



Early Career Poster Session **Faculty for Undergraduate Neuroscience (FUN) Posters**

Saturday, November 15
6:45—8:45 p.m. PST
San Diego Convention Center, Hall E

The Early Career Poster Session features undergraduate presenters from the Faculty for Undergraduate Neuroscience (FUN). FUN is an international organization supporting neuroscience research and education at the undergraduate level.



SOCIETY *for*
NEUROSCIENCE

Lindsey Buchanan

Rutgers University

FUN

Undergraduate Student

Autism- and Schizophrenia-Linked
3q29 CNV Deletion Disrupts Embryonic
Cortical Development in Mice

Theme A: Development

A9

Ella Burch

Christopher Newport University

FUN

Undergraduate Student

Assessing ASD-relevant behaviors
and altered molecular expression in
prefrontal cortex of the mouse model
of 22q11.2 deletion syndrome after an
NMDA receptor agonist intervention

Theme A: Development

A10

Elise Cauley

Trinity University

FUN

Undergraduate Student

Mice Models of Autism Spectrum
Disorder Display Significantly Altered
Sensory Behaviors

Theme A: Development

A12

Dominique Langevin

University of Puget Sound

FUN

Undergraduate Student

Effects of dihydrotestosterone on
dutasteride induced shape-change in
the pond snail *Helisoma duryi*

Theme A: Development

A36

Karleigh Potter

Western Washington University

FUN

Undergraduate Student

Cannabidiol and terpenes modulate
endocannabinoid expression in the BTBR
mouse model of autism spectrum disorder

Theme A: Development

A51

Michael Sweeney

Bowdoin College

FUN

Undergraduate Student

Evaluating the neurotrophic properties of
Spz-Toll signaling in *Gryllus bimaculatus*
CNS tissue

Theme A: Development

A59

Rachel Bonney

Brigham Young University

FUN

Undergraduate Student

Bipotential plasticity of VTA GABA
neurons is partially output specific

**Theme B: Neural Excitability,
Synapses, and Glia**

B16

Esai Cisneros

New Mexico State University

FUN

Undergraduate Student

Exploring biomechanical determinants
of glial phenotypic plasticity

**Theme B: Neural Excitability,
Synapses, and Glia**

B23

Claire Dao

Occidental College

FUN

Undergraduate Student

Generation and Characterization of an Optogenetic GABAergic Cortical Neuronal Cell Line

Theme B: Neural Excitability, Synapses, and Glia
B27

Alexander Rafalovich

Santa Clara University

FUN

Undergraduate Student

The Role of Neuroligin 2 in Oligodendrocyte Development and Synapse Formation

Theme B: Neural Excitability, Synapses, and Glia
B52

Ysabela Duron

Trinity University

FUN

Undergraduate Student

Oxytocin Modulates Excitability and Synaptic Input in VTA Dopaminergic Neurons: Implications for Reward Circuit Regulation

Theme B: Neural Excitability, Synapses, and Glia
B30

Aisha Tashpulatova

IU Indianapolis

FUN

Undergraduate Student

Mechanisms of Excitability: Simulating Up States in Computational Model of Monkey Cortex

Theme B: Neural Excitability, Synapses, and Glia
C6

Cayrs McFaul

Dominican University

FUN

Undergraduate Student

DNA methylation analysis associated with gene expression changes following long-term sensitization in *Aplysia californica*

Theme B: Neural Excitability, Synapses, and Glia
B45

Aaliyah Walls

Marshall University

FUN

Undergraduate Student

Coordinated spatial transcriptomics and super-resolution microscopy reveals subregion-dependent maturity states of the tripartite synapse across development

Theme B: Neural Excitability, Synapses, and Glia
C10

Mahiro Noda

Grinnell College

FUN

Undergraduate Student

Computational Simulation of Synaptic Cleft pH and the Role of Protons in Presynaptic Homeostatic Potentiation at the Vertebrate Neuromuscular Junction

Theme B: Neural Excitability, Synapses, and Glia
B47

Preston Withers

Brigham Young University

FUN; Trainee Professional

Development Award (TPDA)

