



BROWN

Summer Research Symposium

◆2015◆

Sayles Hall

11:00 a.m. to 1 p.m.

Thursday, August 6
Life Sciences and Humanities

&

Friday, August 7
Physical and Social Sciences and Student Teams

PRESENTED BY
The Office of the Dean of the College

Summer Research Symposium

Sayles Hall Main Green

Thursday, August 6

Life Sciences and Humanities Posters

- 11:00-11:10 a.m. Welcome
Associate Dean Oludurotimi Adetunji
- 11:10-11:20 a.m. Brief remarks
Dean of the College Maud Mandel
- 11 a.m.-1 p.m. Research Poster Presentations

Friday, August 7

Physical and Social Sciences and Team Posters

- 11:00–11:10 a.m.: Welcome
Associate Dean Oludurotimi Adetunji
- 11:10-11:20 a.m. Brief remarks
Dean of the College Maud Mandel
- 11:00 a.m.-1 p.m. Research Poster Presentations

~A light lunch will be provided both days~

Descriptions of each poster session include a poster number indicating the poster's placement in Sayles. To locate a poster, refer to the layout maps at the end of this pamphlet.

Summer Research Symposium Posters
Thursday, August 6
Humanities & Life Sciences

Humanities

Jennifer Avery Poster #A1

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Richard Fishman, Department of Visual Arts
Poster Title: SEAwitch choreography

Woo-Hyun Byun Poster #A2

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Bhri Gupta Singh, Department of Anthropology
Poster Title: Philosophy of Vitality

Samuel Jones Poster #A3

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Barrymore Bogues, Department of Africana Studies
Poster Title: Archiving Black Abolitionist Papers in the John Hay Library

Katherine Lamb Poster #A4

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Ian Straughn, Department of Anthropology
Poster Title: Magic, Divination and Digitization: the Exploration of a Timbuktu Manuscript

Grant Meyer Poster #A5

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Anthony Cokes, Department of Modern Culture and Media
Poster Title: Appropriation Art

Max Rosenwasser Poster #A6

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Lisa Mignone, Department of Classics
Poster Title: Digitally Mapping Ancient Rome

Bohao Wu Poster #A7

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Kerry Smith, Department of History
Poster Title: Analysis on Japanese-Manchurian Relation Under Manchukuo: A Case Study of Labor Relation in Iyasaka and Chiburi in late 1930s

Life Sciences

Lawrence Ahn Poster #A8

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Craig Lefort, Department of Biology and Medicine
Poster Title: Role of Mac-1 Activation in the Generation of Reactive Oxygen Species in Neutrophils

Ivan Alcantara **Poster #A9**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Anne Hart,
Department of Neuroscience

Poster Title: Modeling rare diseases in *C. elegans* via the CRISPR/Cas9-mediated homologous recombination system

Danielle Alvarez **Poster #A10**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Judith Bender,
Department of Molecular Biology, Cell
Biology, and Biochemistry

Poster Title: Discovering new genetic
regulators of tryptophan metabolism in
plants

Raiane Alves Leao **Poster #A11**

Home Institution: Universidade Federal de
Minas Gerais (UFMG). Belo Horizonte, MG -
Brasil

Summer Research Program: Brazil Scientific
Mobility Program

Faculty Mentor: Professor Suzanne M. de La
Monte, Liver Research Center
and Departments of Pathology and
Laboratory Medicine, Neurology and
Neurosurgery, Rhode Island Hospital and the
Alpert Medical School of Brown University

Poster Title: Imaging Mass Spectrometry
Detection of White Matter Abnormalities in
Frontotemporal Lobar Degeneration, With or
Without Amyotrophic Lateral Sclerosis

Kelsey Anderson **Poster #A12**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Jun Feng,
Department of Cardiothoracic Surgery

Poster Title: Diabetes Regulates COX1 and
COX2 Expression in the Setting of Cardiac
Surgery

Christina Andrews **Poster #A13**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Christian Franck,
Department of Engineering

Poster Title: Immunostaining to detect
fibronectin stripes on polyacrylamide
hydrogels

Zelda Blowers **Poster #A14**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professors James Simmons
and Laura Kloepper, Department of
Neuroscience

Poster Title: Population estimates and
emergence trends of Mexican free-tailed bats
(*Tadarida brasiliensis*) using image processing
tools

Alexander Blum **Poster #A15**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professors Chang-Min Lee
and Chun Geun Lee, Department of Molecular
Biology, Cell Biology and Biochemistry

Poster Title: Elucidating the role of NLRX1 in
pulmonary fibrosis

Joseph Botros **Poster #A16**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Wayne Bowen,
Department of Molecular Pharmacology,
Physiology and Biotechnology

Poster Title: Sigma-2 Agonist CM572 Causes
Increased Aggregation of Panc1 Cells in 3D
Culture

Hayley Bounds **Poster #B1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Karla Kaun and Kristin Scaplen, Department of Neuroscience
Poster Title: The Role of *Drosophila* Circuitry in Acute Ethanol-Induced Behaviors

Kirsten Bredvik **Poster #B2**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Robert Reenan, Department of Molecular Biology, Cell Biology, and Biochemistry
Poster Title: Characterization of a Model of SOD1-Mediated ALS in *Drosophila melanogaster*

Tariq Cannonier **Poster #B3**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Catherine Kerr, Department of Family Medicine
Poster Title(s): Pain Signaling in Irritable Bowel Syndrome

Oscar Carrillo **Poster #B4**

Home Institution: Brown University
Summer Research Program: American Physiological Society Fellowship
Faculty Mentor: Professor Carlos Aizenman, Department of Neuroscience
Poster Title: Neurodevelopment of Multisensory Integration in the Xenopus *Laevis* Tadpole

Grace Cinderella **Poster #B5**

Home Institution: Brown University
Summer Research Program: Summer Research Assistantship in Biomedical Sciences
Faculty Mentor: Professor Mark Johnson, Department of Molecular Biology, Cell Biology, and Biochemistry
Poster Title: Are alpha carbonic anhydrases required for pollen tube guidance?

