



BROWN

Summer Research Symposium

◆ 2014 ◆

Sayles Hall

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

Thursday, August 7
Life Sciences and Humanities

&

Friday, August 8
Physical and Social Sciences

PRESENTED BY
The Office of the Dean of the College

Summer Research Symposium

Sayles Hall Main Green

Thursday, August 7

Life Sciences and Humanities Posters

- 11:00-11:10 a.m. Welcome
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 8

Physical and Social Sciences Posters

- 11:00–11:10 a.m.: Welcome
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 7

Humanities & Life Sciences

Humanities

Noah Fields Poster #A1

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

Faculty Mentor: Professor Nancy Rosenberg,
Department of Music

Poster Title: Wonder World: Philosophical
Adventures through Children's Musical
Theater

Alexander Meehan Poster #A2

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

Faculty Mentor: Professor Nina Emery,
Department of Philosophy

Poster Title: The Philosophy of Time

Life Sciences

Shubh Agrawal Poster #A8

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

Faculty Mentor: Professor Megan Ranney,
Department of Emergency Medicine

Poster Title: iDove: Developing a Text-
Message Based Intervention for Depression
and Violence Prevention

Danielle Alvarez Poster #G15

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Mark Johnson and
Professor Alison DeLong, Department of
Molecular, Cellular Biology and Biochemistry

Poster Title: Characterizing the phenotypic
response of pollen tubes of thermotolerant
Solanum Lycopersicum lines to heat stress in
vitro

Ada Bersosa Hernandez Poster #A3

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs), Voss Environmental
Fellows

Faculty Mentor: Professor Dov Sax,
Department of Ecology and Evolutionary
Biology

Poster Title: Comparison of Latitudinal and
Elevational Range Limits of North American
Plant Species: Exploring the Role of Climate in
Limiting Range Boundaries

Sydney Blattman Poster #A10

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

Faculty Mentor: Professor Edward Hawrot,
Department of Molecular Pharmacology,
Physiology and Biotechnology

Poster Title: Western Blot Analysis of
Proteins Interacting with the $\alpha 7$ Nicotinic
Acetylcholine Receptor

Godwin Boiful Poster #A14/A15

Home Institution: Brown University
Summer Research Program: Howard Hughes
Medical Institute (HHMI)

Faculty Mentor: Professor Robert Reenan,
Department of Molecular Biology, Cellular
Biology and Biochemistry

Poster Title: Characterization and
Suppression of SOD1-mediated ALS

Phenotype in *Drosophila Melanogaster*
Knock-in Model/Analysis of Transcriptome
Profile and Specific RNA Editing in *Drosophila*
ALS Model With SOD1 Mutations

Sonia Boor **Poster #B5**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Erica Larschan,
Department of Molecular Biology, Cellular
Biology, and Biochemistry
Poster Title: Factors influencing CLAMP-
dependent dosage compensation

Samantha Brady **Poster #B1**

Home Institution: Brown University
Summer Research Program: National Science
Foundation Research Experiences for
Undergraduates (NSF REU)
Faculty Mentor: Professor Diane Hoffman-
Kim, Department of Molecular Pharmacology,
Physiology, and Biotechnology
Poster Title: Investigating the Response of
Fibroblasts to Environmental Forces: An in
vitro Platform to Study Migration and Wound
Healing

Kirsten Bredvik **Poster #A14/A15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Robert Reenan,
Department of Molecular Biology, Cell Biology
and Biochemistry
Poster Title: Characterization and
Suppression of SOD1-mediated ALS
Phenotype in *Drosophila Melanogaster*
Knock-in Model/Analysis of Transcriptome
Profile and Specific RNA Editing in *Drosophila*
ALS Model With SOD1 Mutations

Alyssa Browning **Poster #A4**

Home Institution: Brown University
Summer Research Program: Voss
Environmental Fellows
Faculty Mentor: Professor Christopher Neill,

Department of Ecology and Evolutionary
Biology

Poster Title: From putting greens to
preserves: habitat connectivity and
pollinators on Martha's Vineyard, MA

Julia Bu **Poster #A11**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Tom Bartnikas,
Department of Pathology and Lab Medicine
Poster Title: Iron Metabolism in the Brain of
the Hypotransferrinemic Mouse

Jieyi Cai **Poster #E12**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Jeffrey Morgan,
Department of Molecular Pharmacology,
Physiology and Biotechnology
Poster Title: Duration of Action of Gap
Junction Inhibiting Drugs

Arturo Cardenas **Poster #A12**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor William Warren,
Department of Cognitive, Linguistic &
Psychological Sciences
Poster Title: Analyzing Motion-Capture Data
on the Collective Behavior of Human Crowds

Gabriel Castro **Poster #B9**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Erica Shai Sabbah
and Professor David Berson, Department of
Neuroscience
Poster Title: Identification of ON-DS ganglion
cell directional preference and connectivity

Charlene Chabata **Poster #F15**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Nicolas Fawzi,
Department of Molecular Pharmacology,
Physiology and Biotechnology
Poster Title: Determining the structure and
interactions of prion-like domains of ALS-
associated RNA-binding proteins

Jacqueline Chang **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:
Monitoring the Biodistribution and Toxicity
of Nanoparticles in Organ Systems

Stephanie Choo **Poster #B15**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Edith Mathiowitz
and Professor Ve Leandre, Department of
Molecular Pharmacology, Physiology and
Biotechnology
Poster Title: Tracking the Untraceable:
Monitoring the Biodistribution and Toxicity
of Nanoparticles in Organ Systems

Timothy Chou **Poster #B12**

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: Determining Aggregation Rates
of Breast Cancer Cell Lines Using a Novel 3D
Cell Culture Technology

