OPEN HOUSE & RESEARCH EXPO

Wednesday, September 5, 2018
5:00 – 6:30 pm
Hall of Flags, 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 Open House and Research Expo! Over 250 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.
Have questions about research or fellowships at Penn?

Visit us at http://www.upenn.edu/curf/ for information about additional resources

Information Sessions and Workshops

Getting Started in Research
“How to” for specific fields of research
Getting to Know Faculty
Research Skills Series
Fellowships 101 Information Sessions
Fellowships 201 Information Sessions
Fulbright Scholarship Information Sessions
Graduate Study in the United Kingdom
Pursuing International Summer Fellowship Opportunities
Advising

Research Advising from the general to the specific-just bring your questions

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

Programs and Seminars

The President’s Engagement Prize (PEP) supports students with living expenses and project implementation expenses to develop and implement a promising local, national, or global engagement

The President’s Innovation Prize (PIP) provides living expenses and project implementation expenses to envision and implement an innovative, commercial venture that makes a positive difference in the world

The Penn Undergraduate Research Mentorship Program (PURM) matches students with faculty researchers each Spring

The Summer Humanities Internship Program (SHIP) provides students with apprentice positions in a cultural, historical, or archival setting

The University Scholars Program provides support for in-depth research during the undergraduate career

The Benjamin Franklin Scholars Program offers intellectually stimulating small seminars
Maramawit Abera (COL 2018)5, Sarah Huang (NURS 2019)5, and Elizabeth Lazarus (COL 2020)5
Advisor: Robin Stevens
City Uncensored

Abigail Abramson (COL 2021)16 and Tahira Islam (COL 2020)16
Advisor: Nicholas Abend
Identifying Risk Factors For Neonatal Seizures Through EEG and Clinical Data

Nana Acquah (COL 2019)5
Advisor: Amelia Eisch
Investigating Granule Cell Layer Volume after Mild Traumatic Brain Injury

Princess Aghayere (COL 2019)10 and Summer Kollie (College 2019)10
Advisor: Harvey Rubin
Promoting Education and Cultivating Empowerment (P.E.A.C.E.) Through Girls Basketball

Oscar Aguila (COL 2020)16 and Erin Spicola (COL 2020)16
Advisor: Megan Kassabaum
Smith Creek Archaeological Project

Arielle Pierson (LPS 2020)14
Advisor: Megan Kassabaum
Smith Creek Archaeological Project: In the Mounds

Erin Spicola (COL 2020)16 and Oscar Aguila (COL 2020)16
Advisor: Megan Kassabaum
Smith Creek Archaeological Project - In the Lab

Adam Aharoni (COL 2019)5
Advisor: Yana Kamberov
Exploring Cellular Diversity in the Skin Using Nuclear RNA Sequencing

Ernesto Alcantar (COL 2020)16
Advisor: Kimberly Christian and Guo-Li Ming
Impact of Adult Neurogenesis on Learning and Memory

Ayyah Alhurabi (COL 2021)16, Dorina Domi (COL 2021)16, and Breyasia Scott (COL 2020)16
Advisor: Kathyrn Schuler
The Effect of Inconsistent Input on Language Acquisition in Children

Folatomi Alli-Balogun (EAS 2020)16
Advisor: Krystal Strong
Mapping University Protests in Africa

Michelangella Arbocco (EAS 2020)11
Advisor: Jennifer Punt
IGF1 Receptor Expression by Canine Immune Cells

Julci Areza (COL 2021)5
Advisor: Matthew Kayser
Identification of sleep-wake circuits in Drosophila larvae

Emily Augustine (COL 2020)
Advisor: James Shorter
Engineering the Middle Domain of Hsp78

Virginia Axline (COL 2021)16 and Adriana Discher (COL 2021)16
Advisor: Judith Grinspan and Kelly Jordan-Sciutto
Do antiretroviral drugs modulate oligodendrocyte differentiation?

Margaret Badding (COL 2021)16 and Shira Silver (COL 2021)16
Advisor: Paul Robinson
Emotions and Criminal Law
Maria Baez (COL 2021)\textsuperscript{16}  
Advisor: John Dani and William Doyon  
Optogenetic Stimulation of Dopamine Release in the Nucleus Accumbens during Ethanol Self-Administration

Mohamed Barmada (COL 2021)\textsuperscript{16}  
Advisor: Michael Lampson  
Testing the Internal Stability of CENP-A in Mice

Julia Barr (COL 2019)\textsuperscript{10}  
Advisor: Alexander Chase-Levenson  
“Nobody Roots for Goliath”: The Blitz, the Bombing of Germany, and British National Identity

Matthew Belyakov (COL 2021)\textsuperscript{16} and Lakshay Sharma (COL 2021)\textsuperscript{16}  
Advisor: Masao Sako  
The Hunt for Planet Nine.

Dillon Bergin (COL 2019)\textsuperscript{5}  
Advisor: Rita Barnard  
Fees Must Fall: Student Revolt in Post-Apartheid South Africa

Ivanna Berrios (COL 2021)\textsuperscript{16}  
Advisor: Jennifer Ponce de Leon  
Another Aesthetics is Possible: Radical Politics across the Arts of the Americas

Sanaea Bhagwagar (COL 2021)  
Advisor: Matthew Rodeheffer  
Investigating the Expression of PdgfRB in Mature Adipocytes

Alisa Bhakta (EAS/WH 2020)\textsuperscript{16}  
Advisor: Scott Harrington and Genevieve Kanter  
FDA Conflicts of Interest

Tathagat Bhatia (COL 2021)\textsuperscript{16}  
Advisor: Etienne Benson  
War, Science and the Empire: Remaking the Twentieth Century Earth Science

Alice Bian (EAS 2021)\textsuperscript{16}  
Advisor: Sara Kornfield  
Novel Psychotherapy Treatment to Address Maternal PTSD

Nurul Ezzaty Binti Hasbullah (COL 2020)\textsuperscript{1}  
Advisor: Ramah McKay  
Sexual beliefs, perception and attitudes of girls in Malaysia.