Undergraduate Student

Spreading depolarizations in an ex vivo zebrafish model are preserved despite multi-channel inhibition: a comparative study with rodent slices

Theme B: Neural Excitability, Synapses, and Glia
C13

Diana Wittrock

Dominican University

FUN

Undergraduate Student

Extensive training diminishes forgetting of sensitization in Aplysia while narrowing the transcriptional response to learning

Theme B: Neural Excitability, Synapses, and Glia
C14

Shanamon Chandavimol

Lake Forest College

FUN

Undergraduate Student

New Molecular Insights into the Toxicity Linked with Three Newer α -Synuclein Mutants (A18T, A29S, and A53V) in a Yeast Model

Theme C: Neural Aging and Degeneration
C30

Sebastian Gacek

Lake Forest College

FUN

Undergraduate Student

Assessment of Three Newer α -Synuclein Mutants Reveals Differential Toxicity Under Varying Expression Levels and PD-Relevant Altered Environments in Yeast

Theme C: Neural Aging and Degeneration
C44

Abigale Glasman

Skidmore College

FUN

Undergraduate Student

Interaction Between Ataxin-1 and the Mitochondria in Spinocerebellar Ataxia Type 1 (SCA1) Through Confocal Microscopy

Theme C: Neural Aging and Degeneration
C48

Hannah Hortman

Duke University

FUN

Undergraduate Student

Living with Stress: Differences in how much dopamine neurons engage a cell stress pathway at steady-state explain their propensity to resist death in Parkinson's disease

Theme C: Neural Aging and Degeneration
C55

Vikram Karra

Washington University in St. Louis

FUN

Undergraduate Student

Disease-Associated Microglial Activation in Response to White Matter Insult in a Mouse Model of Tauopathy

Theme C: Neural Aging and Degeneration
D3

Holly Kiernan

Lake Forest College

FUN

Undergraduate Student

Insight into Synucleinopathies in a Yeast Model: Unravelling Molecular Determinants of b-Synuclein and g-Synuclein Toxicity

Theme C: Neural Aging and Degeneration
D4

Andy Kim

Texas Tech University

FUN

Undergraduate Student

The synergistic interplay between all-trans retinoic acid and vorinostat in blocking oxidative stress and histone deacetylation

Theme C: Neural Aging and Degeneration
D5

Emily Lawrence

Skidmore College

FUN

Undergraduate Student

Calcium Dysregulation and the Therapeutic Potential of Antioxidants in Spinocerebellar Ataxia Type 1

Theme C: Neural Aging and Degeneration
D9

Hannah Meas-Del Barrio

Pomona College

FUN

Undergraduate Student

A modified Y-maze task that is effective at characterizing spatial memory deficits in a mouse model of Alzheimer's Disease

Theme C: Neural Aging and Degeneration
D16

Kayla Melendez

Skidmore College

FUN

Undergraduate Student

Using Oxygen Consumption Rate As A Measure Of Mitochondrial Health In An In Vitro Model Of Spinocerebellar Ataxia Type 1

Theme C: Neural Aging and Degeneration
D19

Yasmine Moussa

Harvard University

FUN

Undergraduate Student

Impact of Amyloid- β Oligomers on Somatic Mutation in Single iPSC-derived Neurons

Theme C: Neural Aging and Degeneration
D21

Ghadeer Muhammed

Davidson College

FUN

Undergraduate Student

Functional Significance of Septodentate Sprouting Following A One-Stage Unilateral Entorhinal Cortex Lesion In Female and Male Rats

Theme C: Neural Aging and Degeneration
D22

Allison Plantz

Marshall University

FUN

Undergraduate Student

Alteration of Microtubule Regulation by Silver Nanoparticle Exposure in B35 Cells

Theme C: Neural Aging and Degeneration
D29

Abigail Wright

University of Alabama

FUN

Undergraduate Student

Disrupted Language-Related White Matter Tracts and Verbal Learning Impairments in Schizophrenia

Theme C: Neural Aging and Degeneration
D49

Daniel Yoon

Pomona College

FUN

Undergraduate Student

Dynamic Functional Connectivity Across Cognitive Stages in Parkinson's Disease Using Resting-State fMRI

