

# Summer 2023 Award Recipients

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College of Arts and Sciences

**Almaguer Gaona, Axel**

Detection of Solar Chameleons through Solar Radiation Pressure on Microelectromechanical Resonators

Faculty Mentor: Raj Mohanty (CAS, Physics)

**Anderson, Ethan**

Investigating gut-ovary tissue crosstalk using *Drosophila melanogaster*

Faculty Mentor: Kim McCall (CAS, Biology)

**Anderson, Taelor**

Evolving Minds: Teacher-Student Interactions in the Classroom

Faculty Mentor: Deborah Kelemen (CAS, Psychological and Brain Sciences)

**Attarwala, Aaquib**

In-Vivo Imaging Experiments Using Null Variant Of dLight Sensor

Faculty Mentor: Mark Howe (CAS, Neuroscience)

**Bedell, Brooke**

Investigating the Role of Vasculature as Scaffolding in the Migration of New Neurons in an Adult Songbird HVC

Faculty Mentor: Benjamin Scott (CAS, Psychological and Brain Sciences)

**Belisle, Lily**

Why Is Rape the Exception? A Comparison of the Treatment of Complainants in Massachusetts Rape and Assault Trials

Faculty Mentor: Saida Grundy (CAS, Sociology)

**Bin Alfadino, Anas**

Najati Sidqi: His Memoir and Works

Faculty Mentor: Margaret Litvin (CAS, Arabic)

**Blakley, Brenden**

Quantifying silicon uptake kinetics in temperate macroalgae

Faculty Mentor: Robinson Fulweiler (CAS, Earth and Environment)

**Bodine, Sophie**

Defining the relationship between VEGF and Wnt5 signaling from the ectoderm to Jun expression within PMCs

Faculty Mentor: Cynthia Bradham (CAS, Biology)

**Brayton, Samantha**

Characterizing Family Roles and Communication During Transition to Adulthood: Perspectives from Autistic Youth and Parents

Faculty Mentor: Kristin Long (CAS, Psychological and Brain Sciences)

**Buza, Luke**

Morphological Distinction of Visual Pathways in Cheetahs (*Acinonyx jubatus*), Pumas (*Puma concolor*) and Leopards (*Panthera pardus*)

Faculty Mentor: Eva Garrett (CAS, Anthropology)

**Carlisle, Elliott**

A clinical characterization of patients seen at Massachusetts General Hospital's outpatient clinic for Pediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcal infections (PANDAS) and Pediatric Acute-onset Neuropsychiatric Syndrome (PANS).

Faculty Mentor: Alyssa Farley (CAS, Psychological & Brain Sciences)

**Chen, Tim**

Anisotropic Galaxy-Galaxy Lensing by IllustrisTNG Galaxies

Faculty Mentor: Tereasa Brainerd (CAS, Astronomy)

**Choe, Jordyn**

Validation and Characterization of Viral Peptides Affecting Proliferation and Apoptosis

Faculty Mentor: Juan Fuxman Bass (CAS, Biology)

**Clark, Joe**

Analyzing the potential for a successful urban insurgency in Afghanistan.

Faculty Mentor: Thomas Barfield (CAS, Anthropology)

**Connell, Hannah**

Translating an Oceanographic Book from Spanish to English: Caribbean Basin and Marine Protected Areas of Nicaragua

Faculty Mentor: Ethan Deyle (CAS, Biology)

**Duong, Nathan**

Refugee Laws and Resettlement Systems as Determinants of Racial Identity in Diasporas: A Study in the Plurality of Vietnamese Americans' Racial Self Imaginings

Faculty Mentor: Takeo Rivera (CAS, English and Women's, Gender, and Sexuality Studies)

**Dupre, Michael**

Democracy from the Dust:  
Ethnonationalism's Role in State Building in Eastern Europe  
Faculty Mentor: John Stone (CAS, Sociology)

**Duswalt, Ryan**

The Decay of Wages as a Function of the City Center in the Developing World  
Faculty Mentor: Yuhei Miyauchi (CAS, Economics)

**Fan, Alice**

Synthesis of rocaglate analogues: Expansion of coupling partners for rocaglate  $\beta$ -keto ester condensation  
Faculty Mentor: John Porco (CAS, Chemistry)

**Farrell, Mara**

Exploring the Potential of Sexual Liberation: Perspectives on Queerness, Gender, Connection, and Fulfillment in Sexual Identity  
Faculty Mentor: Marie McDonough (CAS, English)

**Fisher, Maxwell**

Blackness through the Lived Body: Examining Race under Murreal Ponty's Phenomenology  
Faculty Mentor: Tanner Hammond (CAS, Philosophy)

**Flores, Jennifer**

Mechanistic studies of transsulfuration reactions in ergothioneine and ovothiol biosynthesis  
Faculty Mentor: Pinghua Liu (CAS, Chemistry)

**Forano, Luciano**

Characterization of Arabidopsis mutants with growth sensitivity to exogenous acetyl salicylic acid, a regulator of plant innate immunity  
Faculty Mentor: John Celenza (CAS, Biology)

**Ghalili, Dima**

Perceptions of Academic Misconduct of East Asian international students based on accents  
Faculty Mentor: Andrea Mercurio (CAS, Psychological and Brain Sciences)

**Gorham, Daniel**

Synthesis of Bifunctional Salen Cobalt Catalyst for Ring Opening Polymerizations  
Faculty Mentor: Aaron Beeler (CAS, Chemistry)

**Grossman, Jared**

Spatial Dynamics of Neuronal Systems  
Faculty Mentor: Gabriel Ocker (CAS, Mathematics and Statistics)

**Guan, Shumin**

Cultural Influences on Transition to Adulthood for Autistic Youth: Perspectives from Asian and non-Asian Families

Faculty Mentor: Kristin Long (CAS, Psychological & Brain Sciences)

**Haresh, Pareesha**

Defining the structure and function of GT-A fold enzymes in bacteria

Faculty Mentor: Karen Allen (CAS, Chemistry)

**Hassett, Freddie**

How does unpredictability in the developmental environment affect risk-seeking behaviors among children in Utila, Honduras?

