



# Lida Orzeck '68 Summer Research Institute Poster Session



July 31, 2024  
Diana Center, Barnard College



## Lida Orzeck '68

Lida Orzeck '68, founder and CEO of the lingerie company Hanky Panky, is a passionate advocate for research and education at Barnard. Named in her honor, the Lida Orzeck '68 Poster Session is a testament to her generosity and dedication to the elevation of women in the sciences. 2024 marks the fifth SRI Poster Session sponsored by Lida, an event featuring a record-breaking 341 students representing nine different academic departments. Barnard remains grateful to Lida for her continued support and her commitment to empowering a diverse array of scholarly inquiry, interests, and pursuits.

*"I'm thrilled to once again experience the culmination of the advanced scientific research accomplished by hundreds of Barnard students over the summer. The scope and ambition of the projects is so impressive and illuminates the high level achieved by this community of scholars whether or not they are majoring in a STEM field."*

– Lida Orzeck '68



# A Decade of Extraordinary Leadership

On the anniversary of the 10th year of the Barnard Summer Research Institute, we extend our deep and heartfelt thanks to our colleague and former Provost, Linda A. Bell. Provost Bell's creative vision to centralize STEM research opportunities under a single umbrella program led to the establishment of the Summer Research Institute. Her dedication to Barnard students who wish to pursue STEM opportunities, graduate schooling, and careers in the field is felt and appreciated by the SRI participants, the faculty, and the SRI Steering Committee.



Through her guidance, leadership, and advocacy, the program has provided 1,522 Barnard undergraduates with the formative experience of intensive, hands-on summer research, through a program that has grown tremendously over the past decade and serves students in more majors each year. We are grateful to Provost Bell for her steadfast support of the SRI and look forward to the program's continued evolution.

With gratitude,  
The SRI Steering Committee

# 2024 Lida Orzeck '68 Poster Session

## Poster Reference Guide

In addition to the list of posters arranged alphabetically by student last name below, you can find information about today's presenters in spreadsheet form [here](#)

### VENUE

All posters will be presented in the Diana Center, in three different rooms:

Glicker Milstein Theater (Lower Level 2)

The Diana Event Oval (Lower Level 1)

The Louise McCagg Gallery (Level 4)

Information Tables are located in the main entrance of Diana Hall, outside of the Event Oval, outside the Student Dining Room, and outside the Louise McCagg Gallery.

### DEPARTMENTAL LOCATIONS

Morning Session | 10:00am - 12:00pm

Event Oval: Environmental Science, Physics & Astronomy, Math & Statistics POSTERS 105-156

Glicker Milstein: Chemistry POSTERS 001-043

Louise McCagg Gallery: Computer Science POSTERS 046-079

Afternoon Session | 1:00pm - 3:00pm

Event Oval: Neuroscience & Behavior POSTERS 101-189

Glicker Milstein: Biology POSTERS 001-064

Louise McCagg Gallery: Psychology, Cognitive Science POSTERS 065-098

### SCHEDULE

8:45am - 9:45am	Morning Session Poster Pickup (Diana 308 and Diana 504)
10:00am - 12:00pm	Poster Presentations
10:05am - 10:15am	Morning Session Remarks (Diana Event Oval)
12:00pm - 1:30pm	Break (lunch for student presenters in the Student Dining Room)
11:45am - 12:45pm	Afternoon Session Poster Pickup (Diana 308 and Diana 504)
1:00pm - 3:00pm	Poster Presentations
1:05pm - 1:15pm	Afternoon Session Remarks (Diana Event Oval)
3:00pm - 4:00pm	Ice Cream (available to student presenters in Diana Lobby)
3:00pm - 5:00pm	Mentor and Faculty Reception (Student Dining Room)



# Thank You for 10 Years

Ten years of SRI is an incredible feat. With more than 1500 student participants over the years and well over 300 faculty mentors, this program has nurtured diversity in STEM in ways unlike programs anywhere else. It has been a tireless effort from our faculty mentors and community of supporters to reach such a milestone. Over the years, Barnard College has witnessed and celebrated the awe-inspiring collaborative projects between students and their mentors. We've watched SRI participants excel and reach new heights in part due to their experience in SRI. None of this would be possible without our dedicated faculty mentors. In celebration of this achievement, SRI participants from over the years share their appreciation.