Alexa Cohen **Poster #B6**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Kevin Bath, Department of Cognitive, Linguistic, and Psychological Sciences
Poster Title: Long term and acute anxiolytic effects of ethanol ingestion

Emma Corcoran **Poster #B7**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Alison DeLong, Department of Molecular Biology, Cell Biology, and Biochemistry
Poster Title: Analysis of an ACC Hypersensitive Mutant

Samuel Angelo Crisanto **Poster #B8**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Sorin Istrail, Department of Computer Science
Poster Title: A Mathematically Rigorous Algorithm for Long-Range Haplotype Phasing

Bethany Cucka **Poster #B9**

Home Institution: Brown University
Summer Research Program: Rhode Island Hospital
Faculty Mentor: Professor Loren Fast, Department of Hematology/Oncology
Poster Title: Generation of Dendritic Cells for Testing Induction of T cell Proliferation and Cytolytic Effectors

Lillian Dominguez **Poster #B10**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Amanda Jamieson, Department of Molecular Microbiology and Immunology
Poster Title: Identifying Small Molecule Drugs to Increase Host Resilience Against Infection

Kathleen Finn **Poster #B11**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Loren Fast, Department of Biology and Immunology
Poster Title: The Role of Natural Killer (NK) cells in Regulating Alloreactive Immune Responses

Nimesha Gerlus **Poster #B12**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Anthony Spirito and Richard Liu, Department of Psychiatry
Poster Title: Impulsivity as a Predictive Factor of Adolescent Suicidality Treatment Outcome

Sarah Grosser **Poster #B13**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Anne Hart, Department of Neuroscience
Poster Title: Stress and ALS: Making the Connection in a *C. elegans* Model

Cynthia Hale-Phillips **Poster #B14**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor David Rand, Department of Ecology and Evolutionary Biology
Poster Title: The Effects of Downregulating the TOR Signaling Pathway on Mitochondrial Function

Corey Holman **Poster #B15**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Eric Darling, Department of Molecular Pharmacology, Physiology, and Biotechnology
Poster Title: Molecular Beacon Delivery Methods in 2D Cell Culture

Kathleen Huntzicker **Poster #B16**

Home Institution: Brown University
Summer Research Program: Independent Research
Faculty Mentor: Professor Kevin Bath, Departments of Cognitive, Linguistic, and Psychological Sciences and Neuroscience
Poster Title: BDNF: a potential driver of early life stress-associated accelerated neurobehavioral development

Abigail Janke **Poster #C1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs), Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Nicolas Fawzi, Department of Molecular Pharmacology, Physiology, and Biotechnology
Poster Title: Determining the structure of RNA polymerase II C-terminal domain in complex with ALS-linked FET protein assemblies

Elizabeth Jean-Marie **Poster #C2**

Home Institution: Brown University
Summer Research Program: Summer Research Assistantship in Biomedical Sciences
Faculty Mentor: Professor Joseph Bliss, Department of Pediatrics
Poster Title: Utility of a Therapeutic Anti-Candida Monoclonal Antibody in *Staphylococcus aureus* Infection

Tamar Kaminski **Poster #C3**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs), Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Chun Lee, Department of Molecular Microbiology and Immunology
Poster Title: Role of Chitinase 3-like 1 in the Pathogenesis of Nonalcoholic steatohepatitis

Liana Kramer **Poster #C4**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs) , Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Diane Hoffman-Kim, Department of Molecular Pharmacology, Physiology and Biotechnology
Poster Title: Investigating the effects of substrate mechanical properties on cells of the nervous system

Sabrina Kunselman **Poster #C5**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs) , Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Megan Ranney, Department of Emergency Medicine
Poster Title: iDove: A Randomized Controlled Trial of a Text-Messaged Based Depression Prevention Intervention for High-Risk Youth in the Emergency Department

Connie Liou **Poster #C6**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Justin Fallon, Department of Neuroscience
Poster Title: Characterizing MuSK-Binding Proteins as a Method to Understanding Their Role in Neuromuscular Disease

Animesh Mahapatra **Poster #C7**

Home Institution: Brown University
Summer Research Program: Summer Research Assistantship in Biomedical Sciences
Faculty Mentor: Professor Anne Hart, Department of Neuroscience
Poster Title: Identifying Suppressors of *sod-1* in *Caenorhabditis elegans* ALS-mutants

Cory Mayfield **Poster #C8**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Christopher Born and Dioscaris Garcia, Department of University Orthopedics
Poster Title: Adherence and Proliferation of Propionibacterium Acnes on Materials of Orthopaedic Relevance

Matthew McAteer **Poster #C9**

Home Institution: Brown University
Summer Research Program: Summer Research Assistantship in Biomedical Sciences, Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor David Rand, Department of Ecology and Evolutionary Biology
Poster Title: Effectiveness of Manipulating Key Metabolic Pathways in Treating the Aging Process and Quantification of Physiological vs. Chronological Age in *Drosophila* *Melanogaster*

Phoebe McAuliffe **Poster #C10**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Neha Raukar, Department of Emergency Medicine
Poster Title: King Devick Testing in the Emergency Department

Marisa Millenson **Poster #C11**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Joseph Braun, Department of Epidemiology
Poster Title: Association Between Prenatal Organophosphate Pesticide Exposure and Autistic-Behaviors

Rachel Muster **Poster #C12**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Karla Kaun, Department of Neuroscience
Poster Title: Effects of a Rewarding Dose of Ethanol on sca-GFP Localization in *Drosophila melanogaster* Mushroom Bodies

Dipal Nagda **Poster #C13**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Eric Morrow, Department of Molecular Biology, Cellular Biology, and Biochemistry
Poster Title: Utilization of Induced Pluripotent Stem Cells in the Study of Christianson's Syndrome

Karla Navarrete **Poster #C14**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Richard Bennett, Department of Molecular Microbiology and Immunology
Poster Title: In vitro profiling of persistent and non-persistent clinical isolates of *Candida albicans*

Chibuikem Nwizu **Poster #C15**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs), Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Daniel Weinreich, Department of Ecology and Evolutionary Biology
Poster Title: Managing the Spread of Artemisinin Resistance In Malaria Before it is Too Late

