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 Bhrigupati 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 (Tadaria 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 Karla Kaun and Kristin Scaplen, Department of Neuroscience
Poster Title: The Role of Drosophila Circuitry in Acute Ethanol-Induced Behaviors

Tariq Cannonier  Poster #B3
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(s): Characterization of a Model of SOD1-Mediated ALS in Drosophila melanogaster

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
<table>
<thead>
<tr>
<th>Name</th>
<th>Poster #</th>
<th>Home Institution</th>
<th>Faculty Mentor</th>
<th>Poster Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kathleen Finn</td>
<td>B11</td>
<td>Brown University</td>
<td>Professor Loren Fast, Department of Biology and Immunology</td>
<td>The Role of Natural Killer (NK) cells in Regulating Alloreactive Immune Responses</td>
</tr>
<tr>
<td>Nimesha Gerlus</td>
<td>B12</td>
<td>Brown University</td>
<td>Professors Anthony Spirito and Richard Liu, Department of Psychiatry</td>
<td>Impulsivity as a Predictive Factor of Adolescent Suicidality Treatment Outcome</td>
</tr>
<tr>
<td>Sarah Grosser</td>
<td>B13</td>
<td>Brown University</td>
<td>Professor Anne Hart, Department of Neuroscience</td>
<td>Stress and ALS: Making the Connection in a C. elegans Model</td>
</tr>
<tr>
<td>Cynthia Hale-Phillips</td>
<td>B14</td>
<td>Brown University</td>
<td>Professor David Rand, Department of Ecology and Evolutionary Biology</td>
<td>The Effects of Downregulating the TOR Signaling Pathway on Mitochondrial Function</td>
</tr>
<tr>
<td>Corey Holman</td>
<td>B15</td>
<td>Brown University</td>
<td>Professor Eric Darling, Department of Molecular Pharmacology, Physiology, and Biotechnology</td>
<td>Molecular Beacon Delivery Methods in 2D Cell Culture</td>
</tr>
<tr>
<td>Kathleen Huntzicker</td>
<td>B16</td>
<td>Brown University</td>
<td>Professor Kevin Bath, Departments of Cognitive, Linguistic, and Psychological Sciences and Neuroscience</td>
<td>BDNF: a potential driver of early life stress-associated accelerated neurobehavioral development</td>
</tr>
<tr>
<td>Abigail Janke</td>
<td>C1</td>
<td>Brown University</td>
<td>Professor Nicolas Fawzi, Department of Molecular Pharmacology, Physiology, and Biotechnology</td>
<td>Determining the structure of RNA polymerase II C-terminal domain in complex with ALS-linked FET protein assemblies</td>
</tr>
<tr>
<td>Elizabeth Jean-Marie</td>
<td>C2</td>
<td>Brown University</td>
<td>Professor Joseph Bliss, Department of Pediatrics</td>
<td>Utility of a Therapeutic Anti-Candida Monoclonal Antibody in Staphylococcus aureus Infection</td>
</tr>
<tr>
<td>Tamar Kaminski</td>
<td>C3</td>
<td>Brown University</td>
<td>Professor Chun Lee, Department of Molecular Microbiology and Immunology</td>
<td>Role of Chitinase 3-like 1 in the Pathogenesis of Nonalcoholic steatohepatitis</td>
</tr>
<tr>
<td>Name</td>
<td>Poster #</td>
<td>Institution</td>
<td>Research Program</td>
<td>Faculty Mentor</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------</td>
<td>------------------------------------</td>
<td>-------------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Liana Kramer</td>
<td>C4</td>
<td>Brown University</td>
<td>Summer Research Program: Undergraduate</td>
<td>Diane Hoffman-Kim</td>
</tr>
<tr>
<td>Sabrina Kunselman</td>
<td>C5</td>
<td>Brown University</td>
<td>Summer Research Program: Undergraduate</td>
<td>Megan Ranney</td>
</tr>
<tr>
<td>Connie Liou</td>
<td>C6</td>
<td>Brown University</td>
<td>Summer Research Program: Undergraduate</td>
<td>Justin Fallon</td>
</tr>
<tr>
<td>Animesh Mahapatra</td>
<td>C7</td>
<td>Brown University</td>
<td>Summer Research Program: Summer</td>
<td>Anne Hart</td>
</tr>
<tr>
<td>Cory Mayfield</td>
<td>C8</td>
<td>Brown University</td>
<td>Summer Research Program: Undergraduate</td>
<td>Christopher Born and Dioscaris Garcia</td>
</tr>
<tr>
<td>Matthew McAteer</td>
<td>C9</td>
<td>Brown University</td>
<td>Summer Research Assistantship in Biomedical Sciences</td>
<td>David Rand</td>
</tr>
<tr>
<td>Phoebe McAuliffe</td>
<td>C10</td>
<td>Brown University</td>
<td>Summer Research Program: Undergraduate</td>
<td>Neha Raukar</td>
</tr>
<tr>
<td>Marisa Millenson</td>
<td>C11</td>
<td>Brown University</td>
<td>Summer Research Program: Undergraduate</td>
<td>Joseph Braun</td>
</tr>
</tbody>
</table>