Theme C: Neural Aging and Degeneration
D50

Mia Eleid

Ohio State University

FUN

Undergraduate Student

Traumatic Brain Injury reduces behavioral flexibility during probabilistic reversal learning

Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
D64

Sathvik Jami

Ohio State University

FUN

Undergraduate Student

Moderate Prefrontal Cortex Injury Remodels the Corticostriatal Circuit: A potential role for Microglia and Inflammation in Impulsivity

Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
E9

Ainsley Kindred

University of Pittsburgh

FUN

Undergraduate Student

Adult hypertension as a clinically-relevant comorbidity augmenting cognitive deficits, anxiety, and pathological outcomes after traumatic brain injury in pediatric and adult rats

Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
E12

Mariyam Lokhandwala

Santa Clara University

FUN

Undergraduate Student

Investigating the role of Nav channel dysfunction in seizure-induced neuronal damage & the therapeutic potential of XPC compounds

Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
E16

Sunaina Pandey

Ohio Wesleyan University

FUN

Undergraduate Student

Combined antiretroviral therapy reverses SIV-induced astrocyte morphological alterations

Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
E22

Jasmin Sawhney

University of Pittsburgh

FUN

Undergraduate Student

Acute Amantadine Enhances the Benefits of Delayed and Abbreviated Environmental Enrichment in a Pediatric Traumatic Brain Injury Model

Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
E27

Cameron Thompson

University of Pittsburgh

FUN

Undergraduate Student

Differences in fixational eye movements following concussion using an active fixation task

Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
E33

Amber Colegrove

Miami University

FUN

Undergraduate Student

Lip Sensory Neurons Activate Swallowing and Pause Chewing in the Crab *Cancer borealis*

Theme E: Sensory Systems
E56

William McCormick

Furman University

FUN

Undergraduate Student

The Impact of Innocuous Taste Experience on Long-term Taste Learning

Theme E: Sensory Systems
G9

Sarah Rajan

Rutgers University

FUN

Undergraduate Student

Harnessing mechanisms of learning-induced neuroplasticity to enhance signal-in-noise detection in auditory cortex and behavior

Theme E: Sensory Systems
H3

Alexa Comess

Bowdoin College

FUN

Undergraduate Student

Effects of Plasticizer Di(2-ethylhexyl) Phthalate (DEHP) and Neuroprotectants Rosmarinic Acid and Curcumin on Mammalian Spinal Motor Neural Circuits

Theme F: Motor Systems
I6

James DiMartino

Brandeis University

FUN

Undergraduate Student

Effects of acclimation at the neuromuscular junction in the crab *Cancer borealis*

Theme F: Motor Systems
I10

Chloe Garcia

Bowdoin College

FUN

Undergraduate Student

Effect of temperature on peptide modulation on the American lobster heart

Theme F: Motor Systems

J3

Tsam Myu Shawng Maji

Kansas State University

FUN

Undergraduate Student

Motor functioning in FMR1 knockout rats across their lifespan

Theme F: Motor Systems

J14

Caleigh Naylor

Miami University, Oxford, OH

FUN

Undergraduate Student

During feeding, chewing but not cardiac muscle activity responds in a food specific manner in the crab, *Cancer borealis*

Theme F: Motor Systems

K2

Young Seo

Bowdoin College

FUN

Undergraduate Student

The role of hyperpolarization-activated inward current in dopamine-modulated motor rhythmic activity

Theme F: Motor Systems

K9

Kelly Shen

Occidental College

FUN

Undergraduate Student

Quantification of Cone Snail Peptide Neurotoxin Effects on the Zebrafish Model System

Theme F: Motor Systems

K10

Patryk Wekwejt

Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, MA

FUN

Undergraduate Student

The Role of the Dorsomedial Striatum in Learning Sensory-Guided Motor Sequences

Theme F: Motor Systems

L4

Kira Augustin

Pomona College

FUN

Undergraduate Student

Using MultiWormTracker to Quantify Movement Behavior of *Caenorhabditis elegans*

Theme G: Integrative Physiology and Behavior

L13

Mónica D. Cortés Soto

University of Florida

FUN

Undergraduate Student

Circadian modulation of chronic swimming exercise in male and female wild type mice

