMPR-2a Morphogenic Kinase in Axonal Growth Guidance*

**Gabriel Koo (EAS 2019)<sup>7</sup>**

Advisor: Marina Guvakova  
*Mapping the Signalling Pathways of Rho GEF, Vav2, in Human Breast Cancer*

**Luca Koritsanszky (NUR 2018)<sup>26</sup>**

Advisor: Patricia D'Antonio  
*The Role of the Nurse in Surgical  
Infection Prevention:  
Understanding the Full  
Implementation of Surgical  
Aseptic Practice*

**Nikitha Kosaraju (COL 2018)<sup>4</sup>**

Advisor: Kathryn Davis  
*Hippocampal Subfield  
Volumetrics as a Function of  
Disease Duration in Epilepsy*

**Talya Koschitzky (COL 2020)<sup>19</sup>**

Advisor: Laura Almasy  
*Genomics of Addiction*

**Aria Kovalovich (COL 2018)<sup>8</sup>**

Advisor: Geoffrey Goodwin  
*Nationalism and Moral  
Responsibility for Climate  
Change*

**Katherine Ku (COL/WH 2020)<sup>5</sup>**

Advisor: Katherine Ku  
*2017 Gordion Archaeological  
Project*

**Christina Kuhlmeier (COL  
2019)<sup>19</sup>**

Advisor: Rand Quinn  
*Community Schools in  
Philadelphia*

**Olivia Landgrover (EAS 2018),  
Demi Moed (EAS 2018), and  
Grant Shao (EAS 2018)<sup>26</sup>**

Advisor: Karen Winey  
*Understanding Creep in Polymer  
Nanocomposites*

**Joseph LaSure (COL 2018)<sup>8</sup>**

Advisor: Thomas Safley  
*Touching the Lord's Anointed:  
The Justification for the  
Execution of Charles I*

**Paul Lee (COL 2019)**

Advisor: Dan Rader  
*C6orf106 Regulates Lipoprotein  
Metabolism and Atherosclerosis*

**Zachariah Lee (COL 2019)<sup>8</sup>**

Advisor: Jay Zhu  
*Identifying an NO detoxification  
regulator using S-Nitrosylation  
in *Vibrio cholerae**

**Hao Chuan Lei (EAS/WH 2020)  
and Chetan Parthiban<sup>19</sup>**

Advisor: Vijay Balasubramanian  
*Modeling the Visual Pathway  
Using Deep Neural Networks*

**Stella Lemper-Tabatsky (COL  
2018)**

Advisor: Michael Gamer  
*The Inscrutable Seas of the Soul;  
or, the Oceanic Sublime in  
Moby-Dick*

**Daniel Leone (COL 2018)<sup>8</sup>**

Advisor: Sara McGuire

*Violent Extremism in Egypt Post-2013: Causal Factors and Policy Directives*

**Maya Levine (COL 2018)**

Advisor: David Wallace

*Fleshly Living: Julian of Norwich's Pedagogy of Anonymous Embodiment*

**Jason Li (EAS 2020)<sup>19</sup>**

Advisor: Elizabeth Heller

*Studying the epigenetic effects of cocaine self-administration using mice models*

**Andrea Lin (EAS 2019)<sup>19</sup>**

Advisor: Orkan Telhan

*bio.lab.maker*

**Chelsea Lin (COL 2020)<sup>19</sup>**

Advisor: Rotonya Carr

*Investigating the Relationship between Hepatic Triglyceride and Ceramide Fats in Alcohol-Fed Mice*

**Christina Lin (COL 2020)<sup>19</sup>**

Advisor: Isaac Chen

*Analysis of Calcium Activity in Cerebral Organoids and Neuronal Cultures*

**Samantha Linhares (COL 2018)<sup>19</sup>**

Advisor: C. Neill Epperson  
*The Effects of Premenstrual Mood Disorders on Stress Response*

**Alice Liu (COL 2020)<sup>26</sup>**

Advisor: Christopher Fang-Yen  
*A novel microsurgery technique reveals distributed sources of convulsive signals in a C. elegans epilepsy model*

**Gina Liu (COL/WH 2018)**

Advisor: Douglas Wiebe  
*A time-series study of firearm purchasing following mass shooting events in the U.S.*