*"It has been amazing to watch the SRI grow over the past 10 years, since we served as the inaugural faculty directors. This growth was made possible by the hard work and enthusiasm of the students and faculty mentors, and by the generous support and commitment of the Barnard administration, fundraisers, and donors. We are looking forward to many more years of exciting science as SRI continues to thrive."*

– Inaugural SRI co-directors, Christian Rojas and John Glendinning

*"I graduated in 2017. I participated in the second SRI (2015). It was my first introduction to being an undergraduate researcher. I got to work with Aron Pinczuk, may he rest in peace, at Columbia's School of Engineering and Applied Science. Not only did I start to learn about experimental condensed matter research, but also his mentorship and group convinced me to pursue other research opportunities such as a summer REU program at Pennsylvania State University. Eventually, I went on to pursue a Ph.D. in physics at the CUNY Graduate Center. Now, I am the laboratory instructional support specialist for the physics and astronomy department at Barnard College. It feels surreal to be back where my physics career really took shape and now I get to be a part of new generation of women's journeys into physics."*

– Sara Abedi '17

*"When I started at Barnard, I wanted to study Latin literature and I did not know how to begin or even express how I would make this seemingly scary task possible. Switching my focus to neuroscience and benchwork in SRI provided a community to engage other students my age working in a variety of labs while also getting involved in my lab that I would then work in throughout the school year. Those connections turned into letters of recommendations for graduate school as well as talking points for my relevant experiences in work and life. I think Barnard is unique in that there is a deliberate focus on collaboration in all areas of coursework and that is something that the world, society, and science needs – pulling all of us together and utilizing our history and different backgrounds to solve present issues."*

– Albertine Neal '23

*"After my first year at Barnard, I participated in SRI and worked in a bioinorganic chemistry lab. Through SRI, I came to realize that research wasn't my cup of tea, but I loved presenting work and explaining concepts. This knowledge helped me navigate my professional options and ultimately led to my role at Pearson Education. My experience at SRI helped me go from feeling like a student to feeling like an actual scientist."*

– Lizzie Benzik '17

# From the Faculty Directors

The growth of the Summer Research Institute continues to impress us all. With more than 340 student participants and 220 mentors this year, the program is now nearing 1,700 total participants since its first summer in 2014. This year, we are celebrating the 10th anniversary of our program, a milestone that recognizes how important this part of the college experience is for students who are interested in exploring STEM fields.

As ever, we are grateful to our outgoing Provost Linda Bell for her leadership and support, and to the community of philanthropic foundations and individual donors whose generosity makes this distinctive program possible. We thank the inimitable Lida Orzeck '68, Barnard alumna, whose individual generosity has now funded hundreds of SRI students.

SRI's growth has meant that we draw on the work and mentorship of an increasingly large network of faculty colleagues and research professionals, both at Barnard and Columbia, and at institutions around the City of New York. We know how much work it takes to teach and mentor students throughout the summer, and we express our gratitude for your efforts – and in many instances, your own capacity to fund students through your labs and grants.

We also extend our gratitude to the dedicated staff at Beyond Barnard (especially A-J Aronstein, Stephanie Malak, and Adam Lutz), and members of the SRI Committee, including John Glendinning, Jane Holmes, and Kari Steeves.

We are excited about the fantastic research put forth by this year's participants, and hope each student carries this transformative experience with them as they pursue potential paths. Thank you for bringing your passion, ingenuity, and resolve to this year's Summer Research Institute.