**Home Institution:** Brown University
**Faculty Mentor:** 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
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: Undergraduate Teaching and Research Awards (UTRAs)  
**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 Seconde  
**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 chemotaxic 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

<table>
<thead>
<tr>
<th>Name</th>
<th>Poster #</th>
<th>Home Institution</th>
<th>Faculty Mentor</th>
<th>Poster Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ismael Abu-Baker</td>
<td>B3</td>
<td>Brown University</td>
<td>Professor Tayhas Palmore, Department of Engineering</td>
<td>Na$_2$Mn$<em>5$O$</em>{10}$ as a Promising Cathode Material for Sodium-ion Batteries</td>
</tr>
<tr>
<td>Samuel Ainsworth</td>
<td>B4</td>
<td>Brown University</td>
<td>Professor Erik Sudderth, Department of Computer Science</td>
<td>Breaking Particle Filters and a New Approach to MAP Smoothing</td>
</tr>
<tr>
<td>Kevin Argueta</td>
<td>B5</td>
<td>Brown University</td>
<td>Professor Domenico Pacifici, Department of Electrical Engineering</td>
<td>Fabrication of quasiperiodic plasmonic concentrators using nanoimprint lithography</td>
</tr>
<tr>
<td>Kallan Berglund</td>
<td>B6</td>
<td>Brown University</td>
<td>Professor David Lowe, Department of Physics</td>
<td>Firewalls Inside the Event Horizon of Black Holes: A Theoretical Study</td>
</tr>
<tr>
<td>Elizabeth Bolton</td>
<td>B7</td>
<td>Brown University</td>
<td>Professor Sarah Delaney, Department of Chemistry</td>
<td>Characterizing DNA Secondary Structure of Hairpin-Containing Base Excision Repair Intermediates</td>
</tr>
<tr>
<td>Christopher Carchedi</td>
<td>B8</td>
<td>Brown University</td>
<td>Professor Colleen Dalton, Department of Earth, Environmental, and Planetary Science</td>
<td>Investigating Mantle Temperature &amp; Composition beneath the Atlantic Ocean by Measuring the Attenuation of Seismic Waves</td>
</tr>
<tr>
<td>Andres Chang</td>
<td>B9</td>
<td>Brown University</td>
<td>Professor Jung-Eun Lee, Department of Earth, Environmental, and Planetary Science</td>
<td>Examining the Orbital Controls of Earth’s Glaciation Cycle</td>
</tr>
<tr>
<td>Emily Eruysal</td>
<td>B10</td>
<td>Brown University</td>
<td>Professor Eunsuk Kim, Department of Chemistry</td>
<td>Synthesis of a Fluorescent Probe for Detection of Crosstalk between Hydrogen Sulfide and Nitric Oxide at Iron-Sulfur Proteins</td>
</tr>
<tr>
<td>Name</td>
<td>Poster #</td>
<td>Home Institution</td>
<td>Faculty Mentor</td>
<td>Poster Title</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------</td>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Benjamin Ferleger</td>
<td>B11</td>
<td>Brown University</td>
<td>Professor David Borton, School of Engineering</td>
<td>Embedded System for Neural-based Control of an Autonomous Rover</td>
</tr>
<tr>
<td>Meghan Gallo</td>
<td>B12</td>
<td>Providence College</td>
<td>Professor Kevin Bath, Department of Neuroscience, Professor Katharine Phillips, Department of Psychiatry and Human Behavior, and Professor Christopher Bloom, Providence College</td>
<td>Genetic association of GABRG2 and body dysmorphic disorder in a mouse model</td>
</tr>
<tr>
<td>Adam Gilbert</td>
<td>B13</td>
<td>Brown University</td>
<td>Professor Karen Fischer, Department of Earth, Environmental, and Planetary Sciences</td>
<td>Probing the Cratonic Lithosphere</td>
</tr>
<tr>
<td>Jahmour Givans</td>
<td>B14</td>
<td>Brown University</td>
<td>Professor David Lowe, Department of Physics</td>