Grace Cinderella **Poster #G15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Mark Johnson and
Professor Alison DeLong, Department of
Molecular, Cellular Biology and Biochemistry
Poster Title: Characterizing the phenotypic
response of pollen tubes of thermotolerant
Solanum Lycopersicum lines to heat stress in
vitro

Ineshia Coleman **Poster #B13**

Home Institution: Tougaloo College
Summer Research Program:
Independent research
Faculty Mentor: Professor Alison DeLong,
Department of Molecular, Cellular Biology
and Biochemistry
Poster Title: Knocking Down Bs: Using
Artificial microRNAs to Alter Phosphatase
Regulation

Samuel Angelo Crisanto **Poster #B14**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor William Warren,
Department of Cognitive Linguistic &
Psychological Sciences
Poster Title: The Relationship between
Energetic Efficiency and Dynamic Stability in
Human Movement

Sinéad Crotty **Poster #B11**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs), Voss Environmental
Fellows
Faculty Mentor: Professor Mark Bertness,
Department of Environmental Ecology and
Biology
Poster Title:

David Deckey **Poster #C4**

Home Institution: Brown University
Summer Research Program:
Royce Fellows

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

Poster Title: The Characterization of Biofilm Formation on Spinal Implants of Varying Compositions

Tyler Devlin **Poster #C12/C13**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)

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

Poster Title: Mitonuclear AxGxE: Age-, genotype- and diet-dependent starvation tolerance as an indicator of health span in *Drosophila*/ Understanding aging by investigating genes, diet, and biochemistry in *Drosophila*

Julia Dewey **Poster #C15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor David Rand, Department of Biology

Poster Title: Mitochondrial metabolism in organisms and organelles: Mitochondrial, nuclear and dietary modifiers of respiration *Drosophila*

Baxter DiFabrizio **Poster #C7**

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: Unlocking Theory of Mind

Caroline Doherty **Poster #B2**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research

Awards (UTRAs)

Faculty Mentor: Professor Erica Larschan, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Generating a CLAMP Mutant Using the CRISPR/Cas9 System

Austin Draycott **Poster #C8**

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

Faculty Mentor: Professor Mark Johnson, Department of Molecular, Cellular Biology and Biochemistry

Poster Title: Towards Thermotolerant Tomato Reproduction

Margaret Dushko **Poster #C9**

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

Faculty Mentor: Professor Elena Oancea, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Localization of human opsin 3 (OPN3) constructs in human epidermal melanocytes

Henry Fox **Poster #C3**

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

Faculty Mentor: Professor Christopher Born, Department of Orthopedics

Poster Title: Visualization and quantification of bacterial biofilm on orthopaedic trauma explants

Julia Franckh **Poster #C10**

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

Faculty Mentor: Professor Bertram Malle and Professor Fiery Cushman, Department of

Cognitive, Linguistic and Psychological Sciences

Poster Title: Is guilt self-blame?

Brian Franklin **Poster #C12/C13**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

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

Poster Title: Mitonuclear AxGxE: Age-, genotype- and diet-dependent starvation tolerance as an indicator of health span in *Drosophila*/ Understanding aging by investigating genes, diet, and biochemistry in *Drosophila*

Michael Franklin **Poster #C11**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Stephen Helfand, Department of Molecular, Cellular Biology and Biochemistry

Poster Title: Investigating the Role of a Somatic piRNA Pathway in *Drosophila melanogaster* Fat Body

Samuel Friedman **Poster #C2**

Home Institution: Brown University

Summer Research Program:

CR Bard Fellowship

Faculty Mentor: Professor Jacob Rosenstein and Professor Anubhav Tripathi, Department of Engineering

Poster Title: Automation of Magnetic Bead Movement for Molecular Biology Platforms

Matthew Gasteiger **Poster #C1**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Gerwald Jogi, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Utilizing X-ray Crystallography to Elucidate the Structure of Antibiotic Dependent Ribosomes

Nimesha Gerlus **Poster #E13**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Jeffrey Morgan, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Synergistic Effects and Chimeric Spheroids

James Giarraputo **Poster #C5**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Barry Lester, Department of Psychiatry & Human Behavior

Poster Title: Impact of Medical Condition on DNA Methylation of NR3C1 and on Neurobehavior in Premature Infants

Holly Gildea **Poster #C6**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Alexander Jaworski, Department of Neuroscience

Poster Title: Function of the Axon Guidance Molecule NELL2

Emily Gleason **Poster #D1**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Joseph Austerweil, Department of Cognitive, Linguistic and Psychological Sciences

Poster Title: How do categories affect feature learning?

Dana Goplerud **Poster #D2**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Loren Fast,
Department of Hematology and Oncology
Poster Title: The Impact of Low-Dose
Irradiation on Anti-Leukemic Responses

Kathryn Graves **Poster #D3**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor David Badre,
Division of Cognitive, Linguistic and
Psychological Sciences
Poster Title: Behavioral differences in a task-
switching experiment with both novel and
familiar sequences: a pilot study

Ryan Greene **Poster #A14/A15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Robert Reenan,
Department of Molecular, Cellular Biology
and Biochemistry
Poster Title: Characterization and
Suppression of SOD1-mediated ALS
Phenotype in *Drosophila Melanogaster*
Knock-in Model/Analysis of Transcriptome
Profile and Specific RNA Editing in *Drosophila*
ALS Model With SOD1 Mutations

Joshua Hackney **Poster #A14/A15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Robert Reenan,
Department of Molecular, Cellular Biology
and Biochemistry
Poster Title: Characterization and
Suppression of SOD1-mediated ALS
Phenotype in *Drosophila Melanogaster*
Knock-in Model/Analysis of Transcriptome
Profile and Specific RNA Editing in *Drosophila*
ALS Model With SOD1 Mutations