Jamie Odzer **Poster #C16**

Home Institution: Brown University
Summer Research Program: Summer Research Assistantship in Biomedical Sciences
Faculty Mentor: Professor Craig Lefort, Center of Surgical Research
Poster Title: Engineered Neutrophils as a Potential Cancer Therapeutic

Hayden Peirce **Poster #D1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Mark Johnson and Alexander Leydon, Department of Molecular Biology, Cellular Biology, and Biotechnology
Poster Title: Investigating Plant Pollen to Ovule Communication Through Thionin Proteins

Cooper Penner **Poster #D2**

Home Institution: Brown University
Summer Research Program: Independent Research
Faculty Mentor: Professor Catherine Kerr, Department of Family Medicine
Poster Title(s): Developing a Qualitative Framework for Fatigued Breast Cancer Survivors

Natalia Perecki **Poster #D3**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Beatrice Lechner, Department of Pediatrics
Poster Title: Ovarian Transplants in Wild Type and Biglycan/Decorin Knockout Mice

David Perry **Poster #D4**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Stephen Gatesy, Department of Ecology and Evolutionary Biology
Poster Title: Paleoanthropology in Motion: Using X-rays to Study Human Footprints in an Evolutionary Context

Thomas Pettengill **Poster #D5**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Mark Bertness, Department of Ecology and Evolutionary Biology
Poster Title: The Natural History of Die off and Recovery in New England Salt Marshes

Shahena Polynice **Poster #D6**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Julie Kauer, Department of Molecular Pharmacology, Physiology, and Biotechnology
Poster Title: Field Potential Recordings in the Hippocampus and Dorsal Horn

Ali Rezaei **Poster #D7**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Robert Reenan, Department of Molecular Biology, Cellular Biology, and Biotechnology
Poster Title: Determining fundamental cis-regulatory elements directing selective, efficient, and novel RNA editing

Amanda Ruggieri **Poster #D8**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor David Badre, Department of Cognitive, Linguistic, and Psychological Sciences
Poster Title: The Value of Memory

Emily Schwartz **Poster #D9**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Philip Gruppuso and Jennifer Sanders, Department of Pediatrics
Poster Title: Maintaining the Phenotype of Late Gestation Fetal Hepatocytes In Vitro

Reid Secondo **Poster #D10**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Ashley Webb, Department of Molecular Biology, Cellular Biology, and Biochemistry
Poster Title: Regulation of Neural Stem Cell Quiescence by the Pro-longevity Transcription Factor FOXO3

Daniel Seidman **Poster #D11**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Sorin Istrail, Department of Computational Biology
Poster Title: Identical by Descent Tracts in Unphased Genotypes

Corinne Sejourne **Poster #D12**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Lauren Weinstock, Department of Psychiatry and Human Behavior
Poster Title: Understanding Emotion Regulation Strategies Across the Depressive Mood Spectrum

William Serratelli **Poster #D13**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Craig Lefort, Department of Surgical Research
Poster Title: Lentiviral Delivery of CRISPR/Cas9 for the Genetic Manipulation of Neutrophils

William Sheeran **Poster #D14**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Diane Hoffman-Kim, Department of Molecular Pharmacology Physiology and Biotechnology
Poster Title: Optimizing Three-Dimensional In Vitro Models of the Central Nervous System

Saba Shevidi **Poster #D15**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Mamiko Yajima and Gary Wessel, Department of Molecular Biology, Cellular Biology, and Biotechnology
Poster Title: CRISPR-mediated Genomic Editing in the Sea Urchin

Ellen Shrontz **Poster #D16**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Marc Tatar, Department of Biology
Poster Title: Regulation of Human Insulin Receptor Expression by Kruppel-like Factors

Emily Siegel **Poster #E1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Stephen Helfand, Department of Molecular Biology, Cellular Biology, and Biochemistry
Poster Title: Investigating the Role of a Somatic piRNA Pathway in *Drosophila melanogaster* Fat Body Function

Dylan Spangle **Poster #E2**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Daniel Weinreich, Department of Ecology and Evolutionary Biology
Poster Title: Stability and location of mutant proteins in bacterial cells

Rana Suliman **Poster #E3**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Richard Freiman, Department of Molecular Biology, Cellular Biology and Biochemistry
Poster Title: Targeting Notch3 Signaling Pathways Inhibit Ovarian Cancer Survival

Shantā Sykes **Poster #E4**

Home Institution: Tougaloo College
Summer Research Program: NSF
Faculty Mentor: Professor Mark Johnson, Department of Molecular Biology, Cellular Biology and Biochemistry
Poster Title: Activation of sperm-specific genes disrupts normal root development

Nicole Thomasian* **Poster #E16**

Home Institution: Brown University
Summer Research Program: LINK Award

Faculty Mentor: Professor Joanna Szmydynger-Chodobska, Department of Emergency Science

Poster Title: Blood Biomarkers for the Diagnosis and Characterization of Mild Traumatic Brain Injury (mTBI) in the Pediatric Population

*Scheduled to present on Friday, August 7th

Ayumi Tsuda **Poster #E5**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Julie Kauer, Department of Molecular Pharmacology, Physiology, and Biotechnology

Poster Title: Fluorescent Retrograde Labeling and Electrophysiological Characterization of Ventral Tegmental Projections to the Nucleus Accumbens

Methma Udawatta **Poster #E6**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Rebecca Burwell, Department of Cognitive, Linguistic, and Psychological Sciences

Poster Title: Sex- and Light Cycle-based Differences in Spontaneous Object Recognition Performance

Charlotte Walmsley **Poster #E7**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Elizabeth Brainerd, Department of Ecology and Evolutionary Biology

Poster Title: Rib Action and Intercostal Muscle Function During Respiration in Alligators

Aurora Washington **Poster #E8**

Home Institution: Tougaloo College
Summer Research Program: Space Grant/NASA

Faculty Mentor: Professor Diane Hoffman-Kim, Department of Molecular Pharmacology, Physiology, and Biotechnology

Poster Title: Investigating the Effects of Microgravity on 3D Cortical Micro-Tissues