Nicholas Bishop (COL 2021)\textsuperscript{16}  
Advisor: Arjun Yodh  
Effects of Depth on Diffuse Optical Tomography and Fluorescent Agent

Emma Boey (COL 2021)\textsuperscript{16}  
Advisor: Erle Robertson  
Epstein Barr virus encoded BHRF1-1 miRNA targets host transcription factor essential for lytic reactivation

Eli Bogomolny (EAS 2020)\textsuperscript{18}, Spencer Webster-Bass (EAS 2021)\textsuperscript{5}, Effie Li (EAS 2021)\textsuperscript{18}, Seyoung An (EAS 2020)\textsuperscript{18}, and Daniel Pitt (COL 2019)\textsuperscript{18}  
Advisor: Normal Badler  
An Interactive Recreation of Everyday Life in Pre-Columbian Amazonia

Samuel Borislow (COL 2021)\textsuperscript{16}  
Advisor: Geoffrey Goodwin  
Moral Perceptions of Animal Euthanasia

Grace Boroughs (COL 2020)\textsuperscript{18}  
Advisor: Bethany Wiggin  
Sea Level Rise and its Impacts on the Lower Schuylkill

Zoe Braccia (COL 2020)\textsuperscript{16}  
Advisor: Whitney Trettien  
Digitizing the Social Network of Books in the 17th Century: A Digital Humanities Project
Luis Bravo (COL 2019)\textsuperscript{5,12}  
Advisor: Chenoa Flippen  
*Perceived Barriers to Legal Assistance in an American Urban Population*

Ezra Brooks (COL 2019)\textsuperscript{5}  
Advisor: Juan Pablo Atal  
*The Impact on Health Outcomes of Chilean OB/GYN Collusion*

Alexis Broussard (COL 2020)\textsuperscript{16}  
Advisor: Allyson Mackey  
*Disruptions in Brain Functional Connectivity as a Function of Callous-Unemotional Traits in Children and Adolescents*

Olivia Bruyn (COL 2021)\textsuperscript{16}  
Advisor: Nicholas Betley  
*Examining Communications between the Brain and the Small Intestine by Measuring Food Intake after Infusions of Macronutrients*

Maria (Ale) Cabrales (COL 2021)\textsuperscript{16}  
Advisor: Gerald Campano  
*College Access*

Antonio Canales (COL 2021)\textsuperscript{16}  
Advisor: Holger Sieg  
*Capitalization of SALT in Metro Housing Prices after TCJA*

Christopher Carlson (COL 2020)\textsuperscript{8}  
Advisor: Bree Yednock  
*Tracking European Green Crab Abundance in an Oregon Estuary*

Courtney Carpinello (College 2019)\textsuperscript{14}  
Advisor: Kathleen Brown  
*The Battle for American English*

Camila Celi (COL 2020)\textsuperscript{16} and Jacob Ziemba (COL 2021)\textsuperscript{16}  
Advisor: Michael Horowitz  
*Military Technology and the International Security Environment*

Puti Cen (WH 2020)\textsuperscript{18}, Maria Escudero (COL 2021)\textsuperscript{18}, Evan Paregol (EAS 2020)\textsuperscript{18}, and Yufei Xia (EAS 2021)\textsuperscript{18}  
Advisor: Michael Platt  
*A Neuroeconomics Approach to Biomarker Discovery in Depression*

Aurora Cenaj (EAS 2021)\textsuperscript{16}  
Advisor: Claire Mitchell  
*Determining Gene Regulation of Microglia in Glaucoma*

Claire Centeno (COL 2020)\textsuperscript{16}  
Advisor: Benjamin Abella  
*Intra-arrest transesophageal echocardiography: A retrospective analysis*

Shae Chambers (COL 2019)\textsuperscript{5}  
Advisor: Akiva Cohen  
*Behavioral threat response following repetitive mild traumatic brain injury in mice*

Aaron Chen (COL 2020)\textsuperscript{16}  
Advisor: Steven Weitzman  
*Religion and the Global Future*

Delia Chen (COL 2021)\textsuperscript{16}  
Advisor: Foteini Mourkioti  
*Muscle Stem Cell Protrusions*

Emily Cheng (WH 2021)\textsuperscript{16}  
Advisor: Minyuan Zhao  
*A Study of Cross-Border Acquisitions by Emerging-Market Multinational Enterprises*

Jingyi Chi (COL/WH 2021)\textsuperscript{16} and Nicolas Tola (EAS 2021)\textsuperscript{16}  
Advisor: Pinar Yildirim  
*Labor Market Conditions and Participation in Ride-Sharing*
Chelsea Chikwanda (COL 2021)16
Advisor: Rachel Arnett
Cultural Identity Expressions at Work

Reiyuan Chiu (WH 2021)16
Advisor: Maurice Schweitzer
Learning from Emotional Expressions

Hannah Cho (COL 2020)16
Advisor: Sandra Ryeom
The Role of Epithelial Mesenchymal Transition in Pulmonary Fibrosis

Mark Choi (EAS 2021)16
Advisor: Chenfanfu Jiang
Cloth-net: Automation of Training Data Generation Pipeline for Cloth Recognition

Michael Cipolla (EAS 2020)16 and Justin Swirbul (EAS 2020)16
Advisor: Insup Lee
IoMT Security Research

Ari Clements (COL 2019)5
Advisor: Ling Qin
Understanding the Role of Subchondral Bone Marrow MSCs in Osteoarthritis

Aoife Coady (COL 2020)16
Advisor: Sudeep Bhatia
Nudges: the influence of contextual effects on decision making

Daniel Cohen (COL 2020)16
Advisor: Lily Brown
Predictors of Difficulties in Emotion Regulation in PTSD

Ayanna Coleman (COL 2020)16
Advisor: Sarah Jackson and Christopher Pierce
Optogenetic Stimulation of Nucleus Accumbens Shell Dopamine D2 Receptor-Containing Medium Spiny Neurons Attenuates Cocaine-Prime

Michiyah Collins (COL 2021)16 and Mariam Sy (EAS 2020)16
Advisor: Victoria Vetter
Automatic External Defibrillators in Pennsylvania Public Schools: Implementation of Cardiac Emergency Response Plan in Schools