Sincerely,



Koleen McCrink  
Professor of Psychology  
Barnard College



Marisa Buzzeo  
Professor of Chemistry  
Barnard College

# Acknowledgements

The Summer Research Institute gratefully acknowledges the invaluable support of the following foundations, corporations, institutions, and individuals:

The Lida Orzeck '68 Summer Research Institute Fund  
Alfred P. Sloan Foundation  
American Chemical Society  
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Ruth Atlas and Miriam Goldstein Summer Research Institute Fund  
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## **The SRI Planning Committee:**

Barnard Faculty Leadership:  
Koleen McCrink and Marisa Buzzeo, Co-Directors  
Jon Snow, Biology Department Representative  
Christian Rojas, Chemistry Department Representative  
John Morrison, Cognitive Science Department Representative  
Brian Plancher, Computer Science Department Representative  
Elizabeth Cook, Environmental Science Representative  
Daniela De Silva, Mathematics & Statistics Department Representative  
John Glendinning, Neuroscience & Behavior Department Representative  
Reshmi Mukherjee, Physics & Astronomy Department Representative  
Kate Thorson, Psychology Department Representative

## **Administrative Committee Members:**

A-J Aronstein, Assistant Vice President, Lifelong Success  
Jane Holmes, Senior Director, Academic Budget  
Kari Steeves, Senior Associate Director, Institutional Funding  
Stephanie Malak, Senior Associate Director, Internship Programs & Special Initiatives  
Adam Lutz, Administrative Assistant



# SRI By the Numbers

## SRI in 2024



215 faculty  
mentors



341 student  
participants



\$1.46 million in  
student research  
stipends

## SRI All Time



**1522**

total unique  
participants,  
2014 - 2024

**19%**

of participants are  
the first in their  
family to attend  
college (2016-24)

**26%**

of participants  
proceeded directly  
to graduate study  
after receiving their  
degree at Barnard  
(2018-2024)

## Recognition from the National Science Foundation (NSF)



**17**

NSF Graduate  
Research Fellowship  
Recipients and 18  
Honorable Mentions  
in 2024

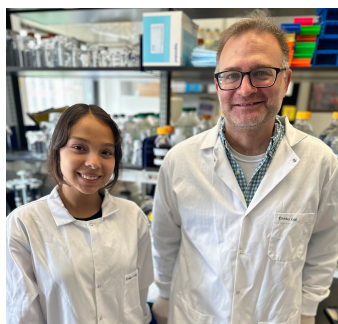
**39%**

of SRI's total  
NSF honorable  
mentions were  
received in 2024

**29%**

of SRI's total NSF  
awards were  
granted in 2024

# STEM Community in SRI



Collaboration between students and faculty mentors creates an environment of innovation and discovery. As we celebrate 10 years of SRI, we look back at the wonderful work and progress student and faculty mentors have made in the name of science. With the support of alums and other key industry professionals, we achieved record participation with 341 students this year. Throughout the ten week program, students engaged in panel discussions, workshops, took advantage of programs and dinners, made new connections through networking experiences and broadened their horizons with invigorating research discoveries.

# Posters By Student Last Name

HOORIYA AAMIR '27

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 065  
Impact of Visual and Semantic Complexity on Rapid Scene Detection  
Mentored by: Michelle Greene, Barnard College

MICOLE ABDELHAK '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 066  
Head over Heart? Emotional Versus Practical Support Amongst Couples in an Acute Lab Stress Task  
Mentored by: Niall Bolger, Columbia University Main Campus (Morningside)

AMBER ABUD '25

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 101  
Racial and Ethnic Demographics of Creutzfeldt-Jakob Disease in the United States 2004-2024: A Scoping Review  
Mentored by: Kiran Thakur, Columbia University Irving Medical Center

CAROLINE ADAMS '25

Afternoon Session | Biology | Glicker Milstein | Board 23 | Poster 001  
The Role of SOX9 in Touch Dome Development  
Mentored by: David Owens Allison Pischedda , Columbia University Irving Medical Center

MARIA ADKINS '27

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 065  
Impact of Visual and Semantic Complexity on Rapid Scene Detection  
Mentored by: Michelle Greene, Barnard College

SIJDA AHMED '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 38 | Poster 066  
Sex-Specific Differences in Placental Gene Expression  
Mentored by: Maya Deyssenroth, Columbia University Mailman School of Public Health