Faculty Mentor: Carolyn Hodges-Simeon (CAS, Anthropology)

**Hennessy, Riley**

Gender at Summer Camp, What Happens in the Step Towards Inclusivity

Faculty Mentor: Daniel Kleinman (CAS, Sociology)

**Hirt, Isabella**

How Wolbachia avoids host immunity in *Drosophila melanogaster*

Faculty Mentor: Horacio Frydman (CAS, Biology)

**Hoffman, Julia**

Structural and Functional Characterization of Glycosyltransferases PglH1 and PglH2 from *Campylobacter concisus*

Faculty Mentor: Karen Allen (CAS, Chemistry)

**Jiao, Zhandong**

Linearization of STN Activity for Tremor Prediction

Faculty Mentor: Emily Stephen (CAS, Mathematics and Statistics )

**Kang, Soyoon**

Purification and Optimization of DNA Primase (Pri1 and Pri2) from yeast *S. cerevisiae*, *C. thermophilum*, and human.

Faculty Mentor: Deborah Perlstein (CAS, Chemistry)

**Keefauver, Tori**

Using prairie voles to model the effects of social deprivation on microglia

Faculty Mentor: Kyle Gobrogge (CAS, Neuroscience)

**Kerner, Flora**

Investigating Female Aggression in Response to Egg Manipulation in the Clown Anemonefish *Amphiprion percula*.

Faculty Mentor: Peter Buston (CAS, Biology)

**Kim, Dain**

Estimating Carbon Flux for Pre-Industrial Holocene Using PEcAn Model Data Assimilation Techniques

Faculty Mentor: Michael Dietze (CAS, Earth and Environment)

**Kostina, Eri**

Architectures of Sacred Secularity: The Politics of Pilgrimage Tourism and the Bahá'í Faith

Faculty Mentor: Joseph Harris (CAS, Sociology)

**Kuang, Kelvin**

Microscopy Image classification of Autism Spectrum Disorder in Brodmann's area 32 through a convolutional neural network.

Faculty Mentor: Arash Yazdanbaksh (CAS, Neuroscience)

**Kumar, Ankita**

Explanatory Preferences: Does science identity moderate the relationship between explanation quality ratings and memory of scientific (non)explanations?

Faculty Mentor: Deborah Kelemen (CAS, Psychological & Brain Sciences)

**Lakin, Kathryn**

Too Many Cooks in the Kitchen: Food Production in The Handmaid's Tale

Faculty Mentor: Marie McDonough (CAS, Writing)

**Lau, Charles**

Evaluating the effects of corin on melanoma metastasis in-vivo through zebrafish embryo injections

Faculty Mentor: Rhoda Alani (CAS, Dermatology)

**Lee, David**

Visualizing pre-symptomatic impact of Alzheimer's Disease onto MRI scans with Generative Adversarial Networks to assist in early detection

Faculty Mentor: Arash Yazdanbaksh (CAS, Psychological and Brain Sciences)

**Lee, John**

To investigate the abnormalities of Neuronal Activity in NEXMIF knockout ASD mouse brain

Faculty Mentor: Hengye Man (CAS, Biology)

**Li, Jingxuan**

Unveiling Typical Properties of Whistler Mode Waves in Earth's Magnetosheath

Faculty Mentor: Wen Li (CAS, Astronomy)

**Li, Wenxuan**

"Save the Nation" – Mapping the YMCA and YWCA's Activities in Shanghai, 1922-1927

Faculty Mentor: Eugenio Menegon (CAS, History)

**Liew, Evelyn**

Combined Effects of Warming Temperatures and Reduced Snowpack on Forest Productivity and Nutrient Cycling in a Northern Hardwood Forest.

Faculty Mentor: Pamela Templer (CAS, Biology)

**Machado, Gabi**

Understanding Synaptic Plasticity and Sequence Learning

Faculty Mentor: Jeffrey Gavornik (CAS, Biology)

**Mangis, Kelsey**

Measurement of "Lopsided" Distributions in Galaxy Clusters and the Significance Within the Cold Dark Matter Universe Argument

Faculty Mentor: Tereasa Brainerd (CAS, Astronomy)

**Marin, Sofia**

Exploring Women's Perceptions and Experiences with the Clean Girl Aesthetic: Factors Influencing Participation and Non-Participation

Faculty Mentor: Heather Schoenfeld (CAS, Sociology)

**Marshall-Pinko, Eitan**

Preliminary History Honors Thesis Research

Faculty Mentor: Sarah Phillips (CAS, History)

**Martin, Emma**

Prediction of epileptic seizures using long short-term memory (LSTM) deep networks

Faculty Mentor: Arash Yazdanbakhsh (CAS, Neuroscience)

**Mauceri, Camille**

Study of the impact of 4-dimensional Tracking Studies in ATLAS beyond the LHC Run 4: Pile-Up Jet Tagger

Faculty Mentor: Zeynep Demiragli (CAS, Physics)

**McArdle, Sarah**

Investigating How Heterosexual University Students Desire and Construct Romantic Relationships

Faculty Mentor: Alya Guseva (CAS, Sociology)

**Meagher, Erika**

Tissue specific and environmental regulation of glucosinolate biosynthesis in Arabidopsis

Faculty Mentor: John Celenza (CAS, Biology)

**Mei, Christian**

In vivo expression of giant gene through combined shadow enhancers in embryonic *Drosophila melanogaster*.