Amanda Way **Poster #E9**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Janos Perge and Dr. Wael Assad, Department of Neuroscience

Poster Title: The Effect of Prelimbic Stimulation on Learning

Xingyu Wei **Poster #E10**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Wolfgang Peti, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Enzyme Engineering to Change the Activity of a Diabetes Drug Target

Lucas Weiser **Poster #E11**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Alexandra Deaconescu, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Controlling the Intracellular Levels of the RpoS Master Transcriptional Regulator Using Anti-Adaptor Proteins

Ashley Wu **Poster #E12**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Wayne Bowen, Department of Molecular Pharmacology, Physiology, and Biotechnology

Poster Title: Sigma-2 Ligands Decrease U118-MG Glioblastoma Cell Viability

Anna Xu **Poster #E13**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Catherine Kerr,
Department of Family Medicine

Poster Title(s): Role of Posterior Insula in
Characterizing Somatization: Graph Theory
Analysis of Pain Processing Neural Substrates
in Chronic Pain

Denise Yoon **Poster #E14**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor David Rand,
Department of Ecology and Evolutionary
Biology

Poster Title: Mitochondria unplugged:
targeted restriction of mtDNA and
chemotactic response in *Drosophila*

Tammy Yu **Poster #E15**

Home Institution: Brown University
Summer Research Program: Summer
Research Assistantship in Biomedical
Sciences

Faculty Mentor: Professor Amanda
Jamieson, Department of Molecular
Microbiology and Immunology

Poster Title: The safer alternative?
Investigating the impact of e-cigarettes on
pulmonary inflammation, tissue repair, and
infectious disease

Jessica Zheng **Poster #E16**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Loren Fast,
Department of Hematology/Oncology

Poster Title: The Impact of Febrile
Temperatures on Alloreactive Immune
Responses

Summer Research Symposium Posters
Friday, August 7
Physical and Social Sciences and Student Teams

Physical Sciences

Ismael Abu-Baker **Poster #B3**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Tayhas Palmore, Department of Engineering
Poster Title: Na₂Mn₅O₁₀ as a Promising Cathode Material for Sodium-ion Batteries

Samuel Ainsworth **Poster #B4**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Erik Sudderth, Department of Computer Science
Poster Title: Breaking Particle Filters and a New Approach to MAP Smoothing

Kevin Argueta **Poster #B5**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Domenico Pacifici, Department of Electrical Engineering
Poster Title: Fabrication of quasiperiodic plasmonic concentrators using nanoimprint lithography

Kallan Berglund **Poster #B6**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor David Lowe, Department of Physics
Poster Title: Firewalls Inside the Event Horizon of Black Holes: A Theoretical Study

Elizabeth Bolton **Poster #B7**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Sarah Delaney, Department of Chemistry
Poster Title: Characterizing DNA Secondary Structure of Hairpin-Containing Base Excision Repair Intermediates

Christopher Carchedi **Poster #B8**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Colleen Dalton, Department of Earth, Environmental, and Planetary Science
Poster Title: Investigating Mantle Temperature & Composition beneath the Atlantic Ocean by Measuring the Attenuation of Seismic Waves

Andres Chang **Poster #B9**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Jung-Eun Lee, Department of Earth, Environmental, and Planetary Science
Poster Title: Examining the Orbital Controls of Earth's Glaciation Cycle

Emily Eruysal **Poster #B10**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Eunsuk Kim, Department of Chemistry
Poster Title: Synthesis of a Fluorescent Probe for Detection of Crosstalk between Hydrogen Sulfide and Nitric Oxide at Iron-Sulfur Proteins

Benjamin Ferleger **Poster #B11**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor David Borton, School of Engineering

Poster Title: Embedded System for Neural-based Control of an Autonomous Rover

Meghan Gallo **Poster #B12**

Home Institution: Providence College
Summer Research Program: Rhode Island IDEa Network for Excellence in Biomedical Research

Faculty Mentor: Professor Kevin Bath, Department of Neuroscience, Professor Katharine Phillips, Department of Psychiatry and Human Behavior, and Professor Christopher Bloom, Providence College Department of Psychology

Poster Title: Genetic association of GABRG2 and body dysmorphic disorder in a mouse model

Adam Gilbert **Poster #B13**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Karen Fischer, Department of Earth, Environmental, and Planetary Sciences

Poster Title: Probing the Cratonic Lithosphere

Jahmour Givans **Poster #B14**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor David Lowe, Department of Physics

Poster Title: Optimizing the Detection of Hawking Radiation in anti de-Sitter Space

Tinotenda Gwisai **Poster #C2**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Anita Shukla, Department of Engineering

Poster Title: Topical delivery of repurposed anthelmintic drugs to combat wound infections

MinJung Han **Poster #C3**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Paul Willard, Department of Chemistry

Poster Title: Investigation on a synthetic route for a novel natural product

Stephanie Haro **Poster #C4**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Harvey Silverman, Department of Engineering

Poster Title: Detecting Pain vs Non-Pain Cries in New Born Infants

Melissa Hill **Poster #C5**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Christopher Moore, Department of Neuroscience, and Kevin Bath, Department of Cognitive, Linguistic, and Psychological Sciences

Poster Title: Testing altered learning in the D2 corticostriatal pathway with antipsychotic exposure

Oliver Isik **Poster #C6**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Ian Dell'Antonio, Department of Astrophysics

Poster Title: Evidence of Star Formation in Isolated Elliptical Galaxies

Mitchell Jamieson **Poster #C7**

Home Institution: Brown University
Summer Research Program: LINK Award
Faculty Mentor: Professor Amit Basu,
Department of Chemistry
Poster Title: Achieving bacteriostasis using
diamide inhibitors of bacterial GlcNAcases

Andrew Jones **Poster #C8**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Beata Jarosiewicz,
Department of Neuroscience, and Professor
Leigh Hochberg, Department of Engineering
Poster Title: Inferring speed from directional
changes improves decoding of cursor speed
in human brain-computer interface