Steven Hagerty **Poster #A5**

Home Institution: Brown University
Summer Research Program:
Voss Environmental Fellows
Faculty Mentor: Professor Mark Bertness,
Department of Ecology and Evolutionary
Biology
Poster Title: The Effects of Predator
Depletion on Meiofauna

Cynthia Hale-Phillips **Poster #C15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor David Rand,
Department of Biology
Poster Title: Mitochondrial metabolism in
organisms and organelles: Mitochondrial,
nuclear and dietary modifiers of respiration
Drosophila

Mashfiq Hasan **Poster #D4**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Carlos Aizenman,
Department of Neuroscience
Poster Title: Probing Neurodevelopmental
Changes from FMRP Knockdown in *Xenopus*
Laevis Tadpoles through Behavior

Dustin Hayden **Poster #D6**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Anne Hart,
Department of Neuroscience
Poster Title: The role of RGS proteins in
sleep and arousal

Elodi Healy **Poster #D7**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Julie Kauer and
Professor Abigail Polter, Department of

Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Do phospho-p38 levels increase in the VTA of stressed animals?

Lucia Hernandez **Poster #E14**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Jeffrey Morgan, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Gap Junction in Chimeric Spheroids

Emma Herold **Poster #D8**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Mark Johnson and Professor Alison DeLong, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Do thermal tolerant tomato varieties have thermal tolerant reproductive systems? Measuring Solanum lycopersicum pollen tube growth under heat stress in vivo

Alicia Hersey **Poster #D9**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Betty Vohr, Department of Pediatrics

Poster Title: Investigating the influences of adolescent mothers' accessibility and language level on infant outcomes

Nicholas Hilton **Poster #D10**

Home Institution: Brown University

Summer Research Program:

Royce Fellows

Faculty Mentor: Professor Jonathan Kurtis, Department of Pathology

Poster Title: In vivo examination of PfSEA1 phosphorylation, a novel malaria vaccine candidate involved in host cell egress

Allan Huang **Poster #D11**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Jonathan Reichner, Department of Surgical Research

Poster Title: Integrin Crosstalk Regulation of Human Neutrophils Adhered to Fibronectin and Beta-glucan

Denis Huang **Poster #D12**

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: Isolation of Haploid Cells in Candida Tropicalis

Abigail Janke **Poster #F15**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Nicolas Fawzi, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Determining the structure and interactions of prion-like domains of ALS-associated RNA-binding proteins

Arielle Johnson **Poster #D8**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Mark Johnson and Professor Alison DeLong, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Do thermal tolerant tomato varieties have thermal tolerant reproductive systems? Measuring Solanum lycopersicum pollen tube growth under heat stress in vivo

David Johnson **Poster #D15**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Mark Johnson and Professor Alison DeLong, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Differential gene expression in *Solanum lycopersicum* pollen tubes following heat stress

Margaret Jordan **Poster #A11***

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Cynthia Loncar, Department of Pediatrics and Department of Psychiatry and Human Behavior

Poster Title: Implications of the FIRST Study: Perinatal Maternal Depression, Mother-Infant Interactions, and Child Disruptive Behavior* (scheduled to present on Friday, August 8)

Ganaelle Joseph **Poster #D14**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Nicole McLaughlin, Department of Psychiatry and Human Behavior

Poster Title: Gender Differences and Pain

Jonathan Juliano **Poster #D13**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Jeffrey Morgan, Department of Molecular Pharmacology, Physiology and Biotechnology and Professor Jacquelyn Schell, Department of Biology

Poster Title: Engineering the Extracellular Matrix

Leo Kadota **Poster #E13**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Jeffrey Morgan, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Synergistic Effects and Chimeric Spheroids

Eric Kalosa-Kenyon **Poster #E1**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Erika Edwards, Department of Ecology and Evolutionary Biology and Professor Govind Menon, Department of Applied Math

Poster Title: How Leaves Got Their Shape

Katherine Kartheiser **Poster #E2**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor David Berson, Department of Neuroscience

Poster Title: Illuminating Diversity: Rasgrp1 and Ras Signaling Specialization in ipRGCs

Charlotte Kim **Poster #E15**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Jeffrey Morgan, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: An analysis of dose-dependent inhibition of gap junction intercellular communication by environmental contaminants in a 3D system

Seong Won Kim **Poster #E3**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor William Fairbrother, Department of Molecular Biology, Cellular Biology and Biochemistry
Poster Title: Context Dependent Splicing of Disease Associated Genes

Thomas Kishkovich **Poster #E4**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Chris Moore, Department of Neuroscience
Poster Title: In Vivo Functional Characterization of Neurovascular Coupling

Junsuk Ko **Poster #E5**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Qing Lu, Department of Medicine
Poster Title: The Adenosine-induced Lung Injury in Pulmonary Endothelial Cells

Michelle Koh **Poster #E6**

Home Institution: Brown University
Summer Research Program:
Summer Research Assistantship in Biomedical Sciences
Faculty Mentor: Professor Hee-Yeon Im and Professor Joo-Hyun Song, Department of Cognitive, Linguistic and Psychological Sciences
Poster Title: The Effect of Attentional States on Saccadic Adaptation

Donald Koroma **Poster #E7**

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: Using proteasome inhibitors and sigma-2 receptor ligands for targeting brain cancer

Simone Kurial **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: Monitoring the Biodistribution and Toxicity of Nanoparticles in Organ Systems

Jessica Laird **Poster #E8**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Gary Wessel, Department of Molecular Biology, Cellular Biology and Biochemistry
Poster Title: How to Make a Germ Cell: Gain by Loss

Hye In Lee **Poster #E9**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Kevin Bath, Department of Neuroscience
Poster Title: Effects of fragmented maternal care on anxiety and stress responding in mice

Kayla Lee **Poster #E10**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Amanda Jamieson, Department of Biology and Medicine
Poster Title: The impact of viral/bacterial coinfection on macrophage function