Faculty Mentor: Zeba Wunderlich (CAS, Biology)

**Mendenhall, Elliott**

Spectroscopy and Microscopy of Calcium Ferrites

Faculty Mentor: Kevin Smith (CAS, Physics)

**Metcalf, Cat**

Identifying Modification Techniques Used by the Habitants at Birsama

Faculty Mentor: Catherine West (CAS, Anthropology)

**Miller, Angel**

Positive Emotional Support and Problematic Child Behaviors Across Varying Contexts

Faculty Mentor: Amanda Tarullo (CAS, Psychological and Brain Sciences)

**Minarik, Alaina**

Synthesis of {PtLnLnPt} Lantern Complexes

Faculty Mentor: Linda Doerrer (CAS, Chemistry)

**Morales, Angel**

Modeling VLBA Images of Gamma Ray Blazars

Faculty Mentor: Alan Marscher (CAS, Astronomy)

**Moyle, Carolyn**

Analyzing the potential for a successful urban insurgency in Afghanistan.

Faculty Mentor: Thomas Barfield (CAS, Anthropology)

**Mu, Jonathan**

Measuring cross-modal sensory aftereffects in visual and haptic curvature perception

Faculty Mentor: Arash Yazdanbakhsh (CAS, Psychological and Brain Sciences)

**Ng, Natalie**

Primary: Colonization and Decolonization of Fashion in the Indian Subcontinent

Secondary: "Wake Up, Women: Gender and Politics at Queen Elizabeth II's Coronation"

Faculty Mentor: Arianne Chernock (CAS, History)

**Noor, Nasra**

Tracking Education Progress in the Federal Republic of Somalia (The condition of Education in of Post-colonial Somalia)

Faculty Mentor: Betty Anderson (CAS, History)

**Ofulue, Camille**

The Effects of the 2020 Lockdown on Black Mental Health Providers

Faculty Mentor: Celeste Currington (CAS, Sociology)

**Oladokun, Amira**

Large Scale Synthesis of Key Building Blocks to Access Spiromeroterpenoids and Simplified Derivatives

Faculty Mentor: John Porco (CAS, Chemistry)

**Park, Edison**

Time Perception Modulation by States of Discomfort

Faculty Mentor: Sam Ling (CAS, Psychological & Brain Sciences)

**Peacock, Sydney**

Investigation of Coastal Erosion through Remote Sensing Analysis of Sediment Movement at the Intersection of Rivers and the Java Sea in Pekalongan, Indonesia.

Faculty Mentor: Magaly Koch (CAS, Electrical & Computer Engineering)

**Pemberton, Luke**

Looking for time cells in mouse V1 cortex using the Allen Brain Institute NeuroPixels dataset

Faculty Mentor: Marc Howard (CAS, Psychological & Brain Sciences)

**Perkins, Wilder**

Experimenting with relative readings of superlative, comparative, and ordinal modifiers

Faculty Mentor: Elizabeth Coppock (CAS, Linguistics)

**Piernikowski, Thomas**

Subject Placement in Spanish-speaking Bostonians of Mexican and Central-American Origin or Descent

Faculty Mentor: Daniel Erker (CAS, Linguistics)

**Pike, Mackenzie**

Perilous Bodies: Asceticism and the Imagination of Illness and Disability in Medieval England

Faculty Mentor: Amy Appleford (CAS, English)

**Purinton, Jake**

Identifying cis regulatory elements in viruses and utilizing Yeast-1-Hybrid to study these protein interactions.

Faculty Mentor: Juan Fuxman Bass (CAS, Biology)

**Raju, Vineet**

Enabling Multi-Threaded Communication for Collaborative Analytics with Secrecy Using IO\_uring

Faculty Mentor: John Liagouris (CAS, Computer Science)



**Sanchez, Maria**

Investigating the Influence of Changes in Affect in Relation to the Calibration of Persistence Decisions.

Faculty Mentor: Joseph McGuire (CAS, Psychological and Brain Sciences)

**Sathish Kumar, Varshitha**

Learning from viral content

Faculty Mentor: Krishna Dasaratha (CAS, Economics)

**Saunders, Luke**

Development of New LArTPC Detector Technology for protoDUNE and DUNE

Faculty Mentor: Zeynep Demiragli (CAS, Physics)

**Schifman, Ari**

Does relative disadvantage negatively impact children's cognitive performance?