Chet Kilfoyle **Poster #C9**

Home Institution: Brown University
Summer Research Program: Independent
Research
Faculty Mentor: Professor Jacob Rosenstein,
Department of Electrical Engineering
Poster Title: A Compact USB-Powered High-
Voltage Microfluidic Controller

Changhae Kim **Poster #C10**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Gerald Diebold,
Department of Chemistry
Poster Title: Laser-induced Formation and
Agglomeration of Microbubbles in Carbon
Suspensions

Ekaterina Kryuchkova **Poster #C11**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor John Gemmer,
Department of Applied Mathematics
Poster Title: Modeling Pedestrian Dynamics
in a Crowded Room

Jeannie Le **Poster #C12**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Jason Sello,
Department of Chemistry
Poster Title: Structure-based Optimization of
TB Drug Leads

Alexander Levine **Poster #C13**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor James Valles,
Department of Physics
Poster Title: Effect of a Capacitively-Coupled
Ground Plane in Nanohoneycomb Thin Films
near the Insulator-Superconductor Transition

Lauren Levy **Poster #D2**

Home Institution: Brown University
Summer Research Program: Royce Fellows
Faculty Mentor: Professor Anita Shukla,
Department of Engineering
Poster Title: Two-Dimensional Geometric
Control of Chondrogenic Differentiation for
Cartilage Cellular Engineering

Harjasleen Malvai **Poster #D3**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Caroline Kilvans,
Department of Applied Mathematics
Poster Title: Generalisations of Chip-Firing

David Mayans **Poster #D4**

Home Institution: Brown University
Summer Research Program: Independent
Research
Faculty Mentor: Professor Matt Zimmt,
Department of Chemistry
Poster Title: Exploring Triphenylene
Ethyne Structures as MALDI Matrices

Hayley McClintock **Poster #D5**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Ian Wong,
Department of Engineering

Poster Title: Patterning 3D Microfluidic
Biomaterials

Samuel Moore **Poster #D6**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Indrek Kulaots,
Department of Chemical and Biochemical
Engineering

Poster Title: Explosive and Non-Explosive
Modes of Graphite Oxide Thermal Exfoliation
and Their Safety Implications

Rohith Nagari **Poster #D7**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Jason Sello,
Department of Chemistry

Poster Title: Exploring the Molecular Basis
of Resistance to a New Class of Antibiotic

Nicholas O'Mara **Poster #D8**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Timothy Herbert,
Department of Earth, Environmental, and
Planetary Sciences

Poster Title: Reconstructing natural modes
of Pacific climate variability by geochemical
analysis of ocean sediment off Baja California,
Mexico

Natalie Palaychuk **Poster #D9**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Amit Basu,
Department of Chemistry

Poster Title: Synthesis and Characterization
of Yariv Reagents for use in AGP Binding
Assays

Matthew Petersen **Poster #D10**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professors Christian Franck
and David Henann, Department of Mechanical
Engineering

Poster Title: Mechanical Characterization of
Strain-Rate-Dependent Polyurethane Foams

Carlos Reyes **Poster #D11**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Jacob Rosenstein,
Department of Electrical Engineering

Poster Title: Electronic Circuits for Dielectric
Breakdown Nanopore Sensor Fabrication

Wonho Rhee **Poster #D12**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Kavita Ramanan
and David Lipshutz, Department of Applied
Mathematics

Poster Title: Sensitivity Analysis of Reflected
Brownian Motions

Jonathan Rubins **Poster #D13**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Ian Wong,
Department of Engineering

Poster Title: Morphological Single-Cell
Profiling of the Epithelial to Mesenchymal
Transition

Alexandra Saali **Poster #D14**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor David Berson, Department of Neuroscience
Poster Title: Diversity Demystified: Tbx20 sheds light on the molecular program of melanopsin-expressing retina ganglion cells

Ryan Saenger **Poster #E3**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Andrew Peterson, Department of Engineering
Poster Title: Looped-Oxide Catalysis

Russell Shelp **Poster #E4**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Matt Zimmt, Department of Chemistry
Poster Title: Cross-Linking of Chemically Patterned Monolayers: Molecular Checkerboards on the 5-25 Nanometer Length Scale

Jaekyung Song **Poster #E5**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Allan Bower, School of Engineering
Poster Title: Controlling A Quadcopter Via Camera

Roque Soto Castaneda **Poster #E6**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Colleen Dalton, Department of Earth, Environmental, and Planetary Sciences
Poster Title: Analyzing USArray Seismic Data to Study the Mantle beneath North America.

Jeffrey Stone **Poster #E7**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Martin Maxey and Anastasios Matzavinos, Department of Applied Math
Poster Title: Mathematical Models of Bacterial Quorum Sensing

Sarah Syrop **Poster #E8**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor David Borton, Department of Biomedical Engineering
Poster Title: Modeling the Transmission of Electromagnetic Radiation through Radio Frequency Transparent Non-Human Primate Enclosures

Nathaniel Tarshish **Poster #E9**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Robert Pelcovits, Department of Physics
Poster Title: Monte Carlo Study of Knotted Defect Structures in Liquid Crystals

Nikhil Trehan **Poster #E10**

Home Institution: Brown University
Summer Research Program: Undergraduate Grant
Faculty Mentor: Professor Jacob Rosenstein, Department of Electrical Engineering
Poster Title: Investigating Electrical Conductance of Single Organic Molecules

Lucy Van Kleunen **Poster #E11**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Andries van Dam, Department of Computer Science
Poster Title: Touch Art Gallery: designing and implementing an intuitive user interface for displaying 2-dimensional artworks and artifacts

Michele Winter **Poster #D16**

Home Institution: Brown University
Summer Research Institute for Molecular and
Nanoscale Innovation (IMNI)

Faculty Mentor: Professors Derek Stein,
Department of Physics

Poster Title: Osmotically Driven
Translocations

Emily Wu **Poster #E12**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Stefanie Tellex,
Department of Computer Science

Poster Title: Generating Speech and Gesture
for Robotic Communication

Social Sciences

Cristina Ballarini **Poster #A4**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Steven Sloman,
Department of Cognitive, Linguistic, and
Psychological Sciences