Theme G: Integrative Physiology and Behavior

M7

Addison Elsik

University of Alaska Anchorage

FUN

Undergraduate Student

Baseline Expression of Nitric Oxide Synthase Isoforms in Euthermic Arctic Ground Squirrels: Implications for Hypoxia Tolerance and Oxidative Stress Regulation

Theme G: Integrative Physiology and Behavior
M13

Jordan Gardner

Middlebury College

FUN

Undergraduate Student

Effects of testosterone upon the survival of new neurons in the dentate gyrus of adult male rats

Theme G: Integrative Physiology and Behavior
N3

Kate Gerrish

Fairfield University

FUN

Undergraduate Student

Catecholamine regulation of cocaine sensitization and restraint-stress cross sensitization in male and female rats

Theme G: Integrative Physiology and Behavior
N4

Jace Griffin

Trinity University

FUN

Undergraduate Student

Systemic administration of oxytocin fails to produce reinforcing effects as measured through a conditioned place preference paradigm

Theme G: Integrative Physiology and Behavior
N6

Samantha Kobal

Western Washington University

FUN

Undergraduate Student

Neural Circuit Dynamics Underlying Behavioral Shifts During Associative Conditioning

Theme G: Integrative Physiology and Behavior
N9

Lanmeng (David) Li

Carleton College

FUN

Undergraduate Student

Stressors Differentially Affect Grooming Behavior in *Drosophila melanogaster*

Theme G: Integrative Physiology and Behavior
N16

Catherine McGlynn

University of St Thomas

FUN

Undergraduate Student

Contribution of the TRPC4 channel to elevated plus maze behavior in rats

Theme G: Integrative Physiology and Behavior
O5

Olivia Pandazi

Lake Forest College

FUN

Undergraduate Student

Investigating the effects of gut microbiome on appetitive and consummatory stages of alcohol self-administration

Theme G: Integrative Physiology and Behavior
O14

Markham Puhlick

Christopher Newport University

FUN

Undergraduate Student

Zebrafish (*Danio rerio*) as a Behavioral Model for Choice Paralysis under Reward Option Similarities

Theme G: Integrative Physiology and Behavior
P1

Payton Sack

Quinnipiac University

FUN

Undergraduate Student

Sex-Specific Behavioral and Metabolic Effects in a Double-Hit Rodent Model of Early Life and Chronic Stress

Theme G: Integrative Physiology and Behavior
P9

Danylo Shudrenko

Haverford College; The Johns Hopkins University School of Medicine

FUN

Undergraduate Student

Prefrontal White Matter Pathway Alterations in Anorexia Nervosa Relative to Healthy Controls

Theme G: Integrative Physiology and Behavior
P10

Yiwen Su

Skidmore College

FUN

Undergraduate Student

Dissecting the Downstream Targets of Octopaminergic Sleep Regulation in the Pars Intercerebralis in *Drosophila melanogaster*

Theme G: Integrative Physiology and Behavior
Q1

Brooklyn Waymire

Kansas State University

FUN

Undergraduate Student

The effects of altering μ -opioid receptor functioning within the nucleus accumbens shell in differentially reared rats

Theme G: Integrative Physiology and Behavior
Q7

Julia Whitehead

University of Memphis

FUN

Undergraduate Student

Sex-dependent effects of psychotomimetic and antipsychotic drugs on risky decision-making

Theme G: Integrative Physiology and Behavior
Q9

Rachel Zayar

Pomona College

FUN

Undergraduate Student

Chronic Mild Stress Produces Sex Differences in Anxiety-like Behavior and Synaptic Plasticity

Theme G: Integrative Physiology and Behavior
Q12

Fikir Arega

The Ohio State University

FUN

Undergraduate Student

Mild sleep deprivation and shifting test time of day increased effortful choice on the effort discounting task

Theme H: Motivation and Emotion
R4

Gabriel Bagatell

Binghamton University

FUN

Undergraduate Student

Novel rat model of a sudden reduction of high social enrichment demonstrates behavioral validity for obsessive-compulsive disorder (repetitive arm choice and excessive grooming)