Faculty Mentor: Peter Blake (CAS, Psychological and Brain Sciences)

**Semaya, Hannah**

Third Culture Kids and the Varying Perceptions of Community

Faculty Mentor: Jonathan Mijs (CAS, Sociology)

**Shi, Jason**

Investigation of mechanisms underlying neuronal corpses clearance in glial phagocytosis-deficient fly brains

Faculty Mentor: Kim McCall (CAS, Biology)

**Singh, Rhea**

Genetic and neural sources of individual differences in goal-directed learning

Faculty Mentor: Jerry Chen (CAS, Biology)

**Smith, Kelsey**

Parental age at childbirth and child executive functioning

Faculty Mentor: Amanda Tarullo (CAS, Psychological and Brain Sciences)

**Sprague, Elizabeth**

Identifying the Ceramics of the Inhabitants of Birsama

Faculty Mentor: Andrea Berlin (CAS, Archaeology)

**Subramonian, Reshma**

The Path To Moksha: Attitudes Towards Mental Health In India

Faculty Mentor: Merav Shohet (CAS, Anthropology)

**Tagijeva, Jasmin**

What leads people to subscribe to extremist ideologies?

Faculty Mentor: Jessica Stern (CAS, Pardee School of Global Studies)

**Teoh, Bryan**

The Tale of Genji Database and Web Application Project

Faculty Mentor: Keith Vincent (CAS, World Languages and Literature)

**Thomson, Reid**

Investigating Parental Care Response to Mate Loss in the Clown Anemonefish *Amphiprion percula*.

Faculty Mentor: Peter Buston (CAS, Biology)

**Tian, Jinxin**

What Factors Contribute to College Tuition Increase for Undergraduate Study in the U.S.?

Faculty Mentor: Ishita Dey (CAS, Economics)

**Tronco, Katrina**

“For My Family”: Transnational Kinship, Care, and the Filipino Diaspora

Faculty Mentor: Merav Shohet (CAS, Anthropology)

**Vidovich, Allison**

Against Transracialism: Not Just Ethically Wrong but Metaphysically Impossible

Faculty Mentor: Derek Anderson (CAS, Philosophy)

**Villafuerte, Isabella**

The Warm Glow Effect and Generosity in Children

Faculty Mentor: Peter Blake (CAS, Psychological & Brain Science)

**Wang, Juneau**

Investigating auditory temporal attention: can we enhance what we hear at precise moments in time?

Faculty Mentor: Rachel Denison (CAS, Psychological & Brain Sciences)

**Weaver, Sofia**

Remote Measurement of Morphological Traits of the Yellow-Tailed Woolly Monkey (*Lagothrix flavicauda*)

Faculty Mentor: Christopher Schmitt (CAS, Anthropology)

**Wertheimer, Max**

Characterizing the epithelial sheath as a barrier to professional phagocytes during apoptosis in the ovary.

Faculty Mentor: Kim McCall (CAS, Biology)

**Wilkins, David**

Stuck on the Mountain: A Historical Analysis of Topography and Transportation in Boone, North Carolina

Faculty Mentor: Betty Anderson (CAS, History)

**Williams, Claire**

The Effects of Climate Change through Extreme Weather on U.S. Military Installations and their Implications for U.S. National Security

Faculty Mentor: Rosella Cappella Zielinski (CAS, Political Science)

**Wong, Kenneth**

Modernizing Medieval Philosophy: Intellectual Inheritance from the Global Middle Ages and its Contemporary Relevance to the 21st Century

Faculty Mentor: Philip Haberkern (CAS, History)

**Wu, Amanda**

Determination of Biodiversity within Gunung Palung National Park using camera trap data and AI image processing

Faculty Mentor: Cheryl Knott (CAS, Anthropology)

**Wu, Junchu**

China's Zero-Covid-19 Policies and Its Impact on People

Faculty Mentor: Heather Schoenfeld (CAS, Sociology)

**Xu, Ruoshui**

Synthesis and Characterization of Polyoxometalate Thin Films

Faculty Mentor: Kevin Smith (CAS, Physics)

**Yoder, Emily**

Designing a Website for Boston University's Global Medieval Studies Program

Faculty Mentor: Sunil Sharma (CAS, World Languages and Literatures)

**Zakskorn, Nicole**

Determining the function of the Dlk1-Dio3 locus in cardiomyocyte differentiation

Faculty Mentor: Francisco Naya (CAS, Biology)

**Zeng, Yu**

The Tale of Genji Database and Web Application Project

Faculty Mentor: Keith Vincent (CAS, World Language and Literature)

**Zhang, Caiwei**

Jump Process Simulation Algorithms for Modeling Biological Systems

Faculty Mentor: Samuel Isaacson (CAS, Mathematics and Statistics)

**Zhao, Nina**

Elevations of Hope? Topographical Microelevation Island Impact on Saltmarsh Sparrow Nesting Success

Faculty Mentor: Leslie Kaufman (CAS, Biology)

**Zhao, Nina**

Elevations of Hope? Topographical Microelevation Island Impact on Saltmarsh Sparrow Nesting Success

Faculty Mentor: Les Kaufman (CAS, Biology)

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College of Fine Arts

**Bhumitra, Amana**

Music and Capitalism: The effects of capitalism on musical street performance art

Faculty Mentor: Leland Clarke (CFA, Music)

**Hart-Thompson, Spencer**

Accommodating Vocal Performance via Critical Performative Pedagogy

Faculty Mentor: Ruth Debrot (CFA, Music Education)

**Harwood, Kennedy**

Contemporary Observational Painting: Mapping the Relevance of Plein Air in the 21st Century

Faculty Mentor: Josephine Halvorson (CFA, Painting)

**Jansen, Virginia**

An Exploration of the Influence of Spirituals on the Music of Florence Price

Faculty Mentor: Leland Clarke (CFA, Musicology and Ethnomusicology)

**Paradise, Anna**

Unveiling the Mask: An Interdisciplinary Investigation of Women's Artistic Tradition in Mask-Making.