Poster Title: Mechanisms of Motivated
Reasoning

Emorie Beck **Poster #A5**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Bertram Malle,
Department of Cognitive, Linguistic, and
Psychological Sciences

Poster Title: Certain and Stubborn? The Role
of Appraisals in Emotion, Judgment, and
Cognitive Processing

Bianca Audrey Duah **Poster #A6**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Timothy Flanigan,
Department of Infectious Disease

Poster Title: Alternative Disclosure Methods
in Perinatal Infected Children and Youth

Timothy Genovese **Poster #A2**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Mark
Zimmerman, Department of Psychiatry and
Human Behavior

Poster Title: The Effectiveness of an ACT-
Based Partial Hospitalization Program in
Treatment of Borderline Personality Disorder

Sophia Gluskin-Braun **Poster #A7**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Karen
Haberstroh, School of Engineering

Poster Title: Spira Engineering Camp: A
Study in Mentoring

Carolina Guzman Holst **Poster #A3**

Home Institution: Brown University
Summer Research Program: Rhode Island
Hospital Department of Psychiatry MIDAS
Internship

Faculty Mentor: Professor Mark
Zimmerman, Department of Psychiatry and
Human Behavior

Poster Title: Epidemiology and treatment of
trauma: The effectiveness of Acceptance and
Commitment Therapy in a partial
hospitalization program

Michelle Kulowski **Poster #A8**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs) , Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Michael Frank, Department of Cognitive, Linguistic, and Psychological Sciences
Poster Title: Eye Gaze and Pupillometry as Indicators for Value-Based Decision Making

Jeffrey Lam **Poster #A9**

Home Institution: Brown University
Summer Research Program: Summer Research Assistantship in Biomedical Sciences
Faculty Mentor: Professor Christopher Kahler, Department of Behavioral and Social Sciences
Poster Title: Testing Text Messaging of Positive Psychotherapy Exercises

Yvette Schein **Poster #A10**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs),
Faculty Mentor: Professor Dannie Ritchie, School of Medicine
Poster Title: Health Experiences for East-African Refugees in Rhode Island

Hannah Silverman **Poster #A11**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Mascha van't Wout, Department of Cognitive, Linguistic, and Psychological Sciences
Poster Title: Moderating Regret with transcranial Direct Current Stimulation

Rachel Speakman **Poster #A12**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Laura Stroud, Department of Psychiatry and Human Behavior
Poster Title: Cardiovascular Response to Peer Rejection as a Biomarker for Adolescent Depression Risk

Marguerite Suozzo-Gole **Poster #A13**

Home Institution: Brown University
Summer Research Program: Institute at Brown for Environment and Society
Faculty Mentor: Professor Dawn King, Department of Institute at Brown for Environment and Society
Poster Title: Joining Potluxe: Incentivizing Participation in an Online Sustainability Ideas Bank

Emily Wright **Poster #A14**

Home Institution: Brown University
Summer Research Program: Royce Fellows
Faculty Mentor: Professor Sherine Hamdy, Department of Anthropology, and Professor Scott Frickel, Department of Sociology
Poster Title: Challenges to Consensus about Chronic Kidney Disease in Central America

Student Team Members:
Life Sciences

Douglas Barber **Poster #A15**

Home Institution: Brown University
Summer Research Program: Independent Research
Faculty Mentor: Professor Christopher Born, Department of Orthopedic Surgery
Poster Title: Optimization of Rapid-Detection Assay to Visualize and Quantify Bacterial Colonization on Orthopaedic Trauma Explants
Team Members: Janice Havasy

Mattea Berglund* **Poster #E17**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Mark Bertness, Department of Ecology and Evolutionary Biology

Poster Title: The Natural History of Die off and Recovery in New England Salt Marshes

Team Members: Thomas Pettengill

*Scheduled to present on Thursday, August 6th

Signe Caksa **Poster #B1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Alexander Brodsky, Department of Pathology

Poster Title: Effects of Oxysterol and Statin Treatment on Ovarian Cancer Cells

Team Members: Christy Le

Jack Haglin **Poster #B2**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professors Christopher Born and Dioscaris Garcia, Department of Orthopedics

Poster Title: Assessing the Efficacy of Silver-doped Antimicrobial Coatings on Prosthetic Liners

Team Members: Artym Hayda

Emma Hanlon **Poster #A1**

Home Institution: Boston College
Summer Research Program: RI Hospital Partial Hospitalization Program Effectiveness Study

Faculty Mentor: Professor Mark Zimmerman, Department of Human Behavior and Psychiatry

Poster Title: Treatment Compliance and Mood Improvement in Older and Young Adults in a Psychiatric Partial Hospitalization Program

Team Members: Ryan Sutyla

Janice Havasy **Poster #A15**

Home Institution: Brown University
Summer Research Program: Stein- Bellet Foundation

Faculty Mentor: Professor Christopher Born, Department of Orthopedic Surgery

Poster Title: Optimization of Rapid-Detection Assay to Visualize and Quantify Bacterial Colonization on Orthopaedic Trauma Explants

Team Members: Douglas Barber

Stephanie Hojsak **Poster #B15**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Edith Mathiowitz, Department of Molecular Pharmacology, Physiology, and Biotechnology

Poster Title: Tracking the Untraceable II: Understanding Bioadhesion and Diffusion Mechanisms in Mucous

Team Members: Soham Rege

Artym Hayda **Poster #B2**

Home Institution: Georgetown University
Summer Research Program: Independent Research

Faculty Mentor: Professors Christopher Born and Dioscaris Garcia, Department of Orthopedics

Poster Title(s): Assessing the Efficacy of Silver-doped Antimicrobial Coatings on Prosthetic Liners

Team Members: Jack Haglin

Leo Kadota **Poster #C1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Susan Gerbi, Department of Molecular Biology, Cellular Biology, and Biotechnology

Poster Title: Identification of Genomic Sites for DNA Amplification

Team Members: Audrey Lee, Julia Leung, and Sevde nur Karatas

Olena Kuksenko **Poster #C14**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Diane Lipscombe, Department of Neuroscience
Poster Title: Characterization of sensory neurons expressing TRPV1 and Cav3.2 using whole cell recording and optogenetic methods
Team Members: Maite Van Hentenryck