Rachel Lee **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: Monitoring the Biodistribution and Toxicity of Nanoparticles in Organ Systems

Justine Maher **Poster #E11**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Philip Chan, Department of Medicine
Poster Title: Surveillance of HIV and Other Sexually Transmitted Infections in Rhode Island: Implications for Outreach and Prevention

Rahim Makani **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: Monitoring the Biodistribution and Toxicity of Nanoparticles in Organ Systems

Matthew McAteer **Poster #C12**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor David Rand, Department of Ecology and Evolutionary Biology
Poster Title: Mitonuclear AxGxE: Age-, genotype- and diet-dependent starvation tolerance as an indicator of health span in Drosophila

Hayley McClintock **Poster #B1**

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: Investigating the Response of Fibroblasts to Environmental Forces: An in vitro Platform to Study Migration and Wound Healing

Julia McGirr **Poster #A13**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Dr. Fusun Gundogan, Liver Research Center
Poster Title: Epigenetic Effects on the Placenta of Fetal Exposure to Alcohol and Nicotine

Oliver McLellan **Poster #B6**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Stephen Gatesy, Department of Biology
Poster Title: Skeletons reanimated: avian validation of tyrannosaur pose reconstruction

Stephen McShane **Poster #E15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Jeffrey Morgan, Department of Molecular Pharmacology, Physiology and Biotechnology
Poster Title: An analysis of dose-dependent inhibition of gap junction intercellular communication by environmental contaminants in a 3D system

Jonathan Moore **Poster #B7**

Home Institution: Tougaloo College
Summer Research Program:
Independent Researcher
Faculty Mentor: Professor Mark Johnson and Professor Alexander Leydon, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: The Use of Genome Editing Technology to Delete a Repetitive Locus in Arabidopsis Thaliana

Karla Navarrete **Poster #A14/A15**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Robert Reenan, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Characterization and Suppression of SOD1-mediated ALS Phenotype in Drosophila Melanogaster Knock-in Model/Analysis of Transcriptome Profile and Specific RNA Editing in Drosophila ALS Model With SOD1 Mutations

Natasha Nelson **Poster #B8**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Richard Bennett, Department of MMI

Poster Title: Analysis of C. Albicans Regulatory Proteins for Prion-like Functionality

Elaine Nguyen **Poster #F1**

Home Institution: Brown University

Summer Research Program:

Sheridan Center Mentorship Program

Faculty Mentor: Professor David Berson, Department of Neuroscience

Poster Title: A novel pathway sends ambient light information to the periaqueductal grey

Mary Nguyen **Poster #E12**

Home Institution: Brown University

Summer Research Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Jeffrey Morgan, Department of Molecular Pharmacology, Physiology and Biotechnology

Poster Title: Duration of Action of Gap Junction Inhibiting Drugs

Jonathan Nicholas **Poster #F2**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor David Badre and Professor Chris Chatham, Department of Cognitive, Linguistic and Psychological Sciences

Poster Title: The Temporal Dynamics of Working Memory

Kate Nussenbaum **Poster #F3**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Dima Amso, Department of Cognitive, Linguistic and Psychological Sciences

Poster Title: The Role of Distractor Suppression in Explicit Learning and Memory

Asa Ohsaki **Poster #F4**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Zoltan Derdak, Department of Medicine

Poster Title: Regulation of TIGAR protein through glucose and glutamine metabolism

Oladele Ojo **Poster #F5**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

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

Poster Title: Mapping of TRPV-1 Expressing Dorsal Root Neurons in Lamina II

Bella Okiddy **Poster #F6**

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: Micropatterning of proteins for
cell organization

Iris Pak **Poster #F7**

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: The Effects of Substrate
Stiffness on Cell Behavior

Natalie Palaychuk **Poster #A14/A15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Robert Reenan,
Department of Molecular Biology, Cellular
Biology and Biochemistry
Poster Title: Characterization and
Suppression of SOD1-mediated ALS
Phenotype in Drosophila Melanogaster
Knock-in Model/Analysis of Transcriptome
Profile and Specific RNA Editing in Drosophila
ALS Model With SOD1 Mutations

Savannah Pallango **Poster #F8**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Judith Bender,
Department of Molecular Biology, Cellular
Biology and Biochemistry
Poster Title: A Yeast Two-Hybrid Screen for
New Transcriptional Silencing Proteins

Zemplen Pataki **Poster #C14**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor David Rand,
Department of Ecology and Evolutionary
Biology

Poster Title: Automated Quantification of
Climbing Performance in *D. melanogaster*:
The Impact of Age, Mitonuclear Genotype and
Diet

Kishan Patel **Poster #F9**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Diane Lipscombe,
Department of Neuroscience
Poster Title: Regulation of cell-specific
inclusion of e37a in *Cacna1b* gene by multi-
zinc-finger DNA binding protein CCTC-
binding factor (CTCF)

Sarah Perelman **Poster #F10**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Alexandra
Deaconescu, Department of Molecular
Biology, Cell Biology and Biochemistry
Poster Title: Purification and Crystallization
of Factors Involved in a Novel Mechanism of
Transcription-Coupled DNA Repair

David Perry **Poster #C1**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Gerwald Jogi,
Department of Molecular Biology, Cellular
Biology and Biochemistry
Poster Title: Utilizing X-ray Crystallography
to Elucidate the Structure of Antibiotic
Dependent Ribosomes

Cassandra Pestana **Poster #F11**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Ruth Colwill,
Department of Cognitive, Linguistic and
Psychological Sciences
Poster Title: Communication in Canines

Tu Pham **Poster #G15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Mark Johnson and
Professor Alison DeLong, Department of
Molecular Biology, Cellular Biology and
Biochemistry
Poster Title: Characterizing the phenotypic
response of pollen tubes of thermotolerant
Solanum Lycopersicum lines to heat stress in
vitro

Elina Pilakos **Poster #F12**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Eleftherios
Mylonakis, Department of Medicine,
Molecular Microbiology, and Immunology
Poster Title: The relationship between
colonization and infection for VRE, MRSA and
Clostridium difficile.