Ivan Covarrubias (COL 2019)5
Advisor: Shinjae Chung
Sleep Deprivation Effects on Sleep Neuron Activity in the POA

Olivia Crocker (COL 2020)
Advisor: Eric Joyce
The Role of Condensin II in Long-Range Intrachromosomal Interactions

Ava Cruz (COL 2021)16
Advisor: Allyson Mackey
Relation of Parent-Child Interaction to Children's Curiosity & Persistence

Celine Cumming (COL 2019)5
Advisor: Harvey Grill
Anatomical and Behavioral Characterization of NTS PPG Axonal Projections: PVH and VTA

Natasha Dalmia (EAS 2021)11
Advisor: Joshua Gold
Phasic and Tonic Oddball Experiment

Olivia Darko (COL 2020)16
Advisor: Scott Harrington and Genevieve Kanter
Direct-to-Consumer Genetic Testing

Yehudith Dashevsky (COL 2019)16 and Abigail Sugarman (COL 2020)16
Advisor: Kevin M. F. Platt
Your Language My Ear 2019
Courtney Daub (COL 2021)16, Madison Pettaway (COL 2021)16, and Michael Williams (COL 2021)16
Advisor: Deborah Thomas
*Human Rights and Sexuality in Jamaica*

Jessica Davis (COL 2020)16
Advisor: Salimah Meghani
*Eliciting Cancer Pain Management Issues and Strategies to Identify Intervention Opportunities: A Multi-Method Research Design*

Clemen Deng (EAS 2020)16
Advisor: Sudeep Bhatia
*Predicting Person Perception*

Annika DeRoos (COL 2021)16
Advisor: Jane Dmochowski and Alain Plante
*Urbanization in the Santa Monica Mountains*

Jordan Dewar (COL/WH 2019)6
Advisor: Jim McGann
*Defining the State: The Impact of Identity in Forming the State and in Constructing Inter-State Relations*

Christina DiCindio (COL 2021)16 and Daniel Rodriguez (COL/WH 2021)16
Advisor: Comron Saifi
*Motion Analysis of Daily Activities in Patients with varying Spinal Pathologies*

Emmie Dong (EAS 2021)16
Advisor: Cynthia Sung
*Origami Imaging and Modeling*

Arjun Doshi (COL 2019)10
Advisor: Alex Chase-Levenson
*The Heart of Indian Pedagogy: Religion, Language, and the Anglicist-Orientalist Debate*

Lauren Drake (EAS 2020)
Advisor: James Shorter
*Engineering Protein Disaggregates to Combat Neurodegenerative Disease*

Mark D'Souza (COL 2021)16
Advisor: Marija Dmdić
*DNA Translocation through Solid State Nanopores*

Angelica Du (EAS 2020)16
Advisor: Christopher Fang-Yen
*Development of a robotic manipulation system for Caenorhabditis elegans*

Weiyu Du (EAS 2021)16
Advisor: Michelle Johnson
*Autonomous Navigation of a Socially Assistive Robot for Telepresence Rehabilitation in Hospital Environment*

Jessica Dubuque (EAS 2020)16
Advisor: Christopher Fang-Yen
*How Worms Respond to Sleep Deprivation During Stress-Induced Sleep*

Carmen Duran (COL 2021)16
Advisor: Norma Coe
*Measuring Medicaid Access to Care and its Downstream Implications: The Case of Hepatitis C*

Gizem Dursuk Osmanoglu (COL 2019)19
Advisor: Jonathan Katz
*P53 and KLF5 Mediate Cell Fate Decisions Upon Exposure to Alcohol and Cigarette Smoke*

Zoe Early (COL 2020)16 and Tatiana Johnson (COL 2021)16
Advisor: Jacqueline Corcoran
*Meta Analysis of Low Income Women with Depression*
Donnisa Edmonds (COL 2020)\textsuperscript{5}
Advisor: Geoffrey Goodwin
*Environmental Decision*

Paul Ehmann (COL 2019)\textsuperscript{14}
Advisor: Jonathan Moreno
*Ethical Controversies surrounding Neurotechnologies and the Biological and Chemical Weapons Convention*

Lea Eisenstein (COL 2019)\textsuperscript{14}
Advisor: Beth Linker
*From Icon to Bygone: The Rise and Fall of the Contraceptive Diaphragm in Twentieth-Century America*

Eric Eisner (COL 2019)\textsuperscript{5}
Advisor: Beth Wenger
*“The Most Generous, Disinterested, and Philanthropic Motives”: Religion, Race, and the Maryland Jew Bill*

Deena Elul (COL 2021)\textsuperscript{16} and Dominique Martinez (COL 2020)\textsuperscript{16}
Advisor: Elizabeth Brannon
*Infant Foraging*

Dominique Martinez (COL 2020)\textsuperscript{16} and Deena Elul (COL 2021)\textsuperscript{16}
Advisor: Elizabeth Brannon
*Child Division of Visual Quantity*

Lonard Encarnacion (COL 2021)\textsuperscript{16}
Advisor: Carolyn Cannuscio
*Librarians & Public Health*

Alexander Escobar (COL 2021)\textsuperscript{16}
Advisor: Michael Gamer
*The Penn Playbill Project*

Justin Estreicher (COL 2019)\textsuperscript{5}
Advisor: Robert St. George
*Celebrating Conquest: Broken Treaties, World’s Fairs, and Constructions of Native American Savagery, 1875–1905*

Adrian Evans IV (COL 2021)\textsuperscript{12}
Advisor: Brian Peterson
*Makuu Summer Impact Program*

John Filosa (COL 2019)\textsuperscript{5}
Advisor: Michael Povelones
*Crithidia fasciculata as a model to study insect specific adhesion*

Wilson Fisher (COL 2019)\textsuperscript{5}
Advisor: Kenneth Goldsmith
*Cory Arcangel in Stavanger: Watching the Paint Dry*