Christy Le **Poster #B1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Alexander Brodsky, Department of Pathology
Poster Title: Effects of Oxysterol and Statin Treatment on Ovarian Cancer Cells
Team Members: Signe Caksa

Audrey Lee **Poster #C1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Susan Gerbi, Department of Molecular Biology, Cellular Biology, and Biotechnology
Poster Title: Identification of Genomic Sites for DNA Amplification
Team Members: Leo Kadota, Julia Leung, and Sevde nur Karatas

Julia Leung **Poster #C1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Susan Gerbi, Department of Molecular Biology, Cellular Biology, and Biotechnology
Poster Title: Identification of Genomic Sites for DNA Amplification
Team Members: Leo Kadota, Audrey Lee, and Sevde nur Karatas

Anthony Minnah **Poster #D15**

Home Institution: Brown University
Summer Research Program: Independent Research
Faculty Mentor: Professors Christopher Born and Dioscaris Garcia, Department of Orthopedics
Poster Title: The Antimicrobial Effect of a Ag-Doped TiO₂-PDMS Coating on *A. baumannii*
Team Members: Eric Nguyen

Sevde nur Karatas **Poster #C1**

Home Institution: Istanbul Bilgi Univeristy
Summer Research Program: Independent Research
Faculty Mentor: Professor Susan Gerbi, Department of Molecular Biology, Cellular Biology, and Biotechnology
Poster Title: Identification of Genomic Sites for DNA Amplification
Team Members: Leo Kadota, Audrey Lee, and Julia Leung

Eric Nguyen **Poster #D15**

Home Institution: Brown University
Summer Research Program: Independent Research
Faculty Mentor: Professors Christopher and Dioscaris Garcia Born, Department of Orthopedics
Poster Title: The Antimicrobial Effect of a Ag-Doped TiO₂-PDMS Coating on *A. baumannii*
Team Members: Anthony Minnah

Thomas Pettengill* **Poster #E17**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Mark Bertness, Department of Ecology and Evolutionary Biology
Poster Title: The Natural History of Die off and Recovery in New England Salt Marshes
Team Members: Mattea Berglund
*Scheduled to present on Thursday, August 6th

Soham Rege **Poster #B15**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Edith Mathiowitz,
Department of Molecular Pharmacology,
Physiology, and Biotechnology

Poster Title: Tracking the Untraceable II:
Understanding Bioadhesion

Team Members: Stephanie Hojsak

Ryan Sutyla **Poster #A1**

Home Institution: Hamilton College
Summer Research Program: RI Hospital
Partial Hospitalization Program Effectiveness
Study

Faculty Mentor: Professor Mark
Zimmerman, Department of Human Behavior
and Psychiatry

Poster Title: Treatment Compliance and
Mood Improvement in Older and Young
Adults in a Psychiatric Partial Hospitalization
Program

Team Members: Emma Hanlon

Maite Van Hentenryck **Poster #C14**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Diane Lipscombe,
Department of Neuroscience

Poster Title: Characterization of sensory
neurons expressing TRPV1 and Cav3.2 using
whole cell recording and optogenetic
methods

Team Members: Olena Kuksenko

**Student Team Members:
Physical Sciences**

Sarah Cowles **Poster #E1**

Home Institution: Brown University
Summer Research Program: Leading Edge
Engineering Team

Faculty Mentor: Professors Jen Franck and
Shreyas Mandre, Department of Engineering

Poster Title(s): Leading Edge Hydrokinetic
Tidal Energy Prototype Assembly

Team Members: Rebecca Lorick, Aryssa
Medina, and Ken Volkman

Eva Junquera **Poster #E2**

Home Institution: Brown University
Summer Research Program: Undergraduate
Teaching and Research Awards (UTRAs)

Faculty Mentor: Professors Kenny Breuer
and Jennifer Franck, Department of
Engineering

Poster Title: Tidal Energy from an Oscillating
Hydrofoil: Experiments, Computations and
Entrepreneurship

Team Members: Bernardo Ribeiro, and Filip
Simeski

Rebecca Lorick **Poster #E1**

Home Institution: Brown University
Summer Research Program: Leading Edge
Engineering Team

Faculty Mentor: Professors Jen Franck and
Shreyas Mandre, Department of Engineering

Poster Title: Leading Edge Hydrokinetic
Tidal Energy Prototype Assembly

Team Members: Sarah Cowles, Aryssa
Medina, and Ken Volkman

Shababa Matin **Poster #C15**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Kareen Coulombe and Fabiola Munarin, Department of Biomedical Engineering
Poster Title: Optimization of growth factor release from alginate microspheres in 3D engineered tissues for angiogenic therapy applications
Team Members: Maria Paredes and Dalia Ruiz

Adriana Mendoza-Garcia **Poster #D1**

Home Institution: Brown University
Summer Research Program: Independent Research
Faculty Mentor: Professor Li-Qiong Wang, Department of Chemistry
Poster Title: Developing Novel Experiments for Introductory Chemistry Laboratory
Team Members: Ileana Pirozzi

Aryssa Medina **Poster #E1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Jen Franck and Shreyas Mandre, Department of Engineering
Poster Title: Leading Edge Hydrokinetic Tidal Energy Prototype Assembly
Team Members: Sarah Cowles, Rebecca Lorick, and Ken Volkman

Maria Paredes **Poster #C15**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Kareen Coulombe and Fabiola Munarin, Department of Biomedical Engineering
Poster Title: Optimization of growth factor release from alginate microspheres in 3D engineered tissues for angiogenic therapy applications
Team Members: Shababa Matin and Dalia Ruiz

Ileana Pirozzi **Poster #D1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Li-Qiong Wang, Department of Chemistry
Poster Title: Developing Novel Experiments for Introductory Chemistry Laboratory
Team Members: Adrianna Mendoza-Garcia