Michelle Pombrol **Poster #D15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Mark Johnson and
Professor Alison DeLong, Department of
Molecular Biology, Cellular Biology and
Biochemistry
Poster Title: Differential gene expression in
Solanum lycopersicum pollen tubes following
heat stress

Carolina Ramirez **Poster #F13**

Home Institution: Brown University
Summer Research Program:
APS Integrative & Organismal Physiology
Undergraduate Summer Research Fellowship
Faculty Mentor: Professor Carlos Aizenman,
Department of Neuroscience
Poster Title: Novel Behavioral Paradigms to
Assay Neurodevelopmental Disorders in the
Xenopus Laevis Tadpole

David Reich **Poster #E14**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Jeffrey Morgan,
Department of Molecular Pharmacology,
Physiology and Biotechnology
Poster Title: Gap Junctions in Chimeric
Spheroids

Claire Rhee **Poster #F14**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Jeffrey Morgan,
Department of Molecular Pharmacology,
Physiology and Biotechnology
Poster Title: Assessing Gap Junction
Function as a Model for Cardiotoxicity

Paul Rizzo **Poster #B10**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research
Awards (UTRAs)
Faculty Mentor: Professor Katherine Smith,
Department of Ecology and Evolutionary
Biology
Poster Title: A Survey of RI Pediatricians on
Lyme Disease Prevention Practices

Dina Sabetta **Poster #A14/A15**

Home Institution: Brown University
Summer Research Program: Howard Hughes
Medical Institute (HHMI)

Faculty Mentor: Professor Robert Reenan, Department of Molecular Biology, Cell Biology and Biochemistry

Poster Title: Characterization and Suppression of SOD1-mediated ALS Phenotype in *Drosophila Melanogaster* Knock-in Model/Analysis of Transcriptome Profile and Specific RNA Editing in *Drosophila* ALS Model With SOD1 Mutations

George Sánchez **Poster #G1**

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

Faculty Mentor: Professor Noah Philip, Department of Psychiatry and Human Behavior

Poster Title: Telomere Length is Associated with Altered Amygdala Resting State Functional Connectivity

Jens Sannerud **Poster #D15**

Home Institution: Brown University
Summer Research Program:
Howard Hughes Medical Institute (HHMI)
Faculty Mentor: Professor Mark Johnson and Professor Alison DeLong, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Differential gene expression in *Solanum lycopersicum* pollen tubes following heat stress

Beatrice Senocak **Poster #G2**

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

Faculty Mentor: Professor Tara White, Department of Neuroscience

Poster Title: The effect of common gene polymorphisms on brain responses to stimulants in healthy subjects

Kelly Shan **Poster #G3**

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

Faculty Mentor: Professor Jonathan Kurtis, Department of Pathology

Poster Title: Analyzing Interactions Between PfSEA-1, a Novel Malaria Vaccine Candidate, and Erythrocyte Proteins Using Surface Plasmon Resonance

Jordan Shaw **Poster #G4**

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

Faculty Mentor: Professor David Sheinberg, Department of Neuroscience and Professor Katherine Phillips, Department of Psychiatry

Poster Title: Visual Processing in Body Dysmorphic Disorder and Anorexia Nervosa

Daniel Shiebler **Poster #G5**

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

Faculty Mentor: Professor Wael Asaad, Department of Neuroscience

Poster Title: Intra-Operative Recording Analyses

Benjamin Siranosian **Poster #G6**

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

Faculty Mentor: Professor Nicola Neretti, Department of Molecular Biology, Cellular Biology and Biochemistry

Poster Title: Hi-C reveals changes in the spatial organization of the aging genome

Susannah Slepian **Poster #G7**

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

Faculty Mentor: Professor Justin Fallon, Department of Neuroscience

Poster Title: Does adult biglycan null mouse muscle tissue show denervation of neuromuscular junctions similar to that seen

in human Amyotrophic Lateral Sclerosis patients and in mouse models of ALS?

Libby Stein **Poster #G8**

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: Effects of Methotrexate in Stromal Cells

Alexia Stylianou **Poster #G9**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Joseph Crisco, Department of Biomedical Engineering
Poster Title: Bi-planar Videoradiography for Tracking Post-Arthroplasty Shoulder Joint Motion

Elena Suglia **Poster #A6**

Home Institution: Brown University
Summer Research Program:
Voss Environmental Fellows
Faculty Mentor: Professor Mark Bertness, Department of Ecology and Evolutionary Biology
Poster Title: Sea Level Rise, Die-off, and the Future of New England Salt Marshes

Ellen Sukharevsky **Poster #B3**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Erica Larschan, Department of Molecular Biology, Cellular Biology and Biochemistry
Poster Title: Investigating the viability of *Drosophila* with the P-element insertion line at different temperatures

Austin Tam **Poster #C11**

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

Rafael Tua-Caraccia **Poster #G10**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs)
Faculty Mentor: Professor Doug Anthony, Department Pathology and Laboratory Medicine and Professor Lisa Sturla, Department of Neurology
Poster Title: Molecular Characterization of Pseudo-progression in adult Glioblastoma

Bettina Voelcker **Poster #G11**

Home Institution: Brown University
Summer Research Program:
Independent Research
Faculty Mentor: Professor Barry Connors, Department of Neuroscience
Poster Title: Effects of Embryonic Deletion of *Tsc1* in Juvenile Mice

Gordon Wade **Poster #G12**

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: A Structural Analysis of a Human Transcription-Repair Coupling Factor

Angelia Wang **Poster #G13**

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

Faculty Mentor: Professor Carlos Aizenman and Professor Chris Ciarleglio, Department of Neuroscience