<td>Optimizing the Detection of Hawking Radiation in anti de-Sitter Space</td>
</tr>
<tr>
<td>Tinotenda Gwisai</td>
<td>C2</td>
<td>Brown University</td>
<td>Professor Anita Shukla, Department of Engineering</td>
<td>Topical delivery of repurposed anthelmintic drugs to combat wound infections</td>
</tr>
<tr>
<td>MinJung Han</td>
<td>C3</td>
<td>Brown University</td>
<td>Professor Paul Willard, Department of Chemistry</td>
<td>Investigation on a synthetic route for a novel natural product</td>
</tr>
<tr>
<td>Stephanie Haro</td>
<td>C4</td>
<td>Brown University</td>
<td>Professor Harvey Silverman, Department of Engineering</td>
<td>Detecting Pain vs Non-Pain Cries in New Born Infants</td>
</tr>
<tr>
<td>Melissa Hill</td>
<td>C5</td>
<td>Brown University</td>
<td>Professor Christopher Moore, Department of Neuroscience, and Kevin Bath, Department of Cognitive, Linguistic, and Psychological Sciences</td>
<td>Testing altered learning in the D2 corticostriatal pathway with antipsychotic exposure</td>
</tr>
<tr>
<td>Oliver Isik</td>
<td>C6</td>
<td>Brown University</td>
<td>Professor Ian Dell’Antonio, Department of Astrophysics</td>
<td>Evidence of Star Formation in Isolated Elliptical Galaxies</td>
</tr>
<tr>
<td>Name</td>
<td>Poster #</td>
<td>Home Institution</td>
<td>Summer Research Program</td>
<td>Faculty Mentor</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------</td>
<td>--------------------------------------------</td>
<td>--------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Mitchell Jamieson</td>
<td>C7</td>
<td>Brown University</td>
<td>LINK Award</td>
<td>Professor Amit Basu, Department of Chemistry</td>
</tr>
<tr>
<td>Andrew Jones</td>
<td>C8</td>
<td>Brown University</td>
<td>Undergraduate Teaching and Research Awards (UTRAs)</td>
<td>Professor Beata Jarosiewicz, Department of Neuroscience, Professor Leigh Hochberg, Department of Engineering</td>
</tr>
<tr>
<td>Chet Kilfoyle</td>
<td>C9</td>
<td>Brown University</td>
<td>Independent Research</td>
<td>Professor Jacob Rosenstein, Department of Electrical Engineering</td>
</tr>
<tr>
<td>Changhae Kim</td>
<td>C10</td>
<td>Brown University</td>
<td>Undergraduate Teaching and Research Awards (UTRAs)</td>
<td>Professor Gerald Diebold, Department of Chemistry</td>
</tr>
<tr>
<td>Ekaterina Kryuchkova</td>
<td>C11</td>
<td>Brown University</td>
<td>Undergraduate Teaching and Research Awards (UTRAs)</td>
<td>Professor John Gemmer, Department of Applied Mathematics</td>
</tr>
<tr>
<td>Jeannie Le</td>
<td>C12</td>
<td>Brown University</td>
<td>Undergraduate Teaching and Research Awards (UTRAs)</td>
<td>Professor Jason Sello, Department of Chemistry</td>
</tr>
<tr>
<td>Alexander Levine</td>
<td>C13</td>
<td>Brown University</td>
<td>Undergraduate Teaching and Research Awards (UTRAs)</td>
<td>Professor James Valles, Department of Physics</td>
</tr>
<tr>
<td>Lauren Levy</td>
<td>D2</td>
<td>Brown University</td>
<td>Royce Fellows</td>
<td>Professor Anita Shukla, Department of Engineering</td>
</tr>
<tr>
<td>Harjasleen Malvai</td>
<td>D3</td>
<td>Brown University</td>
<td>Undergraduate Teaching and Research Awards (UTRAs)</td>
<td>Professor Caroline Kilvans, Department of Applied Mathematics</td>
</tr>
<tr>
<td>David Mayans</td>
<td>D4</td>
<td>Brown University</td>
<td>Independent Research</td>
<td>Professor Matt Zimmt, Department of Chemistry</td>
</tr>
<tr>
<td>Name</td>
<td>Poster #</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hayley McClintock</td>
<td>D5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **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 |