**Corey Loftus (COL 2018)<sup>8</sup>**

Advisor: David Brownlee  
*Anni Albers and the Midcentury Modern Synagogue*

**Rebecca Lopez (COL 2018)<sup>8</sup>**

Advisor: Emile Bruneau  
*Beyond 'Bad Hombres': Examining Online News Media Effects on Attitudes toward Latinx Immigrants*

**Ana Lujan (COL 2018)<sup>26</sup>**

Advisor: Lee Bassett  
*Synthesis of Nanodiamond Quantum Biosensor*

**Nicholas Lumsden (WH 2020)<sup>19</sup>**

Advisor: Samir Nurmohamed  
*The Implications of Being Underestimated*

**Joseph Maggiore (EAS 2019)<sup>26</sup>**

Advisor: Kacy Cullen  
*Recreating the Fascicular Architecture of Regenerating Nerves Using Micro-Tissue Engineered Neural Grafts*

**Conrad Mascarenhas (COL 2018)<sup>11</sup>**

Advisor: Gordon Barr  
*Sinomenine May Reduce Pain in Infant Rats*

**Darby Mason (COL 2018)**

Advisor: Michael Gamer  
*Esther: A Story of the Oregon Trail: A Critical Edition*

**Scott Massa (COL 2019)<sup>8</sup>**

Advisor: Meghan Lane-Fall  
*Discipline-based Communication Differences Between Clinicians in Operating Room to Intensive Care Unit Handoffs*

**Tara McCaffrey (COL 2021)**

Advisor: Jacqui Sadashige  
*An Overview of Scholarship on the Relationship Between Happiness and Vitamin D<sub>3</sub>*

**Michael McCarthy (COL 2019) and Jeremy Wilson (COL 2019)<sup>19</sup>**

Advisor: Nuala Meyer  
*CAM-ICU as a Predictor of Length of Stay and Mortality*

**Brendan McLaughlin (COL 2020)<sup>19</sup>**

Advisor: David Sadoff  
*Ethical Challenges in National Security Reporting*

**Tom McMonagle (COL 2020)<sup>19</sup>**

Advisor: Wil Prall  
*TRIM11*

**Natasha Menon (COL 2020) and Yareqzy Munoz (COL 2020)**

Advisor: Domenic Vitiello  
*Moder Patshala and its Importance in West Philadelphia*

**Hope Merens (COL 2018)<sup>19</sup>**

Advisor: Elizabeth Rhoades  
*Tau Aggregation in Polyphosphate Solution*

**Simon Miller (COL 2020)<sup>19</sup>**

Advisor: David Irwin  
*Progression of Tau Pathology in Non-Amnesic Alzheimer's Disease*

**James Mo (COL 2020)<sup>19</sup>**

Advisor: Joseph Baur  
*CRISPR Modifications of Gluconeogenic Genes in Primary Hepatocytes*

**Zoeb Mohammedshah (EAS 2020)<sup>19</sup>**

Advisor: Ivan Dmochowski  
*Characterization and Self Encapsulation of Suoercharged GFP by Thermophilic Ferritin*

**Robert Naruse (COL 2020)<sup>19</sup>**

Advisor: Abraham Wyner  
*Old and Young Drivers: Understanding Driving Behaviors of Inexperienced and Elderly Drivers*

**Kimberly Newman (COL 2018)<sup>8</sup>**

Advisor: Phong Tran  
*Microtubule-drug resistant fission yeast cells – Effects on spindle and chromosome dynamics*

**Ashten Nguyen (COL 2020)<sup>19</sup>**

Advisor: Fusun Ozer  
*Effect of Addition of Gantrez Copolymer (PVM/MA) on the Physical and Antibacterial Properties of Orthodontic Denture Resin*

**Christina Nordrum (EAS 2019)<sup>19</sup>**

Advisor: Eric Detsi  
*Novel 3D Thin Film Lithium-Iodine Batteries for Miniaturized Implantable Materials*

**Catherine Oksas (COL 2018)<sup>8</sup>**

Advisor: Edward (Ted) Brodtkin  
*Towards a precision medicine approach to the treatment of autism spectrum disorder*