Emylee Fleshman (COL 2021)\textsuperscript{16}
Advisor: Kim Reiss Binder
*Comparison of Peripheral Blood Mononuclear Cell (PBMC) Isolation Methods: Ficoll-Paque vs SepMate*

Emmanuel Foltz (COL 2020)\textsuperscript{11} and Eva Lardizabal (COL 2020)\textsuperscript{11}
Advisor: Julia Gray
*Performance and Vitality in International Economic Organizations*

Daniel Fradin (COL 2019)\textsuperscript{5} and Kyle Rosenbluth (EAS 2019)\textsuperscript{15}
Advisor: Meta Mazaj
*The Arctic Town of Tuktoyaktuk: A Profile of a Changing Community*

Maxwell Frankfurter (COL 2020)\textsuperscript{5}
Advisor: Sarah Millar
*Elucidating the role of Fzd2 in Hair Follicle Stem Cell Function*

Benjamin Friedman (COL 2019)\textsuperscript{5}
Advisor: Emile Bruneau
*The Sacred Divide: Political Polarization and Sacred Values*

Daniel Furman (COL 2020)\textsuperscript{15}
Advisor: David Goldsby
*Experimental Ice Compaction*
Will Gaines (COL 2021)
Advisor: Mia Levine
Using Position Effect Varigation to Quantify Telomere Elongation

Alan Garcia (COL 2021)
Advisor: Erle Robertson
De-regulation of fatty acid metabolic gene expressions in TNBCs with varied microbiome abundance

Rafael Gehrke (EAS 2021)
Advisor: James Pikul
High Strain Capacitive Sensor with Independent X-Y Axis Measurement by Fringe Effect

Ariel Gelrud (COL 2020)
Advisor: Heather Schofield
Sleep Deprivation, Productivity, and Decision-Making in Chennai, India

Olivia Gibbs (COL 2020) and Zihan Xiong (WH 2020)
Advisor: Cary Coglianese
Online transparency in statutatory and regulating weavers and exemptions

Cullan Gilroy (COL 2021)
Advisor: Vincent Reina
The Effects of Land Use Regulations on the Siting of Subsidized Housing

Jolie Gittleman (COL 2019)
Advisor: Bethany Wiggin
Water Health Literacy in Philadelphia

Jamie Gobreski (COL 2019)
Advisor: Bethany Wiggin
A Case Study of Federal Data in a Local Environmental Justice Community

Madison Goldstein (COL 2020) and Alicia Jen (COL 2020)
Advisor: Blanca Himes
Using Mobile Air Quality Sensors to Detect Differences in Particulate Matter Around Penn’s Campus

Samuel Goldstein (COL 2021)
Advisor: Elliot Lipeles
Investigation of Boosted Jets Using Center of Mass Clustering Algorithms

Alexander (Xander) Gottfried (COL 2021)
Advisor: Mia Levine
Parasitic guardians: diagnosing telomere length variation in Drosophila

Jillian Grimsley (COL 2019)
Advisor: Ada Kuskowski
Drama and Flair in Cogadh Gaedhel re Gallaibh: A Twelfth-Century Guide to Rewriting History

Shiri Gross (COL 2019)
Advisor: Ann Moyer
Le Polemiche del Caffè Michelangiolo

Anna Hardie (COL 2021)
Advisor: Michael Weisberg
Philosophy of Biology in the Galápagos Archipelago

Wesley Harris (COL 2019)
Advisor: Heather Sharkey
Addis Ababa and Saharawi Diplomacy-in-Exile

Renee Hastings (COL 2019)
Advisor: Doris Wagner
Purifying an Intrinsically Disordered Plant Regulatory Protein

Nora Hennessy (NURS 2021)
Advisor: Morgan Hoke
NAP: Nunoa Anthropologic Project
Chan Ha Hong (COL 2021)16
Advisor: Arjun Yodh
Removing Motion Artifacts from Optical Hemodynamic Data

Aditya Hota (EAS 2021)16
Advisor: Insup Lee
HypoCount: Allowing Doctors to Analyze Patient Blood Glucose Data on Mobile Devices

Tat Hang Henry Hung (COL 2021)16
Advisor: Geoffrey Goodwin
Species Difference and Moral Perception of Euthanasia

Lynn Hur (COL 2019)12
Advisor: Kent Bream
A Comprehensive Analysis of Food Security and Obesity in West Philadelphia

Anastasia Hutnick (COL 2020)16
Advisor: Michael Gamer
The British Library Playbill Project

Aime Bienfait Igiraneza (EAS 2020)5
Advisor: Mecky Pohlschröder
Study of N-glycosylation in biofilm formation of Haloferax volcanii

Meghana Iyer (EAS 2021)8
Advisor: Robert Tranquillo
Design and In Vitro Hemodynamic Evaluation of a Novel Bioprosthetic Venous Valve with Sinus

Pranav Iyer (COL 2020)16
Advisor: Evelyn Thomson
Punch-through Uncertainties at the ATLAS Detector

Ian Jean (COL 2019)5
Advisor: Marc Schmidt
Sexual response to song: effects of song manipulation in female cowbirds

Fiona Jensen-Hitch (COL 2019)5
Advisor: Janet Monge
Politics, identity, and ethics in ancient and contemporary Israel: an integrated approach to a bioarchaeological collection

Celine Jo (COL 2019)5
Advisor: Kent Bream
Experiences around Food among Type II Diabetes Patients in Cobbs Creek

Hyun Ji Jung (EAS 2020)16
Advisor: Insup Lee
OpenICE-lite: a Platform for Internet of Medical Things

Lara Jung (COL 2019)5
Advisor: Meghan Crnic
Nature, Prescribed.