Poster Title: A characterization of gene contributions to developmental and plastic processes in *Xenopus laevis* brain

Tyler Wishard **Poster #D5**

Home Institution: University of California – San Diego

Summer Research Program:
Minority Access to Research Careers

Faculty Mentor: Professor Carlos Aizenman, Department of Neuroscience and Professor Hollis Cline, Department of Molecular and Cellular Neuroscience

Poster Title: Developing *Xenopus laevis* As a Model for Fragile X Syndrome

Jimmy Xia **Poster #A14/A15**

Home Institution: Brown University
Summer Program:

Howard Hughes Medical Institute (HHMI)

Faculty Mentor: Professor Robert Reenan, Department of Molecular Biology, Cell Biology and Biochemistry

Poster Title: Characterization and Suppression of SOD1-mediated ALS Phenotype in *Drosophila Melanogaster* Knock-in Model/Analysis of Transcriptome Profile and Specific RNA Editing in *Drosophila* ALS Model With SOD1 Mutations

Sophie Yan **Poster #G14**

Home Institution: Brown University
Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Karla Kaun, Department of Neuroscience

Poster Title: The Role of Notch Signaling in Alcohol Reward and Memory

Chen Ye **Poster #C14**

Home Institution: Brown University
Summer Research Program:

Howard Hughes Medical Institute (HHMI)

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

Poster Title: Automated Quantification of Climbing Performance in *D. melanogaster*: The Impact of Age, Mitonuclear Genotype and Diet

Denise Yoon **Poster #C13**

Home Institution: Brown University
Summer Research Program:

Howard Hughes Medical Institute (HHMI)

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

Poster Title: Understanding aging by investigating genes, diet, and biochemistry in *Drosophila*

Anna Zeidman **Poster #B4**

Home Institution: Brown University
Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Erica Larschan, Department of Department of Molecular Biology, Cell Biology and Biochemistry

Poster Title: New data suggests an ancient mechanism for a chromosome-specific factor

Summer Research Symposium Posters
Friday, August 8
Physical and Social Sciences

Physical Sciences

Dilum Aluthge Poster #A15

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Charles Lawrence and Professor William Thompson, Department of Applied Mathematics and Center for Computational Molecular Biology

Poster Title: Probabilistic approaches to alignment and SNP-calling in repetitive regions of DNA

Heather Aruffo Poster #C5

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Lai Sheng Wang and Professor Li Qong Wang, Department of Chemistry

Poster Title: Synthesis and Electrochemical Analysis of Au₂₀ Nanoclusters

Nicholas Bower Poster #D1

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Derek Stein, Department of Physics

Poster Title: Experimental Studies of Micro and Nanoscale Capillarity

Einat Brenner Poster #B11

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Sean Deoni, School of Engineering

Poster Title: Brain Development Differences in Typically-Developing Children and Those with Autism Spectrum Disorder

Heekyung Chang Poster #B10

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Kareen Coulombe, School of Engineering

Poster Title: Developing a method to correlate cell area and volume in hypertrophically stimulated human embryonic stem cell-derived cardiomyocytes (hESC-CMs)

Karen Chen Poster #C6

Home Institution: Brown University

Summer Research Program:

Independent Research

Faculty Mentor: Professor Kristie Koski, Department of Chemistry

Poster Title: Dual Metal Intercalation of Bi₂Se₃ NanoRibbons

Frank Chung Poster #C7

Home Institution: Brown University

Summer Research Program:

NASA Space Grant

Faculty Mentor: Professor Kristie Koski, Department of Chemistry

Poster Title: Towards a chemical method to synthesize two-dimensional chalcogenide heterostructures

Tiffany Citra Poster # D6

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research Awards (UTRAs)

Faculty Mentor: Professor Colleen Dalton,
Department of Geological Sciences
Poster Title: Seismic velocity structure of the
crust and mantle beneath northwestern
Canada

Mahalia Clark **Poster #D7**

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

Faculty Mentor: Professor Meredith
Hastings, Department of Geological Sciences
Poster Title: Nitrogen Availability from
Biochar and Manure Amendments

Daniel DeCiccio **Poster #C8**

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

Faculty Mentor: Professor Christoph Rose-
Petruck, Department of Chemistry
Poster Title: Electrochemical Reduction of
Carbon Dioxide in Clathrate Hydrates

Camera Ford **Poster #D8**

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

Faculty Mentor: Professor Amanda Lynch
and Lynn Carlson, Department of Geological
Sciences

Poster Title: Seeing with Two Eyes:
Integrating Indigenous Knowledge and
Climate Science to Understand Vulnerability
in the Murray-Darling Basin, Australia

Layne Frechette **Poster #C9**

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

Faculty Mentor: Professor Richard Stratt,
Department of Chemistry
Poster Title: Navigating the potential energy
landscape of liquid-crystal formers

Marielena Gamboa Castro **Poster #B15**

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

Faculty Mentor: Professor Ian Wong,
Department of Biomedical Engineering
Poster Title: An Integrated Experimental and
Computational Approach to Tumor Spheroid
Dynamics

Briana Garcia **Poster #B9**

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:
Infusing Engineering into the Lives of
Providence Youth

Samantha Gates **Poster #B8**

Home Institution: Brown University
Summer Research Program:
Independent Research

Faculty Mentor: Professor Anita Shukla,
School of Engineering
Poster Title: Bacterial Stimuli-Responsive
Antibiotic Delivery Coatings

Joey Genfi **Poster #B7**

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

Faculty Mentor: Professor Benjamin Kimia,
School of Engineering
Poster Title: BlindFind Maps - A
Correspondence/Structure-based approach
to Map Making