**Nubia Ortega (COL 2018)<sup>12</sup>**

Advisor: Frances Barg  
*The Experience of Managing Type II Diabetes Among Indigenous Maya*

**Nicholas Paleologos (COL 2020)<sup>8</sup>**

Advisor: Kacy Cullen  
*Neuropathological Examination of the Hippocampus after Traumatic Brain Injury*

**Kate Panzer (EAS 2018)<sup>13</sup>**

Advisor: D. Kacy Cullen  
*Development of Scaffolds Comprised of Aligned Schwann Cells to Facilitate Axon Regeneration Following Peripheral Nerve Injury*

**Andrew Park (COL 2018)<sup>8</sup>**

Advisor: Andre Dombrowski  
*Nothingness and Silence in Abstract Art*

**Kristen Pearson (COL 2018)<sup>10</sup>**

Advisor: Katherine Moore  
*Tangled Motivations: Community, Mobility, and Frugality in a 10th Century Textile Assemblage from the Mongolian Altai*

**Javier Peraza (EAS 2020)<sup>19</sup>**

Advisor: Brett Ecker  
*Impact of Obesity on Breast Cancer Recurrence and Minimal Residual Disease*

**Leonardo Petit (COL 2020)<sup>19</sup>**

Advisor: Amada Armenta  
*Immigrants and Injustice:  
Understandings of Health Care  
among Latino Immigrants in  
Philadelphia*

**Ammar Plumber (COL 2020)<sup>19</sup>**

Advisor: Holger Sieg  
*City Spending and Revenues*

**Olivia Podos (COL 2020)<sup>19</sup>**

Advisor: Geoffrey Goodwin  
*Optimism about the climate: a  
double-edged sword?*

**Richard Potter (COL 2018)<sup>6</sup>**

Advisor: Elizabeth Rhoades  
*Understanding Binding Between  
Tau and Neuronal Tubulin*

**Samhith Punukula (WH 2020)<sup>19</sup>**

Advisor: Eugen Dimant  
*Detecting Matching Fixing in  
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**Cole Purdy (COL 2019)<sup>19</sup>**

Advisor: Joseph Baur  
*mTORC2 signaling in POMC  
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**Justin Qian (COL/EAS 2019)<sup>7</sup>**

Advisor: Ritesh Agarwal  
*CVD Growth of WS<sub>2</sub>/WSe<sub>2</sub>  
Heterostructures*

**Meghana Reddy (COL 2018)<sup>20</sup>**

Advisor: Rinad Beidas  
*Gender based differences of  
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**Yosef Robele (COL 2019)<sup>19</sup>**

Advisor: Doug Jerolmack  
*Mapping Soil Erodibility with a  
mechanic cockroach*

**Nathaniel Rome (COL 2018)<sup>8</sup>**

Advisor: Sara McGuire  
*European Integration and the  
Marshall Plan*

**Nahima Saliba (COL 2020)<sup>19</sup>**

Advisor: Lisa Schwartz  
*Factors that Influence  
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**Mikaela Salvesen-Quinn (NUR  
2019)<sup>19</sup>**

Advisor: Charlie Bailey  
*Information Seeking Behaviors  
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Utilization*

**Daniel Sample (COL 2018)<sup>11</sup>**

Advisor: James English  
*Joyce and Beckett: What We  
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**Hannah Sanders (COL 2019)<sup>19</sup>**

Advisor: Alain Plante

*Effects of Biochar Weathering  
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**Donavon Sandoval-Heglund  
(COL 2019)<sup>8</sup>**

Advisor: Montserrat Anguera

*Dynamics of Xist RNA  
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**Charles Sansone (COL 2019)<sup>19</sup>**

Advisor: Lauren Sallan

*Estimating Placoderms  
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**Brandon Santhumayor (COL  
2020)<sup>19</sup>**

Advisor: Elizabeth Heller

*The Effects of Chronic Variable  
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**Jackson Sauls (COL 2020)<sup>19</sup>**

Advisor: Dorothy Roberts

*Interracial Marriage in Chicago,  
1937-1967*

**Elena Schiavone (COL 2018)<sup>13</sup>**

Advisor: Deena Weisberg

*Investigating the Science  
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**Jordyn Schor (COL 2020)<sup>19</sup>**