Faculty Mentor: Felice Amato (CFA, Art Education)

**Powicki, Grant**

International Theater Organizations through the Prague Quadrennial

Faculty Mentor: Jon savage (CFA, Scenic Design)

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College of Communication / College of General Studies

**Kedefors, Kajsa**

Forensic Odontology: The Pseudoscience that Incarcerates at Random  
Faculty Mentor: Andrea Asujae (COM, Journalism)

**Longo, Emma**

How Fossil Fuel Companies Use Native Advertisements to Promote Climate Denialism in U.S. Media  
Faculty Mentor: Michelle Amazeen (COM, Mass Communication, Advertising and Public Relations)

**Adonteng, Lenny**

"When the Welfare People Come": The U.S Child Welfare System and the State Regulation of Family Life  
Faculty Mentor: Jessica Simes (CGS, Sociology)

**Dworkin, Hanna**

The Philosophy of the College Experience  
Faculty Mentor: Matthew Parfitt (CGS, Rhetoric Division)

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Engineering

**Asgari, Parnian**

Synthesis, characterization and reactivity of a series of Chromium-Perfluoropinacolate Complexes  
Faculty Mentor: Linda Doerrer (ENG, Chemistry)

**Boegholm, Isabelle**

Tailoring fiber-optic vortices for energy efficient communication and computation  
Faculty Mentor: Siddharth Ramachandran (ENG, Electrical & Computer Engineering and Materials Science & Engineering)

**Bressan, Piergiulio Bressan**

Development of an Autonomous Home Cage Mouse Behavior Training Apparatus  
Faculty Mentor: David Boas (ENG, Neurophotonics)

**Chow, Henry**

Investigating the Adaptive Response of Tenocytes to Tendon Overuse  
Faculty Mentor: Brianne Connizzo (ENG, Biomedical Engineering)

**Donovan, Aidan**

Calibrating digital image correlation software for out-of-plane motion  
Faculty Mentor: Emma Lejeune (ENG, Mechanical Engineering)

**Fernandez, Ricardo**

Engineering Uterine Fibroid Organoid Models from Stro1/CD44 Stem Cells  
Faculty Mentor: Catherine Klapperich (ENG, Biomedical Engineering)

**Holmes, Aidan**

Engineering Microenvironment-Responsive Nanobodies for Non-Invasive Detection and Monitoring of Diseases  
Faculty Mentor: Liangliang Hao (ENG, Biomedical Engineering)

**Jain, Jivesh**

Speckle Contrast Optical Spectroscopy for the noninvasive measurement of blood vessel resistance and compliance  
Faculty Mentor: Darren Roblyer (ENG, Biomedical Engineering)

**Jang, Allen**

Effects of post-mortem interval on myelin integrity in rhesus monkey brain tissue.  
Faculty Mentor: Irving Bigio (ENG, Biomedical Engineering, Electrical and Computer Engineering)

**Lahiri, Nikhil**

How does macrophage conditioned media affect the early stages of triple negative breast cancer metastasis?  
Faculty Mentor: Joe Tien (ENG, Biomedical Engineering)

**Lee, William**

Anomaly Diagnosis in High-Performance Computing Systems Using Unsupervised Machine Learning  
Faculty Mentor: Ayse Coskun (ENG, Electrical & Computer Engineering)

**Licata, Joseph**

A device to remove artifacts from EEG during EEG-fMRI sleep studies, continued.  
Faculty Mentor: Laura Lewis (ENG, Biomedical Engineering)

**Lindsay, Audrey**

Cholinergic Neuron Pacing for Gait Analysis of Mice  
Faculty Mentor: Xue Han (ENG, Biomedical Engineering)

**Long, Emily**

Loss and Recovery of Neurovascular Coupling after Ischemic Stroke

Faculty Mentor: David Boas (ENG, Biomedical Engineering)

**Mankad, Arnav**

Bleeding Detection Soft Sensor for Safer Colonoscopies

Faculty Mentor: Sheila Russo (ENG, Mechanical Engineering)

**McCarthy, Emily**

Cell grafts fate of conditioned neural progenitor cells in hemorrhagic and ischemic stroke lesions

Faculty Mentor: Timothy O'Shea (ENG, Biomedical Engineering)

**Mitra, Suhani**

Digital Logic Design for Conversion Between Residue Number System (RNS) and Binary Number System (BNS)

Faculty Mentor: Ajay Joshi (ENG, Electrical & Computer Engineering)

**Mohammed, Sohail**

Establish Electrophysiological Recording and Fiber Photometry with Simultaneous fMRI of Awake Behaving Mice

Faculty Mentor: Chen Yang (ENG, Materials Science & Engineering)

**Nasankar, Shakaani**

Raman Monitoring of Osteochondral Allograft Treatment for Donor Criteria Expansion and Improved Surgical Outlook

Faculty Mentor: Michael Albro (ENG, Mechanical Engineering)

**Ndiaye, Hawa**

2D in vitro Study of Induced Pluripotent Stem Cell-derived Cardiomyocyte Integration

Faculty Mentor: Jeroen Eyckmans (ENG, Biomedical Engineering)

**Niibori, Takaya**

Influence of the Magnitude of Cellular Senescence on Tendon ECM Remodeling

Faculty Mentor: Brianne Connizzo (ENG, Biomedical Engineering)

**Palen, Joscie**

The Effect of Nanoparticle Rotation on Translocation Current across a Nanoparticle-blocked Nanopore

Faculty Mentor: Chuanhua Duan (ENG, Mechanical Engineering)

**Rhmari Tlemcani, Abed**

Immunofluorescence of characterization of polarized macrophages

Faculty Mentor: Joe Tien (ENG, Biomedical Engineering)

**Schlegel, Hanna**

Highly Sensitive and Robust Microspine Structured Soft Capacitive Sensors with Adaptive Calibration Algorithms

Faculty Mentor: Tommaso Ranzani (ENG, Mechanical Engineering)

**Shah, Varun**

Mapping the architectural differences of the extracellular matrix generated by senescent and normal cardiac fibroblasts.