Grant Glovin **Poster #D9**

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

Faculty Mentor: Professor Amanda Lynch,
Department of Geological Sciences

Poster Title: Wavelet Analysis of the Polar Vortex and Linkages to Climate Change

Nicholas Goelz **Poster #A12**

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

Faculty Mentor: Professor Sorin Istrail,
Department of Computational Biology

Poster Title: Efficient Backtracking with the Dancing Links Data Structure and its Application to the HP Lattice Model of Protein Folding

Ellen Goldberg **Poster #D2**

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

Faculty Mentor: Professor Derek Stein,
Department of Physics

Poster Title: Studies of Ion Emission from a Nanoscale Tip in a Mass Spectrometer

Adam Gosselin **Poster #B13**

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

Faculty Mentor: Professor R. Iris Bahar
Department of Computer Engineering

Poster Title: Enabling Autonomous Flight of Drones in Complex, Unpredictable Environments

Patrice Groomes **Poster #C10**

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

Faculty Mentor: Professor James Sello,
Department of Chemistry

Poster Title: Elucidating the mechanism of ADEP resistance in *Streptomyces coelicolor*

Mehrdad Kiani **Poster #B15**

Home Institution: Brown University
Summer Research Program:
DiMase Summer Internship

Faculty Mentor: Professor Ian Wong,
Department of Biomedical Engineering

Poster Title: An Integrated Experimental and Computational Approach to Tumor Spheroid Dynamics

Taesoo Kim **Poster #A15**

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

Faculty Mentor: Professor Charles Lawrence and Professor William Thompson,
Department of Applied Mathematics and Center for Computational Molecular Biology

Poster Title: Probabilistic approaches to alignment and SNP-calling in repetitive regions of DNA

Yongha Kim **Poster #B6**

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

Faculty Mentor: Professor Sean Deoni,
School of Engineering

Poster Title: Investigation of the relationship between myelination and delayed language development in children

Youn Kim **Poster #A14**

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

Faculty Mentor: Professor Ben Raphael,
Department of Computer Science

Poster Title: An Improved Parameter Selection Method in HotNet2

Lauren Levy **Poster #B5**

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

Faculty Mentor: Professor Anita Shukla,
School of Engineering

Poster Title: Geometric Control of
Chondrogenic Differentiation

Sophia Liang **Poster #B4**

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

Faculty Mentor: Professor G. Tayhas R.
Palmore, School of Engineering

Poster Title: D coli: An Intein-Based
Biosensor for the Detection of Vitamin D

Lev Litichevskiy **Poster #B3**

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, School of Engineering

Poster Title: Determining the Optimal Data
Periods to Use for Decoder Calibration in
Brain-Computer Interfaces

Robert Lusi **Poster #C11**

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

Faculty Mentor: Professor Amit Basu,
Department of Chemistry

Poster Title: Rethinking the Yariv Reagent:
Synthesis of the β -Glucosyl Yariv Reagent
Using Protected Intermediates

Naser Mahfouz **Poster #B2**

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

Faculty Mentor: Professor Robert H. Hurt,
School of Engineering

Poster Title: Graphene Oxide-base
Membranes Transport Properties

Daniel Milstein **Poster #B1**

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

Faculty Mentor: Professor Leigh Hochberg,
School of Engineering

Poster Title: Errant Unit Detection in Kalman
Filter Based Neural Decoding

Richard Nally **Poster #D3**

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

Faculty Mentor: Professor Chung-I Tan,
Department of Physics

Poster Title: Understanding Particle
Scattering Through String Theory

Isabel Newton **Poster #C1**

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:
Infusing Engineering Into the Lives of
Providence Youth

Priya Patel **Poster #C14**

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

Faculty Mentor: Professor Sarah Delaney,
Department of Chemistry

Poster Title: Interactions Between Au₂₀
nanoclusters and DNA

Aaron Rachels **Poster #D10**

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

Faculty Mentor: Professor Timothy Herbert,
Department of Geological Sciences

Poster Title: A Global Decrease in Sea Surface Temperatures 7 Million Years Ago
Contextualizes Terrestrial Evolutionary Events

Elliott Rosenberg **Poster #D11**

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

Faculty Mentor: Professor James Head,
Department of Earth, Environmental and Planetary Sciences

Poster Title: The Water Volume Required to Erode the Valley Networks on Mars: Implications for Late Noachian Climate

Nicolas Schank **Poster #B12**

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

Faculty Mentor: Professor John Savage,
Department of Computer Science

Poster Title: Multiparty Computation

Sha Sha **Poster #D4**

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

Faculty Mentor: Professor Jay Tang,
Department of Physics

Poster Title: Can Viscoelastic Matrix Enhance Bacterial Motility?

Roque Soto Castaneda **Poster #D12**

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

Faculty Mentor: Professor Marc Parmentier and Professor Chris Havlin, Department of Earth, Atmospheric and Planetary Sciences

Poster Title: Temperature and Stress Evolution in Continental Lithosphere and its' Influence on Magma Migration

Mary Tarantino **Poster #C13**

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

Faculty Mentor: Professor Sarah Delaney,
Department of Chemistry

Poster Title: Kinetics of Flap Removal in DNA Base Excision Repair by Flap Endonuclease-1

Jacob Thomas **Poster #A13**

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

Faculty Mentor: Professor Ben Raphael,
Department of Computational Biology

Poster Title: Analyzing Cancer Genomes with HotNet2

Andrew Tian **Poster #C2**

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

Faculty Mentor: Professor Jacob Rosenstein,
School of Engineering

Poster Title: A wireless system for alleviating freezing of gait in Parkinson's disease

Emily Toomey **Poster #C3**

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

Faculty Mentor: Professor Jimmy Xu,
School of Engineering

Poster Title: Conductivity and Physical Characterization of Silver-Intercalated DNA