Advisor: Paul Rozin

*Evaluating the Greater  
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Females?*

**Darsol Seok (COL 2018)<sup>8</sup>**

Advisor: Michael Platt

*Gaze reflects loss aversion*

**Jiyeux Seok (EAS 2020)<sup>19</sup>**

Advisor: Douglas Jerolmack

*Field Work, Erodibility, and  
Effects on Channel Geometry*

**Grant Shao (EAS 2018)<sup>13</sup>**

Advisor: Eric Detsi

*Nanostructured T-Nb<sub>2</sub>O<sub>5</sub> as  
Electrode Material for High-Rate  
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**Medha Sharma (COL 2018)<sup>24</sup>**

Advisor: Hiroshi Nakagawa

*Age-Associated Decline in  
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Eosinophilic Esophagitis*

**Curie Shim (EAS 2020)<sup>19</sup>**

Advisor: Eleni Katifori

*Investigating the Topology of  
the Coronary Vasculature*

**Dayoung Shin (EAS 2020)<sup>19</sup>**

Advisor: Charlie Johnson

*Artificial Odor Detection Using  
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**Myung Jin Shin (COL 2018)<sup>8</sup>**

Advisor: Eran Ben-Porath  
*Role of Emotions on Virality of  
Online Video Advertisements*

**Alexander Silva (EAS 2020)<sup>19</sup>**

Advisor: David Cormode  
*Engineered T-cell cancer  
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ray computed tomography*

**Sheridan Small (COL 2018)<sup>17</sup>**

Advisor: Megan Kassabaum  
*Robert Lamborn: The  
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19th Century*

**Julianne Smolyn (NUR 2019)<sup>21</sup>**

Advisor: Lamia Barakat  
*Relationship between Financial  
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Biological Sex, Current Age, and  
Age of Diagnosis for Survivors of  
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**Adithya Sriram (COL/EAS  
2020)<sup>8</sup>**

Advisor: A.T. Charlie Johnson  
*Early Diagnostics of Parkinson's  
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**Annie Su (EAS 2020)<sup>19</sup>**

Advisor: Vijay Balasubramanian  
*Using texture statistics for  
inferring the gist of an image*

**Joy Sun (COL 2019)<sup>19</sup>**

Advisor: William Peranteau  
*In utero gene editing: CRISPR-  
Cas9 in the mTmG Mouse Model*

**Jesus Tamez (COL 2018B)<sup>13</sup>**

Advisor: Dr. Kelly Jordan-  
Scuitto  
*Investigating the Role of BACE 1  
Signaling on Neurite Regrowth  
Following Induced Injury*

**Emily Trimm (COL 2019)<sup>8</sup>**

Advisor: Michael Lampson  
*Selfish Centromeres Drive Non-  
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**Andrew Tsai (COL 2020)<sup>19</sup>**

Advisor: Thomas Sollecito  
*Emergency Department  
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**Ivy Tse (COL 2019)<sup>8</sup>**

Advisor: Sharon Thompson-  
Schill  
*Effects of Social Value Learning  
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**Ryan Tu (COL 2019)<sup>19</sup>**

Advisor: Jisun Lee  
*Investigation of novel latent  
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**Erik Vargas (COL 2020)<sup>19</sup>**

Advisor: Amada Armenta  
*Undocumented Immigrants in  
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**Andrew Wang (COL 2018)<sup>8</sup>**

Advisor: Jonathan Katz  
*RhoF mediates KLF<sub>4</sub> induced  
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**Cynthia Wang (COL 2018)<sup>18</sup>**

Advisor: James Hagan  
*E-Waste Management in China:  
Research and Internship*

**Jasmine Wang (EAS 2019)<sup>19</sup>**

Advisor: Louis Soslowsky  
*High-Speed Cross-Polarized  
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Realignment: A Labview Control  
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**Kathleen Wang (COL 2020)<sup>11</sup>**

Advisor: Erfei Bi  
*Isolation and Characterization of  
ts SNARE Mutants*

**Tiffany Wang (COL 2020)<sup>8</sup>**

Advisor: Sharrona Pearl  
*The Golden Standard:  
Examining Ethics and American  
Journalism in A Global Context*