Michelle Kahng (COL 2019)5
Advisor: Heath Schmidt
Systemic infusions of amylin attenuate oxycodone-taking behavior in rats

Vanessa Weir (COL 2019)11 and Michelle Kahng (COL 2019)11
Advisor: Heath Schmidt
The role of hindbrain projections to the nucleus accumbens in cocaine reinstatement

Vanessa Weir (COL 2019)5
Advisor: Heath Schmidt
A hindbrain to VTA pathway regulates cocaine-seeking behavior via a glucagon-like peptide-1 dependent mechanism

Baran Kayim (COL 2021)17
Advisor: Aaswath Raman
Generative Models for Desalination

Delaney Keenan (COL 2020)5
Advisor: Gwendolyn Shaw
Connections Between the Art of Spain and the Low Countries during the Spanish Golden Age
Rachael Keneipp (COL 2021)\textsuperscript{16}
Advisor: Marija Drndić
Project Title: Two-Dimensional Materials: Science and Applications

Aaron Kim (COL 2019)\textsuperscript{14}
Advisor: Francis Mante
Effect of Radiation on Demineralization and Remineralization of Dental Enamel and Dentin

Andrew Kim (COL 2021)\textsuperscript{16} and Alex Kuang (WH 2021)\textsuperscript{16}
Advisor: Nathaniel Dyment
Defining Markers within the Tendon Cell Lineage during Growth

Brett Kim (COL 2021)\textsuperscript{16}
Advisor: Dana Graves and Tatyana Milovanova
Dendritic cells and the pathogenesis of periodontal disease

Jaewon Kim (COL 2020)\textsuperscript{16}
Advisor: Sandra Ryeom
The Role of NFAT Signaling in Fibroblast Activation: Effects on Fibroblast Invasion and Angiogenesis

Jaywon Kim (COL 2021)\textsuperscript{16} and Alana Levin (WH 2021)\textsuperscript{16}
Advisor: Ryan Brutger
Threats, Promises, and Strategies in International Negotiations

Seyeon Kim (COL 2019)\textsuperscript{14}
Advisor: Hyunjoon Park
Gendered Difference in the Transmission of Parental Interest in Science

Arun Kirubarajan (COL/EAS 2021)\textsuperscript{16}
Advisor: Chris Callison-Burch
ChatEval: A Framework for Evaluation Neural Open-Domain Chatbots

Bryce Klehm (COL 2019)\textsuperscript{5}
Advisor: Benjamin Nathans
US-Russia Cooperation in Bosnia

Jacob Kocan (College 2021)\textsuperscript{16}
Advisor: Foteini Mourkioti
Using Tissue Engineered Nerve Grafts to Augment Functional Neuromuscular Regeneration of Denervated Muscle

Elyse Kochman (COL 2020)\textsuperscript{13}
Advisor: Katie Barott
A Look at Spawning Induction and Early Development in Aiptasia pallida: Developing a Model to Study the Effects of pH

Sai Kodukula (COL 2019)\textsuperscript{11}
Advisor: Jonathan Raper
Role of Ntn1a and 1b in Olfactory Axon Guidance

Daphne Kontogiorgos-Heintz (EAS 2021)\textsuperscript{8}
Advisor: Christopher Fang-Yen
WorMotel Mini: High throughput C. elegans Imaging Device

Preethi Kumaran (COL 2021)\textsuperscript{15}
Advisor: Ileana Peréz-Rodríguez
Cultivation and Isolation of Chemolithoautotrophic Microorganisms

Aleksandra Kusiak (COL 2019)\textsuperscript{9}
Advisor: Masao Sako
Search for Superluminous Supernovae (SLSN) in Dark Energy Survey Data

Karissa Lam (Nursing 2020)\textsuperscript{16}
Advisor: Mary Ersek
Palliative Care Interventions in Nursing Homes

Jennifer Lee (COL 2021)\textsuperscript{11}
Advisor: Ravi Amaravadi
The crosstalk of PPT1, APT1, and APT2 depalmitoylases in melanoma cells
Peter Lenchur (COL 2019)
Advisor: Gordon Barr
Studies of Prenatal Oxycodone Exposure in Dependent Rats

Gabrielle Leon (EAS 2019)
Advisor: Tobias Baumgart
Deformations of Giant Unilamellar Vesicles

Ryan Leone (2019)
Advisor: Jose Pascual
Differential Consequences for Recovery from TBI with Concomitant Lung Injury and Bone Fracture

Gina Lepore (COL 2021)
Advisor: Julie Blendy
Modeling Neonatal Abstinence Syndrome in Mice

Lena Leszinsky (COL 2020)
Advisor: Zarina Ali
Opioid Use Following an Enhanced Recovery after Neurosurgery Pathway

Darby Levin (COL 2019)
Advisor: Jane Dmochowski
Interactions Between Climate, Vegetation, and Fire in the Santa Monica Mountains

Ari Levine (COL 2020)
Advisor: Matthew Kayser
Neurological basis of aberrant social behaviors associated with NFI mutations in the drosophila melanogaster gustatory pathway

Howard Li (COL 2021)
Advisor: Shariq Raza
Patterns of Usage of Smartphone Emergency Medical ID Apps among Patients presenting in Extremis to a Level-I Trauma Center

Joyce Li (COL 2021)
Advisor: Katherine Klein
Students Achieving Gains in Excellence: An initiative to radically transform low-performing public schools in 3 years

Emma Lipschutz (COL 2019)
Advisor: Jeremy Wang
H1t-GFP as a Visual Marker for In Vitro Meiotic Progression

Jessica Liu (College 2020)
Advisor: Julie Blendy
Hippocampal CREB Reduction and Susceptibility to Chronic Unpredictable Stress

Jipeng Liu (COL 2021)
Advisor: Yue Hou
Measuring Innovative Capacities of Chinese Firms with Case Study of Huawei

Yutong Liu (WH 2020)
Advisor: Jonah Berger
Why do news or journal articles become popular

Sabina London (COL 2020)
Advisor: Adam Mohr
STEM You Can!: STEM Enrichment for Low-Income Kids in Pennsylvania

Gabriella Lott (COL 2019)
Advisor: Brian Peterson
Assembling Public Cultural Enrichment Archives

Jerry Lu (COL/EAS 2021)
Advisor: Dan Swingley
Analyzing the Acoustics of Infant-Directed Mandarin Speech

Michelle Lu (COL 2020)
Advisor: Molly McGlone
Ethnic Identity and Community Development Corporations in Philadelphia
Yunqing (Mimi) Lu (COL 2021)\textsuperscript{16}
Advisor: Daniel Swingley
Why are some people better at learning languages than others?