**Theme H: Motivation and Emotion
R6**

Kamryn Conway

UC San Diego

FUN

Undergraduate Student

Food Deprivation Selectively Suppresses Empathy-Like Behaviors in Response to Social Pain in Mice

**Theme H: Motivation and Emotion
S3**

Madelinn Kanzaki

University of San Diego

FUN

Undergraduate Student

Evidence for oxytocin control of social buffering of cocaine aversion in rats

**Theme H: Motivation and Emotion
T12**

Christopher Lee

University of California, Berkeley

FUN

Undergraduate Student

Different subpopulations of striatal-projecting midbrain dopaminergic neurons reflect a distinct profile of dopamine release in striosomes versus matrisomes during associative learning

**Theme H: Motivation and Emotion
U2**

Alex Lee

University of Chicago

FUN

Undergraduate Student

Individual variance in nicotine preference or avoidance may stem from early exposure to the drug

**Theme H: Motivation and Emotion
U3**

Ayank Maiti

**University of North Carolina -
Chapel Hill**

FUN

Undergraduate Student

Male mice have more Procr-expressing neurons in the posterior oval nucleus of the BNST than female mice

**Theme H: Motivation and Emotion
U12**

Gabriella Malerba

George Washington University

FUN

Undergraduate Student

Sex Based Encoding of Novel Stimuli in Mice: Baseline Data to Inform Paralaminar Nuclei Loss of Function Studies

**Theme H: Motivation and Emotion
U14**

Kaelin McCaffrey

Providence College

FUN

Undergraduate Student

Medial prefrontal cortical ensembles direct behavior in response to competing needs

**Theme H: Motivation and Emotion
V2**

Katrina Meyer

University of Wisconsin-Eau Claire

FUN

Undergraduate Student

Establishing a hunger discrimination in female and male rats

**Theme H: Motivation and Emotion
V4**

Lindsey O'Lalde

Miami University

FUN

Undergraduate Student

Exploring the Effects of Gprasp1
shRNA Knockdown in Alcohol
Drinking Behaviors

**Theme H: Motivation and Emotion
V10**

Gracey Owens

University of Memphis

FUN

Undergraduate Student

Oxytocin Receptor Activation on
Reward-Related Dopamine Release
in Male vs Female Mice

**Theme H: Motivation and Emotion
V11**

Laura Pallas Perez

Furman University

FUN

Undergraduate Student

Sex differences in hedonic feeding
influenced by the gut microbiome

**Theme H: Motivation and Emotion
W1**

Kaya Patel

Bowdoin College

FUN

Undergraduate Student

Timing is key: Comparing sex differences
in behavioral outcomes and changes
in parvalbumin-containing interneuron
regulation in prenatal stress and early
life adversity rat models

**Theme H: Motivation and Emotion
W2**

James Riley-Enriquez

Furman University

FUN

Undergraduate Student

Dopamine D3 Antagonists: A Potential
Therapy for Post-Traumatic Stress
Disorder and Comorbid Alcohol Use
Disorder in Male C57 Mice

**Theme H: Motivation and Emotion
W7**

Gabriella Roman

University of Connecticut

FUN

Undergraduate Student

Assessing the Motivational and
Neurochemical Effects of the Dopamine/
Norepinephrine Transport Inhibitor
Nomifensine in Male and Female Rats

**Theme H: Motivation and Emotion
W10**

Spencer Rooney

Trinity College

FUN

Undergraduate Student

Examining the Role of Ovarian Steroid
Hormones in Behavioral Sensitization to
Cocaine in Adult Female Spontaneously
Hypertensive Rats, a Rodent Model of
Attention-Deficit/Hyperactivity Disorder

**Theme H: Motivation and Emotion
W12**

Tharusha Seagoe

University of Oregon

FUN

Undergraduate Student

A habenular subpopulation preferentially exhibits expectation-mediated reward responses

**Theme H: Motivation and Emotion
X1**

Lydia Slocum

University of Alabama at Birmingham

FUN

Undergraduate Student

Selective knockout of Slc26a7-expressing combinatorial dopamine neurons

**Theme H: Motivation and Emotion
X8**

David Soto

Washington State University

FUN

Undergraduate Student

Dorsal hippocampus CA3 to dorsolateral septum circuit regulates cocaine-memory strength