**Vanessa Weir (COL 2019)<sup>8</sup>**

Advisor: Heath Schmidt  
*Chemogenetic activation of  
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attenuates cocaine seeking in  
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**Zachary Whitlock (EAS 2020)<sup>26</sup>**

Advisor: Shu Yang  
*A Super-Strong, Micro-  
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Reversible Adhesive*

**Huanyi Xiao (COL 2018)<sup>13</sup>**

Advisor: Alexander Funcke  
*Evidence on the effectiveness of  
sanitation interventions to  
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India: A systematic review*

**Jane Xu (EAS 2020) and Waley  
Zhang (EAS 2020)<sup>19</sup>**

Advisor: Val Tannen  
*Searching for Repairs: A  
Polynomial Approach to Missing  
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**Brian Yan (COL 2018)<sup>8</sup>**

Advisor: Sunny Shin  
*Human inflammasome  
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**Kevin Yang (COL 2020)<sup>19</sup>**

Advisor: Mia Levine  
*Telomeres on a treadmill: causes  
and consequences of telomere  
protein evolution*

**Luming Yang (COL/WH 2019)<sup>19</sup>**

Advisor: David Hsu  
*Commercializing Science:  
Evidence from Simultaneous  
Discoveries*

**Xinping Yang (COL 2018)<sup>4</sup>**

Advisor: Charlie Johnson

*Graphene based Nano biosensor  
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**Jimin Yoon (COL 2018)<sup>8</sup>**

Advisor: Ernest Petersson

*Modeling Noncanonical Amino  
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**Andres Zambrano (EAS 2019)<sup>7</sup>**

Advisor: Cynthia Sung

*Implementation of dynamics  
into motion simulations of  
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**Michelle Zhan (COL 2019)<sup>19</sup>**

Advisor: John Maris

*In Vitro Testing of Three Novel  
USP7 Inhibitor Drug Therapies in  
Pediatric Neuroblastoma*

**Susan Zhao (EAS 2019)<sup>26</sup>**

Advisor: Michelle Johnson

*Efficacy of a Pressure-Sensitive  
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**Brian Zhong (COL 2020)<sup>19</sup>**

Advisor: Mike Montague

*Variation in oxytocin and  
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**Hanming Zu (EAS 2020)<sup>19</sup>**

Advisor: Jordan Raney

*Paste Ink Extruder for 3D printer*

## *List of grants*

- 1 Andrea Mitchell Center for the Study of Democracy
- 2 Anthropology Department, University of Pennsylvania
- 3 Association of Alumnae Scholars Rosemary D. Mazzatenta Award
- 4 Paul and Kathleen A. Barthmaier Fund
- 5 Benjamin Franklin Scholars Summer Research Grant
- 6 Center for Engineering and Mechanobiology
- 7 Class of 1971 Robert J. Holtz Fund
- 8 College Alumni Society Research Grant
- 9 College House Research Fellow
- 10 Gelfman International Summer Fund
- 11 Grants for Faculty Mentoring Undergraduate Research
- 12 Hassenfeld Foundation Social Impact Research Grant
- 13 Jumpstart for Juniors
- 14 Mellon Humanities + Urbanism + Design Initiative
- 15 Partnerships for International Research and Education, National Science Foundation (NSF-PIRE)
- 16 Penn Global Internship Program - Guatemala Health Initiative
- 17 Penn Museum Fellowship
- 18 Penn Undergraduate Climate Action Grant
- 19 Penn Undergraduate Research Mentorship Program (PURM)
- 20 Perelman School of Medicine and Penn Leonard Davis Institute
- 21 PURM (Alex's Lemonade Stand Foundation)
- 22 Research and Education in Active Coatings Technologies for the Human Habitat, NSF-PIRE
- 23 Summer Undergraduate Research Group Grant
- 24 Undergraduate Student Scholars Program
- 25 University Scholars Summer Research Grant
- 26 Vagelos Undergraduate Research Grant
- 27 Wolf Humanities Center

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## ***Advising***

***Fellowship Advising*** for Rhodes, Fulbright, Marshall, Gates, Truman, Goldwater, Soros, Thouron, and other fellowships

***Peer Support and Advising*** from Research Peer Advisors and the Undergraduate Advisory Board

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