Sarah Weingarten **Poster #C12**

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

Faculty Mentor: Professor Amit Basu,
Department of Chemistry

Poster Title: Rethinking the Yariv Reagent: Use of binding studies to characterize interactions between arabinogalactan proteins and various Yariv reagents

Edward Williams **Poster #D5**

Home Institution: Brown University
Summer Research Program:
Undergraduate Teaching and Research Awards (UTRAs), NASA Space Grant

Faculty Mentor: Professor Gregory Tucker
Department of Physics

Poster Title: Simulation of Exoplanet Atmosphere Data Collection with the Balloon-borne Exoplanet Experiment (BEE)

Evelyn Williams **Poster #B15**

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

Faculty Mentor: Professor Ian Wong,
Department of Biomedical Engineering

Poster Title: An Integrated Experimental and Computational Approach to Tumor Spheroid Dynamics

Matthew Wong **Poster #B14**

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

Faculty Mentor: Professor Chad Jenkins,
Department of Computer Science

Poster Title: 3D Mapping with Mobile Robots

Jie Ying Wu **Poster #C4**

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

Faculty Mentor: Professor Sherief Reda,
School of Engineering

Poster Title: Managing Power Consumption in Data Centers

Victoria Wu **Poster #B15**

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

Faculty Mentor: Professor Ian Wong,
Department of Biomedical Engineering

Poster Title: An Integrated Experimental and Computational Approach to Tumor Spheroid Dynamics

Bereket Zekarias **Poster #C15**

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

Faculty Mentor: Professor Jason Sello,
Department of Chemistry

Poster Title: Investigating the Resistance of Bacteria to Signal Peptidase Inhibitors, A Promising Class of Antibacterial Agents

Social Sciences

Joseph Bacon **Poster #A1**

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

Faculty Mentor: Professor Jin Li and
Professor Yoko Yamamoto, Department of
Education Studies

Poster Title: Children's Learning and
Socialization

Leila Blatt **Poster #A4**

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

Faculty Mentor: Professor Lundy Braun,
Department of Africana Studies

Poster Title: Black Women and the Fight for
Reproductive Justice, Contemporary and
Historical Considerations

Burke Gao **Poster #A8**

Home Institution: Brown University

Summer Research Program:

Independent Research

Faculty Mentor: Professor Omar Galarraga,
Department of Public Health

Poster Title: How to Cure Hepatitis C in
Rhode Island and Save Money While Doing It:
A Cost-Benefit Analysis of Sofosbuvir

Sarah Grace **Poster #A2**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs)

Faculty Mentor: Professor Matthew Kraft,
Department of Education Studies

Poster Title: Non-Cognitive Skills &
Schooling: An Exploratory Analysis

Carol Kim **Poster #A3**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs)

Faculty Mentor: Professor Eric Shed,
Department of Education Studies

Poster Title: Teaching with Technology

Taylor Lanzet **Poster #A9**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs)

Faculty Mentor: Professor Dawn King,
Center for Environmental Studies

Poster Title: Dairy in New England

Isaac MacDonald **Poster #A10**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs)

Faculty Mentor: Professor Dawn King,
Department of Environmental Studies

Poster Title: Mapping Land Use in New
England: From Forest to Farmland

Predrag Pandiloski **Poster #A5**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs)

Faculty Mentor: Professor Keith Brown,
Watson Institute

Poster Title: The Silent Crisis: Exploring the
culture of docility in post-communist
Macedonia

Madeline Price **Poster #A6**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs)

Faculty Mentor: Professor Beverly Haviland,
Department of American Studies

Poster Title: Reliving Times Gone By:
Textual Editing Henry James's "Sense of the
Past"

Allison Reilly **Poster #A7***

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs), Voss Environmental
Fellows

Faculty Mentor: Professor Caroline Karp,
Center for Environmental Studies

Poster Title: Community Adaptation to
Climate Change *(*Will be presenting on
Thursday, August 7*)

Oriana Shulevitz-Rosado **Poster #A7**

Home Institution: Brown University

Summer Research Program:

Undergraduate Teaching and Research
Awards (UTRAs)

Faculty Mentor: Professor Nancy Jacobs,
Department of History

Poster Title: The Anthropocene: A Historical
Perspective

Summer Research Programs at Brown

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- Summer Research Assistantship in Biomedical Sciences
- Undergraduate Teaching and Research Awards (UTRA)
- Voss Environmental Fellows

Poster Layout—Thursday, August 7

Humanities & Life Sciences

[Stage]

A1	B1	C1	D1	E1	F1	G1
A2	B2	C2	D2	E2	F2	G2
A3	B3	C3	D3	E3	F3	G3
A4	B4	C4	D4	E4	F4	G4
A5	B5	C5	D5	E5	F5	G5
A6	B6	C6	D6	E6	F6	G6
A7	B7	C7	D7	E7	F7	G7
A8	B8	C8	D8	E8	F8	G8
A9	B9	C9	D9	E9	F9	G9
A10	B10	C10	D10	E10	F10	G10
A11	B11	C11	D11	E11	F11	G11
A12	B12	C12	D12	E12	F12	G12
A13	B13	C13	D13	E13	F13	G13
A14	B14	C14	D14	E14	F14	G14
A15	B15	C15	D15	E15	F15	G15

[Entrance]

[Lobby]

Poster Layout—Friday, August 8

Physical & Social Sciences

[Stage]

A1		B1	C1		D1
A2		B2	C2		D2
A3		B3	C3		D3
A4		B4	C4		D4
A5		B5	C5		D5
A6		B6	C6		D6
A7		B7	C7		D7
A8		B8	C8		D8
A9		B9	C9		D9
A10		B10	C10		D10
A11		B11	C11		D11
A12		B12	C12		D12
A13		B13	C13		
A14		B14	C14		
A15		B15	C15		

[Entrance]

[Lobby]

Symposium Organizers

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Director, UTRA Program

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