Celeste Marcus (COL 2019)\textsuperscript{10}
Advisor: David Ruderman
Intellectual Origins of the Voice of Jacob

Sadhana Marikunte (EAS 2021)\textsuperscript{16}
Advisor: Lee Bassett
Comparing Measurement Accuracy of Nitrogen Vacancy Center Readouts

Sarah Marron (COL 2019)\textsuperscript{10}
Advisor: Antonio Feros
Investigating Repression During the Spanish Civil War: Seville, 1936

Abraham Mascio (COL 2021)\textsuperscript{16}
Advisor: Lang Fengchao and Erle Robertson
Investigating the Knockdown Effect of M6A Methyltransferase (Mettl14) on EBV (Epstein-Barr virus) infected AKATA Cells

Payton Matous (COL 2021)\textsuperscript{16}
Advisor: Suvir Kaul
The Travels of Captain Bob Singleton

Tara McCaffrey (COL 2021)\textsuperscript{16}
Advisor: Adeline Vanderver
In Vivo Modeling of H-ABC

Michael McCarthy (COL 2019)\textsuperscript{5}
Advisor: Nuala Meyer
Statins as a Treatment for Impaired Cognition in Sepsis Patients

John McGahay (COL 2019)\textsuperscript{14}
Advisor: Meredith Tamminga
Effects of Conditioned Mergers on Underlying Phonological Representations

Abigail McGuckin (COL 2019)\textsuperscript{15}
Advisor: Michael Nairn
Closing the Loop between Public and Private Sectors: Study of Climate Adaptation in Aarhus, Denmark

Needhi Mehta (COL 2020)\textsuperscript{16}
Advisor: Cynthia Mollen
An exploration of the utilization of health care facilities by trafficked youth in Philadelphia

Alex Miao (COL 2021)\textsuperscript{16}
Advisor: Junhyong Kim
Distance Metrics in Clustering Single Cell RNASEquencing Data

Sofia Miguez (COL 2020)\textsuperscript{16} and Dietrich James Nigh (COL 2020)\textsuperscript{16}
Advisor: Chamith Rajapakse
Applications of Radiological Images for Novel Diagnostics and Personalized 3D Bioprinting:

Samuel Mitchell (COL 2021)\textsuperscript{11}
Advisor: Dan Hopkins
Policy Effect of ACA/Medicaid Spending in Kentucky

Maya Moore (COL 2020)\textsuperscript{7}
Advisor: Vence Bonham
Assessing perceptions of pharmacogenomic testing in Hawaiian populations: A community-based participatory research approach

Najib Muhammad (COL 2021)\textsuperscript{16}
Advisor: Laura Almasy
Distribution of Risk Alleles Across Pathways and Its Effect on Schizophrenia Outcomes

Olivia Myer (COL 2020)\textsuperscript{16}
Advisor: Glenda Goodman
Music in Imperial Travelogues
Alexandra Nagele (COL 2019)
Advisor: David Barnes
Currents of Memory: A Tidal History of Tinicum Township

Baotram Nguyen (COL 2021)
Advisor: James Shorter
Fold It Up! Proteins, RNA, and Liquid-Liquid Phase Separation in Neurodegenerative Diseases

Jacob Nibauer (COL 2021)
Advisor: Masao Sako
The Search for Fast Evolving Luminous Transients in the Dark Energy Survey

Yekaterina Orlovskaya (COL 2020)
Advisor: Dawn Teele
Emerge: Researching Women's Political Participation

Temitope Oshilaja (COL 2020)
Advisor: Dana Graves
Wound Healing and the Impact of Diabetes

Laura Ospina (COL 2021)
Advisor: Eric Stoopler and Takako Tanaka
Psychosocial stress on temporomandibular disorders in the adolescent population

Rachel Pak (COL 2021)
Advisor: Kimberly Christian and Guo-Li Ming
Adult Neurogenesis in the Dentate Gyrus

Samuel Panitch (COL 2021)
Advisor: Evelyn Thomson
Truth Level Studies of B-L RPV Chargino Decays

Shreya Parchure (EAS 2021)
Advisor: Roy Hamilton
Input-Output Slope Predicts Effects of cTBS on Motor Evoked Potentials

Aakash Parikh (COL 2018)
Advisor: Julia Hartmann
The inverse differential galois problem over C(x)

Heta Patel (COL 2021)
Advisor: Adeline Vanderver
In-vitro Modeling of Hypomyelination with Atrophy of the Basal ganglia and Cerebellum (H-ABC)

Liana Patel (EAS 2021)
Advisor: Daniel Wolf
Quantitative Neuroeconomic Modeling of Intrinsic Motivation during Memory Performance in Adolescents at Risk for Psychosis

Andrej Patoski (COL 2020)
Advisor: Sarah Tishkoff
Genetic basis of lactose tolerance in African populations

Bhavana Penmetsa (COL 2021)
Advisor: Dan Hopkins
The Salience of Anti-Immigrant Policies on Immigrants' Mental Health

Santiago Peralta Ramos (COL 2019)
Advisor: Karen Detlefsen
Émilie du Châtelet on Systematicity

Clara Phillips (COL 2020)
Advisor: Beth Wenger
Jewish Counterculture Oral History Project

Isabella Pilotta Gois (COL 2020)
Advisor: David Kazanjian
Tepoztlán Institute Conference 2018

Meredith Pinheiro (NURS 2020)
Advisor: Charlene Compher
Initiation of tube feedings in critically ill patients to improve patient care.
Benjamin Porat (EAS 2020)16
Advisor: Lee Bassett
Device Fabrication for Quantum Control Experiments in 2D Materials

Anna Pugsley (COL 2021)16
Advisor: Heather Sharkey
The Nile Valley and the World through Life Stories

Debbie Rabinovich (COL 2019)12
Advisor: Elaine Simon
Tenemos Derechos: Latina Identity Formation and Collective Consciousness through the Know Your Rights Movement