Faculty Mentor: Jeroen Eyckmans (ENG, Biomedical Engineering)

**Vasowalla, Armaan**

Semi-Autonomous Driving of a Soft Robot for Bronchoscopy Procedures

Faculty Mentor: Sheila Russo (ENG, Mechanical Engineering)

**Yang, Alvin**

Development of Actuation and Sensing Modules for Soft Robots

Faculty Mentor: Andrew Sabelhaus (ENG, Mechanical/Systems Engineering)

**Zambon, Anne Marie**

Identifying Types of Pyramidal Tract Cells in Layer 5b of the Motor Cortex

Faculty Mentor: Michael Economo (ENG, Biomedical Engineering)

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School of Medicine

**Abney, Nalia**

Gestational Opioid Exposure Alters Neonatal Mouse Ultrasonic Vocalization (USV) Profiles During Spontaneous Withdrawal: Role of Kappa Opioid Receptor Activation

Faculty Mentor: Camron Bryant (MED, Pharmacology)

**Cantillon, Audrey**

Exploring the Strengths of Mothers with Histories of Substance Misuse

Faculty Mentor: Michelle Stransky (MED, Pediatrics)

**Carlson, Josie**

The Effects of TMS on Motivational Behavior Responses in Socially Avoidant Individuals

Faculty Mentor: Michael Esterman (MED, Psychiatry)

**Cerbo, Faith**

Investigating the role of KLHDC7B as a bimodal regulator of viral infection

Faculty Mentor: Florian Douam (MED, Microbiology)



**Chang, Jacqueline**

A Retrospective Chart Review of the Boston Medical Center Coping Clinic  
Faculty Mentor: Margaret Lee (MED, Dermatology)

**Chung, Clara**

Investigating the Connection between Alzheimer's Disease and Down Syndrome through  
Correction of X-linked Gene Dysregulation  
Faculty Mentor: Ella Zeldich (MED, Anatomy and Neurobiology)

**Colon, Zaari**

Application of Anti-Inflammatory Alpha-Melanocyte Stimulating Hormone Suppresses Apoptosis  
in Retina with Glaucoma  
Faculty Mentor: Tat Fong Ng (MED, Ophthalmology)

**Dave, Aakash**

Discovering the Role of Mitochondrial Respiration Generator of Truncated DLST  
(MIRTD) in Neuroblastoma  
Faculty Mentor: Hui Feng (MED, Pharmacology)

**Dupaguntla, Rohan**

Effects of Perinatal Choline Supplementation on Cortical and Hippocampal Synaptic Marker  
Levels in Mouse Models of Alzheimer's Disease  
Faculty Mentor: Tiffany Mellott (MED, Pathology)

**Farrell, Maura**

Determining the stability and activity of different HCA contraceptive antibody isotypes IgG, sIgA,  
and IgM.  
Faculty Mentor: Deborah Anderson (MED, Obstetrics/Gynecology)

**Field, Grace**

Investigating the impact of altered myelination in Trisomy 21 using hOLS  
Faculty Mentor: Ella Zeldich (MED, Anatomy and Neurobiology)

**Gao, Colin**

Developing a Therapeutic Approach for COVID-induced Cardiovascular Pathology and Damage  
of Cardiomyocytes  
Faculty Mentor: James Hamilton (MED, Physiology and Biophysics)

**Green, Elena**

High-Throughput Screening of Select Peptides for Modulation of G Protein Activity  
Faculty Mentor: Mikel Garcia-Marcos (MED, Biochemistry)

**Hsiung, Maxine**

Presynaptic cannabinoid receptor localization on lateral prefrontal cortex and amygdala inputs to anterior cingulate cortex

Faculty Mentor: Maria Medalla (MED, Anatomy & Neurobiology)

**Johnson, Clifton**

Unraveling the Role of Microglia in Acute Neurodegeneration Recovery: Characterizing Phagocytic Activity and Morphological Phenotypes

Faculty Mentor: Tuan Leng Tay (MED, Anatomy and Neurobiology)

**Kahvecioglu, Han**

Identifying and locating sub-populations of inhibitory neurons along the Entorhinal Cortex

Faculty Mentor: Jean-Pierre Roussarie (MED, Anatomy and Neurobiology)

**Kierul, Olivia**

Novel genes in the development of macula densa cells in the kidney

Faculty Mentor: Weining Lu (MED, Nephrology)

**Laryea, Monica**

The Mechanisms of DNA Damage response Kinase at ALT Telomeres

Faculty Mentor: Rachel Flynn (MED, Pharmacology)

**Liang, Joyce**

Investigating PAX3's Functions as an Indirect Regulatory Mechanism towards Nonsense Mediated Decay Pathway's Targeted Tumor Suppressing Genes in Melanoma

Faculty Mentor: Deborah Lang (MED, Dermatology)

**Liaw, Easton**

SLIT2 as a New Biomarker for Chronic Kidney Disease.