| Natalie Palaychuk | 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 |
| Samuel Moore      | 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 |
| Matthew Petersen  | 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 |
| Rohith Nagari     | 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   | 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 |
| Carlos Reyes      | 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        | 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   | 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 |
<table>
<thead>
<tr>
<th>Name</th>
<th>Poster #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexandra Saali</td>
<td>D14</td>
</tr>
<tr>
<td><strong>Home Institution:</strong> Brown University</td>
<td></td>
</tr>
<tr>
<td>Summer Research Program: Undergraduate Teaching and Research Awards (UTRAs)</td>
<td></td>
</tr>
<tr>
<td><strong>Faculty Mentor:</strong> Professor David Berson, Department of Neuroscience</td>
<td></td>
</tr>
<tr>
<td><strong>Poster Title:</strong> Diversity Demystified: Tbx20 sheds light on the molecular program of melanopsin-expressing retina ganglion cells</td>
<td></td>
</tr>
</tbody>
</table>

| Ryan Saenger                | 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               | 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               | 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        | 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 USAArray Seismic Data to Study the Mantle beneath North America. |           |

| Jeffrey Stone               | 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                 | 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          | 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               | 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            | 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

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

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

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 Potlux: Incentivizing Participation in an Online Sustainability Ideas Bank

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

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

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

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
Student Team Members:
Physical Sciences

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

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

**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

**Adrianna 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

**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

**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

**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]**

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

**[Entrance]**

**[Lobby]**
Poster Layout—Friday, August 7

Physical Sciences, Social Sciences, and Student Teams

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

[Entrance]

[Lobby]
Symposium Organizers

Oludurotimi O. Adetunji,
Associate Dean of the College
Director, UTRA Program

Janice Rego, Program Coordinator
Christine Mullen, Symposium Intern

Acknowledgements

Christina Paxson, President
Richard Locke, Provost
Maud Mandel, Dean of the College
Brown University Library/Center for Digital Scholarship

Preserving Your Research

Students who opt to upload their posters to the Brown Digital Repository can do so using the self-deposit tool, available at http://goo.gl/2NKajR. The deadline for this is Friday, August 14, 2015.