Kiran Raja (COL 2020)11
Advisor: Paul Axelsen
The Meaning of pH in Small Spaces

Nitin Rao (COL 2021)16
Advisor: Julie Anne Legate
Passive Syntax in Kannada

Sanjana Rao (EAS 2021)16
Advisor: Robert Stuart-Smith
Autonomous Manufacturing Lab: Ceramic 3D Printing

Niels Rasmussen (COL 2021)16 and Chris Zhang (EAS 2021)16
Advisor: Marija Drndic
Optimizing the Synthesis of MoS2 & WS2 Monolayers

Alysha Ravendran (COL 2021)16
Advisor: Rudra Sil
Industrial Relations in Malaysia

Joshua Ren (COL 2021)16
Advisor: Masoud Akbarzadeh
Polyhedral Structures

Sylvia Rhodes (COL 2020)5
Advisor: Chamith Rajapakse
Assessment of Osteoporosis in the Spine Using 18F-Sodium Fluoride PET/CT

Desteni Rivers (COL 2020)16 and Samelle Arhin (NURS 2020)16
Advisor: Anne Teitelman

Sergio Roman (EAS 2020)17
Advisor: Aaswath Raman
Harnessing the cold of outer space to meet our growing water needs

Francesca Romero (COL 2020)16
Advisor: Erik Jensen
Efficacy of Zinc Supplementation for Improving the Growth in Premature Infants

Zachary Rovner (COL 2021)16
Advisor: Holger Sieg
Municipal Bond Ratings and the Fiscal Health of Cities

Phoebe Ruggles (COL 2019)1
Advisor: Ann Norton Greene
Livestock Over Labor: Prioritization of Non-Human Animals in the National Organic Program

Mustafa Salim (COL 2020)
Advisor: James Shorter
Small molecule modulators of the metazoan disaggregase system

Saranya Sampath (COL 2021)16
Advisor: Jason Moore
Enhancing the Communication of Genetic Risk Data via immersive Virtual Reality
Donavon Sandoval-Heglund (COL 2019)  
Advisor: Montserrat Anguera  
*Investigating X-Chromosome Inactivation in Quiescent Cell Populations*

Brandon Santhumayor (COL 2020)  
Advisor: Elizabeth Heller  
*Sex-specific Cdk5 Epigenetic Remodeling in Behavior*

Mateo Sarmiento (COL 2020)  
Advisor: Christopher Pierce  
*Examining p21 overexpression in the nucleus accumbens as a mediator of reduced cocaine self-administration in cocaine-sired rat*

Max Schechter (COL 2019)  
Advisor: Melissa Manners  
*Optimization of the Novelty Suppressed Feeding Protocol as a Measure of Ketamine’s Antidepressant Effect*

Michael Schwoerer (COL 2019)  
Advisor: Ronald Harty  
*Host Protein BAG3 is a Negative Regulator of Lassa VLP Egress*

Ila Sethi (COL 2020)  
Advisor: Isaac Chen  
*Refining Forebrain Organoid Size and Architecture for Transplantation Studies*

Joana Shehu (COL 2021)  
Advisor: Zarina Ali  
*Neurosurgical enhanced recovery after surgery (ERAS): do patients see a difference?*

Felix Shen (COL 2020)  
Advisor: Irina Marinov  
*Exploring correlation of ocean surface pCO2 to physical and biological variables*

Felix Shen (COL 2020)  
Advisor: David Vann  
*Pretreatment of Dining Hall Food Waste for Bioethanol Production*

Jenny Shi (COL 2020)  
Advisor: Rudra Sil  
*Russia’s Eurasian Economic Union and China’s Belt and Road Initiative: Rivalry of Great Powers in Kazakhstan*

Katherine Sizov (COL 2019)  
Advisor: Zhaolan Zhou  
*Investigating Affected Molecular Pathways of CDKL5 Disorder*

Jazmyne Smith (COL 2020) and Bela Salas-Betsch (COL 2021)  
Advisor: Regina Baker  
*Policy, Place, & Economic Inequality*

Umang Somani (EAS 2021)  
Advisor: Junhyong Kim  
*Image Analysis to Classify Cell Types*

Se Lin Song (COL 2019)  
Advisor: Virgil Percec  
*Synthesis of ABn Constitutional Isomeric Dendritic Building Blocks Using Air-Stable Nickel Catalyst*

Leah Sprague (COL 2019)  
Advisor: Kathy Peiss  
*The Government’s Role as a Nutrition Expert in the United States, 1945-80*

Adithya Sriram (COL 2020, EAS 2020)  
Advisor: A.T. Charlie Johnson  
*Biomolecular Detection on Graphene Field Effect Transistors*
Jack Stack (COL 2019)11  
Advisor: Lauren Sallan  
_Tanyrhinchthys, a long-rostrumed Carboniferous ray-finned fish (Actinopterygii), and the evolution of elongate snouts in fishes_

Samantha Steeman (COL 2021)16  
Advisor: Erik Jensen  
_Revised Severity-Based Definition for Bronchopulmonary Dysplasia_

Daniel Stekol (EAS 2021)16  
Advisor: Chris Callison-Burch  
_Learning Translations via Images_

Yi Su (EAS 2021)16  
Advisor: Shu Yang  
_Kirigami Patterns to Enhance Water-Harvesting_

Annie Sun (COL 2019)14  
Advisor: David Reibstein  
_Nation Branding_

Karthik Tadepalli (COL 2021)16  
Advisor: Judd Kessler  
_Ensena Chile - Matching_

Brendan Taliaferro (COL 2019)12  
Advisor: Amy Hillier  
_Assessing Philadelphia’s response to the Epidemic of LGBTQ Youth Homelessness_

Nicole Tanenbaum (COL 2021)16  
Advisor: Laura Almasy  
_Gene Expression in Family with Diverse Psychopathology_

Maggie Taylor (COL 2019)10  
Advisor: Amelia Carter  
_At-home Chronic Kidney Disease Treatment in Rural Sri Lanka: A Case Study of Intervention Barriers and Program Viability_