Faculty Mentor: Weining Lu (MED, Nephrology)

**Ling, Liuqian**

Inflammatory damage on aortic tissue in the cardiovascular system

Faculty Mentor: Zhen Y. Jiang (MED, Pharmacology)

**Luong, Haile**

Development of semi-automated recombinant mycobacterial cell wall hydrolase enzymatic assays using the Octet BLI System

Faculty Mentor: Lingyi Deng (MED, Medicine)

**Misic, Teodora**

Ultrasonic vocalization syllable composition during neonatal opioid withdrawal in BALB/c substrains and the effect of Zfx2 genetic variants on behavior.

Faculty Mentor: Camron Bryant (MED, Pharmacology)

**Nicolas, Kristina**

Investigating the implications of the interaction between the epigenetic suppressor CBX5 and the kinase Pim1 on lung fibroblast inflammation, pro-fibrotic activity, and apoptosis.

Faculty Mentor: Giovanni Ligresti (MED, Medicine)

**Numata, Kohji**

Identification of viral RNA elements driving flavivirus immune escape

Faculty Mentor: Florian Douam (MED, Microbiology)

**Pagan, Juan**

Role of the Melanocortin System in Regulating the Thyroid Axis

Faculty Mentor: Ricardo da Costa e Sousa (MED, Medicine)

**Pan, Susie**

Tuberculosis – Learning the Impact of Nutrition (TB: LION)

Faculty Mentor: Pranay Sinha (MED, Infectious Diseases)

**Pappu, Jaii**

Novel West Nile Virus Expression of Modified Reporter Nanoluc Protein

Faculty Mentor: Florian Douam (MED, Microbiology)

**Park, Sarah**

Investigation of the Effect of Netarsudil on the Inner Wall Endothelial Cells of Schlemm's Canal of Human Eye Using Serial Block-face Scanning Electron Microscopy

Faculty Mentor: Haiyan Gong (MED, Ophthalmology)

**Perry, Olivia**

Effects of gene dosage on craniofacial defects and neural crest cell migration in *Xenopus laevis* embryos

Faculty Mentor: Laura Lowery (MED, Medicine/Hematology and Oncology)

**Prudhvi, Sanjana**

Quantifying Neuritic Plaque Changes to the Extracellular Matrix Structure Associated with AD progression

Faculty Mentor: Manveen Sethi (MED, Biochemistry)

**Rasheed, Samaa**

The Effects of Lactic Acid on epithelial integrity and HIV susceptibility

Faculty Mentor: Deborah Anderson (MED, Infectious Disease)

**Schmottlach, Jillian**

Characterizing Lung Endothelial Cell Heterogeneity and Function in Pulmonary Fibrosis

Faculty Mentor: Giovanni Ligresti (MED, Medicine)

**Shivers, Erie**

Microvasculature Changes in Stage I to IV Chronic Traumatic Encephalopathy (CTE) Focusing on Spiraling Blood Vessels in Postmortem Human Dorsolateral Frontal Cortex

Faculty Mentor: Ann McKee (MED, Neurology and Pathology)

**Song, Su Yeon**

Optimizing CRISPR mutagenesis while investigating sorting nexin function during hematopoietic progenitor migration

Faculty Mentor: Elliott Hagedorn (MED, Medicine Hematology & Medical Oncology)

**Tatke, Rutu**

The effect of MSC-EVs on the inflammatory profile in a Rhesus monkey model of cortical injury

Faculty Mentor: Tara Moore (MED, Anatomy and Neurobiology)

**Velte, Olivia**

The Role of Medial Prefrontal Cortex Alpha-2 Adrenergic Receptors in Alcohol Use Disorder

Faculty Mentor: Valentina Sabino (MED, Addictive Disorders)

**Wu, Claire**

Identification of YAP1-specific transcriptional binding complex domain

Faculty Mentor: Deborah Lang (MED, Dermatology)

**Wu, Sam**

Evolutionary Drivers of the microRNA Complement

Faculty Mentor: Daniel Cifuentes (MED, Biochemistry)

**Yung, Michelle**

Morphologic Changes in the Aqueous Outflow Pathway responsible for Thrombospondin-1-induced outflow facility decrease in Porcine Eyes

Faculty Mentor: Haiyan Gong (MED, Ophthalmology)

**Zhang, Angela**

Hypothalamic actions of thyroid hormones: The role of thyroid hormone receptor  $\beta$  signaling during hypothyroidism and HPT axis sensitivity to TH.

Faculty Mentor: Ricardo Sousa (MED, Medicine)

**Zhao, John**

Effect of  $\alpha$ -MSH on Macrophage Innate Immune Memory Response

Faculty Mentor: Andrew Taylor (MED, Ophthalmology)

**Zheng, Jamie**

Effects of Macrophage Memory on Ocular Immune Response

Faculty Mentor: Andrew Taylor (MED, Ophthalmology)

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Other

**Pulido Pardo, Valjean**

Can Prostitution Be a Means for Flourishing for Cuban Sex Workers?