**Theme H: Motivation and Emotion
X10**

Lukasz Teper

North central college

FUN

Undergraduate Student

Examining the effects of sub-anesthetic ketamine on Fos expression the dentate gyrus and ventral subiculum during incubation of oxycodone craving

**Theme H: Motivation and Emotion
X15**

Veronica Velez

St. Mary's College of Maryland

FUN

Undergraduate Student

The Impact of a Ketogenic Diet on Cocaine Self-Administration: Differential Effects on Motivation and Relapse in Male and Female Rats

**Theme H: Motivation and Emotion
Y10**

Alea Von Hagel

Western Washington University

FUN

Undergraduate Student

A simplified rat environmental enrichment procedure to combine with detection of dopamine using matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF MS)

**Theme H: Motivation and Emotion
Y11**

Mazyar Azmi

Vanderbilt University

FUN

Undergraduate Student

Intrinsic Neuronal Timescales in Visual Cortex May Underlie the Representation of Higher-Order Prediction Errors

**Theme I: Cognition
Z4**

Owen Henke

Christopher Newport University

FUN

Undergraduate Student

Sex Differences in Visual Discrimination and Reversal Learning

**Theme I: Cognition
BB3**

Aditya Krishnan

University of North Carolina -
Chapel Hill

FUN

Undergraduate Student

A Further Examination of the Effects of
List Composition on JOL Reactivity

Theme I: Cognition

BB9

Kanan Levy

University of San Diego

FUN

Undergraduate Student

Eyetracking measures of performance
on the Traveling Salesperson Problem

Theme I: Cognition

BB12

Sarah Love

Tarleton State University

FUN

Undergraduate Student

Alpha (8-13 Hz) EEG activity during the
cognitive processing of sensory and
affective pain descriptor words

Theme I: Cognition

CC2

Vera Maaskant

University of San Diego

FUN

Undergraduate Student

Examining the effects of mild traumatic
brain injury on cognitive measures and
neuroinflammation in male and female rats

Theme I: Cognition

CC4

Jen Peterson

University of Minnesota

FUN

Undergraduate Student

Impact of systemic diazepam on dorsal
hippocampal CA1 neural activity

Theme I: Cognition

DD2

Denise Romero

University of Florida

*FUN; Trainee Professional
Development Award (TPDA)*

Undergraduate Student

Apoe4 genotype in a rat model mimics
aging and Alzheimer's disease-like
patterns of executive function and
decision making

Theme I: Cognition

DD7

Olivia Tole

University of Alabama

FUN

Undergraduate Student

Differential Neural Activation During
Free Narrative Speech Production task
in schizophrenia

Theme I: Cognition

EE4

Naomi Singer

Macalester College

FUN

Undergraduate Student

An Exploration of Mental Health and
Substance use Disorders Through
Protein Biomarkers in the Human Nail

Theme J: Techniques

HH8

Ava Sticka-Jacobs

St. Olaf College

FUN

Undergraduate Student

Differences in Drinking in the Dark (DID) Behavior Between Substrains of C57BL/6 Mice

Theme J: Techniques

HH9

Carolyn DePinho

Barnard College - Columbia University

FUN

Undergraduate Student

Asking “Why” questions modulates long-term memory via curiosity and prediction error: effects of pedagogical framing on neuroanatomical knowledge retention

Theme K: History, Education, and Society

II3

Diana Gallegos

University of California, Irvine

FUN

Undergraduate Student

Expert-novice differences when visualizing information flow, exchange and storage concepts in neuroscience contexts

Theme K: History, Education, and Society

II6

Aaron Oster

Lake Forest College

FUN

Undergraduate Student

Implementing a course-based Alzheimer’s APP proteolysis research experience for undergraduate neuroscience curricula

Theme K: History, Education, and Society

II13

Jackie Rose

Faculty for Undergraduate Neuroscience

FUN

Undergraduate Student

Faculty for Undergraduate Neuroscience: who we are, what we do, and where we are

Theme K: History, Education, and Society

JJ3