Margaret Tebbe (COL 2021)16  
Advisor: Rand Quinn  
_Charter Schools, Vouchers, and Segregation_

Vishal Tien (EAS 2020)4  
Advisor: Justin Burrell  
_Optogenetic Stimulation of Neuronal Aggregates_

Emily Trimm (COL 2019)5  
Advisor: Michael Lampson  
_Optogenetic techniques in the study of meiotic drive_

Ivy Tse (COL 2019)5  
Advisor: Sharon Thompson-Schill  
_Face Study and Social Value Learning_

Paul Um (COL 2020)5  
Advisor: David Raizen  
_Characterizing Sleep in C. elegans with Orsay-Infection_

Gabrielle Utomo (COL 2021)16  
Advisor: Masoud Akbarzadeh  
_Polyhedral Structures Lab_

Alexandra Vargas (COL 2021)16  
Advisor: John Nicolas Betley  
_The Effects of Alcohol on the Behavior and Brain Anatomy of Mice_

Chad Vigil (COL 2020)16  
Advisor: Marc Schmidt  
_Contextual Analysis of Female Vocalizations in the Brown-Headed Cowbird (Molothrus Ater)_

Tiffany Wang (COL 2020)5  
Advisor: Sharrona Pearl  
_The Golden Standard: Examining Ethics and American Journalism in A Global Context_
Zhuoyang Wang (COL 2021)\textsuperscript{16}
Advisor: Kim Reiss-Binder
Validation of Double-Spin Protocol for Blood Plasma Isolation Using ALU-qPCR

Yuxi Wei (COL 2021)\textsuperscript{16}
Advisor: Yue Hou
AIIB: Is China creating a new world bank?

Ivy Williams (COL 2020)\textsuperscript{16}
Advisor: Krystal Strong
Black Philly Project

Tina Wu (COL 2020)\textsuperscript{18}, Anisa Hasan-Granier (COL 2020)\textsuperscript{18}, Lisa He-Wu (NURS 2020)\textsuperscript{18}, Tyler Kelly (NURS 2021)\textsuperscript{18}, and Christian Rodriguez (EAS 2020)\textsuperscript{18}
Advisor: Jianghong Liu
Omega-3 Fatty Acid Nutritional Intervention Study

Yuefeng Wu (COL 2019)\textsuperscript{5}
Advisor: David Brownlee
Contemporary Museum Architecture

Samantha Wu-Georges (COL 2020)\textsuperscript{16}
Advisor: Katherine Milkman
The Science of Enduring Behavior Change

Melanie Xu (COL 2019)\textsuperscript{14}
Advisor: Sarah Barringer Gordon
Chattel Slavery in the Cherokee Nation

Yinuo Xu (WH 2021)\textsuperscript{16}
Advisor: Minyuan Zhao
Innovation and Intellectual Property Strategies of Multinational Enterprises

Han Yan (EAS 2021)\textsuperscript{16}
Advisor: Marija Drndic
Nanopore Simulation

JaHyun Yang (COL 2019)\textsuperscript{15}
Advisor: Aurora MacRae-Crerar
Spatial and Temporal Patterns of Coexistence in Closely Related Rhyacophila (Trichoptera) Species

Michelle Yang (COL 2019)\textsuperscript{5}
Advisor: Nilam Mangalmurti
Identification of Bacterial Pathogens from RBCs

Derya Yavuz (EAS 2021)\textsuperscript{11} and Alice Dallstream (BMP 2022)\textsuperscript{11}
Advisor: Joshua Gold
Optimizing an Adaptive Changing Reward Task

Lynna Ye (COL 2019)\textsuperscript{14}
Advisor: Fusun Ozer
Effect of PVM/MA Copolymer on Bond Durability of Adhesive Resins

Abdullah Zaini (EAS 2020)\textsuperscript{11}
Advisor: Joshua Gold
Explaining Locus Coeruleus’ Impact on Anterior Cingulate Cortex Through Neuron Network Models

Margaret Zhang (EAS 2021)\textsuperscript{16}
Advisor: Robert Stuart-Smith
Gesture-Based LED Lighting System for PennDesign’s P2P Siteless House

Monglin (Mona) Zhang (COL 2019)\textsuperscript{5}
Advisor: Shana McCormack
Fuel Utilization and Glucose and Lipid Metabolism in Primary Mitochondrial Disease

Ethan Zhao (EAS 2019)\textsuperscript{11}
Advisor: Jonathan Raper
The Roles of nrp2a and sema3fa Expression on Olfactory Sensory Neuron Axon Guidance
Jinkang Zhou (COL 2021)
Advisor: Santosh Anagol
Real estate industry in developing countries

Qingyang Zhou (COL 2020)
Advisor: Kathryn Hellerstein
Interactions Between the Chinese and the Jewish Refugees in Shanghai During World War II

Leechen Zhu (COL 2021)
Advisor: Vincent Reina
The Effect of Regional Capacity on Low-Income Housing Voucher Lease-Up Rates

Olivia Zietz (COL 2021)
Advisor: Michele Margolis
Understanding Evangelical Voters

Linda Zou (COL 2021)
Advisor: Katherine Klein
Turning the tables: leadership overhauls in underperforming schools
List of Grants

1. Association of Alumnae Scholars Rosemary D. Mazzatenta Award
2. BBB Summer Internship
3. Benjamin Franklin Scholars Summer Research Grant
4. Class of 1971 Robert J. Holtz Fund
5. College Alumni Society Research Grant
6. College House Research Fellowship
7. Division of the Vice Provost of University Life (VPUL)
8. External Sources
9. Frances Velay Fellowship
10. Gelfman International Summer Fund
11. Grants for Faculty Mentoring Undergraduate Research
12. Hassenfeld Foundation Social Impact Research Grant:
13. Hayden Scholars
14. Jumpstart for Juniors
15. Penn Undergraduate Climate Action Grant (PUCAG)
16. Penn Undergraduate Research Mentorship Program (PURM)
17. PURM (Kleinman Center for Energy Policy)
18. Summer Undergraduate Research Group Grant (SURGG)
19. Undergraduate Student Scholars Program (USSP)