Faculty Mentor: Makarand Mody (SHA, Hospitality Marketing)

**Agarwal, Ananya**

Women's Social Networks, Reproductive Health, and Well-Being: Qualitative Evidence from Rural India

Faculty Mentor: Mahesh Karra (Pardee, International Relations)

**Aydinol, Sahkia**

"Do NED Mention It": Analyzing U.S. public diplomacy efforts under "democracy promotion" through spending by the National Endowment for Democracy

Faculty Mentor: JEREMY MENCHIK (Pardee, International Relations)

**Granera, Dora**

Guatemalan Policing

Faculty Mentor: Rachel Nolan (Pardee, Latin America)

**Hill, Nicole**

The 1927 Commission of American Jurists role in the codification of international law

Faculty Mentor: Andrei Mamolea (Pardee, International Relations)

**Martin, Jack**

The Psychology of Extremists in their Own Words

Faculty Mentor: Jessica Stern (Pardee, International Relations)

**Sherman, Zachary**

My Hidden Neighbor: how Jewish Refugees and former Nazi officers coexisted in post-war Argentina

Faculty Mentor: Rady Roldan - Figeroa (Pardee, Theology)

**Ventura, Andrea**

The Advocacy and Socio-political Thought of Paulina Luisi, Unsung Latin American Feminist

Faculty Mentor: Andrei Mamolea (Pardee, International Relations)

**Sundararajan, Siddharth**

Investigating the link between Good Samaritan Laws and Opioid related deaths

Faculty Mentor: Alan Cohen (Questrom, Markets, Public Policy and Law)

**Verma, Victor**

Using Large Language Models for Massive Political Science Data Scraping  
Faculty Mentor: Jetson Leder-Luis (Questrom, Markets, Public Policy, and Law)

**Wu, Yusen**

Deep Generative Learning to Convert Unstructured Patent Text to Interpretable Spatial Vectors for Augmenting Managerial Decision-Making  
Faculty Mentor: Dokyun Lee (Questrom, Information Systems)

**Anyaike, Sorochi**

The Automatic Ingestion Monitor (AIM) – A Wearable Sensor Device for Characterizing the Timing of Eating and Food Related Activities and Aiding Eating Behavior Change  
Faculty Mentor: Megan McCrory (SAR, Health Sciences)

**Barrow, Noah**

Translation of Robotic Apparel for Alleviating Low Back Pain  
Faculty Mentor: Lou Awad (SAR, Health and Rehabilitation Sciences)

**Bensing, Marion**

Beat Processing in Relation to Phonological Awareness Among Preschool Children at Familial Risk for Dyslexia  
Faculty Mentor: Jennifer Zuk (SAR, Speech, Language, & Hearing Sciences)

**Dunsmuir, Courtney**

Investigating relationships between somatosensory feedback and functional speech outcomes  
Faculty Mentor: Cara Stepp (SAR, Speech, Language, and Hearing Sciences)

**Keltcher, Anita**

Analysis of DBS data from experiment on speech motor learning in cortico-basal ganglia circuits  
Faculty Mentor: Frank Guenther (SAR, Biomedical Engineering)

**Litzinger, Kaden**

Eliciting Perspectives of Parents and Primary Caregivers Living with and Beyond Cancer to Guide Supportive Program Development in Community Based Outpatient Oncology Settings Project  
Faculty Mentor: Robin Newman (SAR, Occupational Therapy)

**Lucerne, Audrey**

Investigating Potential Interactions of Caveolins with the Dystroglycan Complex in Murine Vascular Smooth Muscle  
Faculty Mentor: Kathleen Morgan (SAR, Health Science)

**Naksi, Kledion**

Creating an Inaugural Nutritional Data Summary of 24 Hour Dietary Recalls from the TB-LION Study

Faculty Mentor: Lindsey Locks (SAR, Health Sciences)

**Nguyen, Celina**

Are tendencies toward social motivation and pleasure associated with daily social experiences? An experience sampling study

Faculty Mentor: Daniel Fulford (SAR, Occupational Therapy)

**Quintero, Renzo**

Bilingualism, Language Ability, and Variability Effects in Children's Word-Learning

Faculty Mentor: Kimberly Crespo (SAR, Speech, Language & Hearing Sciences)

**Tannan, Utkarsh**

Sequence-Perturbation Project: Assessing the Relationship between Auditory and Somatosensory Feedback in Speech Development

Faculty Mentor: Frank Guenther (SAR, Speech, Language & Hearing Sciences)

**Volk, Kalei**

To what extent can Lombard responses be explained by feedback vs. feedforward speech motor control processes?"

Faculty Mentor: Cara Stepp (SAR, Speech, Language, and Hearing Sciences)

**Bolan, Taylor**

Black Resilience: A Literature review of the various strategies and coping mechanisms Black families utilize to maximize success.

Faculty Mentor: Stephanie Curenton (SED/Wheelock, Education Leadership & Policy Studies; Applied Human Development)

**Barton, John**

Relevant conceptualizations of human flourishing in hospitality: what does it take to create a 'flourishing experience'?

Faculty Mentor: Makarand Mody (SHA, Hospitality Marketing)

**Midha, Lavya**

Indoor Environmental Quality in K-12 Schools

Faculty Mentor: Patricia Fabian (SPH, Environmental Health)

**Sathe, Soumya**

Identifying Psychological Vulnerabilities for Differentiating Eating Disorders and Their Behaviors

Faculty Mentor: Anthony J. Rosellini (SPH, Epidemiology)

**Choi, Demian**

Following the Waters: A Comparison Between Haitian Vodou and Cuban Lukumí Methods of "Cooling the Head"

Faculty Mentor: Margarita Guillory (STH, Religion)