Bernardo Ribeiro **Poster #E2**

Home Institution: Universidade Federal Fluminense
Summer Research Program: Institute of International Education (IIE)
Faculty Mentor: Professors Kenny Breuer and Jennifer Franck, Department of Engineering
Poster Title: Tidal Energy from an Oscillating Hydrofoil: Experiments, Computations and Entrepreneurship
Team Members: Eva Junquera and Filip Simeski

Dalia Ruiz **Poster #C15**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professors Kareen Coulombe and Fabiola Munarin, Department of Biomedical Engineering
Poster Title: Optimization of growth factor release from alginate microspheres in 3D engineered tissues for angiogenic therapy applications
Team Members: Shababa Matin and Maria Paredes

Filip Simeski **Poster #E2**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professors Kenny Breuer and Jennifer Franck, Department of Engineering

Poster Title: Tidal Energy from an Oscillating Hydrofoil: Experiments, Computations and Entrepreneurship

Team Members: Eva Junquera and Bernardo Ribeiro

Ken Volkman **Poster #E1**

Home Institution: Brown University
Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professors Jen Franck and Shreyas Mandre, Department of Engineering

Poster Title: Leading Edge Hydrokinetic Tidal Energy Prototype Assembly

Team Members: Sarah Cowles, Rebecca Lorick and Aryssa Medina

**Student Team Members:
Social Sciences**

Kailani Acosta **Poster #E13/E14/E15**

Home Institution: Brown University
Summer Research Program: I-Team Undergraduate Teaching and Research Awards (UTRAs), Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Scott Frickel, Department of Sociology

Poster Title:

- Socio-Environmental Succession of Providence Greenspace:
 - Investigating Historical Trends in Providence Parks and Playgrounds
 - Implications of History on Contemporary Urban Land Use
 - Consequences of an Industrial Legacy on Modern-Day Water Infrastructure

Team Members: Cassandra Cole, Lauren Montieth, and David Tobe

Cassandra Cole **Poster #E13/E14/E15**

Home Institution: Brown University
Summer Research Program: I-Team Undergraduate Teaching and Research Awards (UTRAs), Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Scott Frickel, Department of Sociology

Poster Title:

- Socio-Environmental Succession of Providence Greenspace:
 - Investigating Historical Trends in Providence Parks and Playgrounds
 - Implications of History on Contemporary Urban Land Use
 - Consequences of an Industrial Legacy on Modern-Day Water Infrastructure

Team Members: Kailani Acosta, Lauren Montieth, and David Tobe

Lauren Montieth Poster #E13/E14/E15

Home Institution: Brown University
Summer Research Program: I-Team
Undergraduate Teaching and Research
Awards (UTRAs), Howard Hughes Medical
Institute (HHMI)

Faculty Mentor: Professor Scott Frickel,
Department of Sociology

Poster Title:

- Socio-Environmental Succession of
Providence Greenspace:
 - Investigating Historical
Trends in Providence Parks
and Playgrounds
 - Implications of History on
Contemporary Urban Land
Use
 - Consequences of an Industrial
Legacy on Modern-Day Water
Infrastructure

Team Members: Kailani Acosta, Cassandra
Cole, and David Tobe

David Tobe Poster #E13/E14/E15

Home Institution: Brown University
Summer Research Program: I-Team
Undergraduate Teaching and Research
Awards (UTRAs), Howard Hughes Medical
Institute (HHMI)

Faculty Mentor: Professor Scott Frickel,
Department of Sociology

Poster Title:

- Socio-Environmental Succession of
Providence Greenspace:
 - Investigating Historical
Trends in Providence Parks
and Playgrounds
 - Implications of History on
Contemporary Urban Land
Use
 - Consequences of an Industrial
Legacy on Modern-Day Water
Infrastructure

Team Members: Kailani Acosta, Cassandra
Cole, and Lauren Montieth,

Summer Research Programs at Brown

Generous support for the undergraduate summer research presented in this symposium has been provided by:

- American Physiological Society Fellowship
- Brazil Scientific Mobility Program
- Institute at Brown for Environment and Society
- Institute of International Education (IIE)
- Institute for Molecular and Nanoscale Innovation (IMNI)
- Leading Edge Engineering Team
- Linking Internships and Knowledge (LINK) Awards
- Howard Hughes Medical Institute (HHMI)
- National Science Foundation Research Experiences for Undergraduates (NSF REU)
- Rhode Island Hospital
- Rhode Island IDeA Network for Excellence in Biomedical Research
- Royce Fellows (Swearer Center for Public Service)
- Space Grant/NASA
- Stein-Bellet Foundation
- Summer Research Assistantship in Biomedical Sciences
- Undergraduate Teaching and Research Awards (UTRA)

Poster Layout—Thursday, August 6

Humanities and Life Sciences

[Stage]

A1	B1	C1	D1	E1
A2	B2	C2	D2	E2
A3	B3	C3	D3	E3
A4	B4	C4	D4	E4
A5	B5	C5	D5	E5
A6	B6	C6	D6	E6
A7	B7	C7	D7	E7
A8	B8	C8	D8	E8
A9	B9	C9	D9	E9
A10	B10	C10	D10	E10
A11	B11	C11	D11	E11
A12	B12	C12	D12	E12
A13	B13	C13	D13	E13
A14	B14	C14	D14	E14
A15	B15	C15	D15	E15
A16	B16	C16	D16	E16
				E17

[Entrance]

[Lobby]

Poster Layout—Friday, August 7

Physical Sciences, Social Sciences, and Student Teams

[Stage]

A1		B1	C1		D1	E1
A2		B2	C2		D2	E2
A3		B3	C3		D3	E3
A4		B4	C4		D4	E4
A5		B5	C5		D5	E5
A6		B6	C6		D6	E6
A7		B7	C7		D7	E7
A8		B8	C8		D8	E8
A9		B9	C9		D9	E9
A10		B10	C10		D10	E10
A11		B11	C11		D11	E11
A12		B12	C12		D12	E12
A13		B13	C13		D13	E13
A14		B14	C14		D14	E14
A15		B15	C15		D15	E15
					D16	E16

[Entrance]

[Lobby]



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Acknowledgements

Christina Paxson, President
Richard Locke, Provost
Maud Mandel, Dean of the College
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