UNAISAH AHMED '27

Morning Session | Computer Science | Louise McCagg Gallery | Board 38 | Poster 065  
Tweeterial Narratives  
Mentored by: Lydia Chilton, Columbia University Fu Foundation School of Engineering and Applied Science

AUDREY AHN '25

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 103  
Relationship Between Juvenile Social Interactions and Adult Social Behavior and

## Neuronal Activity

Mentored by: Kally Sparks, Columbia University – New York State Psychiatric Institute

## SARAH AKTARI '25

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 104

Mentored by: Claire Everett, Columbia University – Zuckerman Institute

## CHLOE ALLAN '27

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 001

Combining Machine-Learning and Physics-Based Methods to Predict Protein Solubility

Mentored by: Anum Glasgow, Columbia University Irving Medical Center

## ADARA ALLEN '26

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 002

Synthetic Studies Towards Triplet Sensitization of Azidoformate Groups in D-Glucal Derivatives

Mentored by: Christian Rojas, Barnard College

## CARMEN ALLISON '25

Morning Session | Physics & Astronomy | Event Oval | Board 7 | Poster 130

Impurity Measurements in Xenon (IMiX)

Mentored by: Elena Aprile, Columbia University Main Campus (Morningside)

## AMELIA ALMONTE '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 1 | Poster 105

Examining Association between Parental Mental Health and Infant Visual Attention: The Moderating Role of Social Support

Mentored by: Natalie Brito, New York University Applied Psychology

## KAREN ALONSO MATHURA '25

Afternoon Session | Biology | Glicker Milstein | Board 23 | Poster 002

The Role of Tbc in Regulating CD8 and CD4 T Cells Surrounding Tumor Microenvironments

Mentored by: David Owens, Columbia University Irving Medical Center

## CHUNLIN AN '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 067

Caregiver Perception of a Positive Caregiver-child Relationship Associated with Underestimation of Child Suicidal Ideation

Mentored by: Anna Van Meter, New York University Langone

## ALISHA ANSARI '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 1 | Poster 106

Downstream Pathways of A $\beta$  1-42 Injection: An In Vivo Mouse Model of Alzheimer's Disease

Mentored by: Carol Troy, Columbia University Irving Medical Center

## ANYA APPLEBAUM LICHT '27

Morning Session | Chemistry | Glicker Milstein | Board 24 | Poster 003

Investigating WPD-loop Mutational Effects on PTP1B Activity

Mentored by: Neel Shah, Columbia University Main Campus (Morningside)

## CAROLINE ARANGIO '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 2 | Poster 107

The Drosophila Circadian Pacemaker Neurons Have Sexually Dimorphic Roles in Sleep/Wake Cycles.



Mentored by: Maria Fernandez, Barnard College

SAMANTHA LILLY ARCHONTIS '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 2 | Poster 108

Examining Attachment Representations in Narrative Recall of Children Aged 6-13

Mentored by: Nim Tottenham, Columbia University Main Campus (Morningside)

AMANDA ARNOLD '25

Afternoon Session | Biology | Glicker Milstein | Board 24 | Poster 003

Development of Novel Methods for Determining Naked Mole Rat Hierarchy

Mentored by: Ishmail Abdus-Saboor, Columbia University - Zuckerman Institute

NATALIE ASHKAR '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 3 | Poster 109

Mice Condition an Insulin Response to the Taste of Foods

Mentored by: John Glendinning, Barnard College

CHARLOTTE ASTLEY '25

Morning Session | Environmental Science | Event Oval | Board 10 | Poster 150

Rising Tides: Storm Surge Flooding Threatens American Oystercatcher Reproduction

Mentored by: Dustin Partridge, Barnard College and NYC Bird Alliance (formerly NYC Audubon Society)

FATIMA BAGOM '26

Afternoon Session | Biology | Glicker Milstein | Board 24 | Poster 004

HoxA5 Regulates Development of the Sternum and First Rib Attachment

Mentored by: Jennifer Mansfield, Barnard College

STELLA BAILEY '25

Morning Session | Chemistry | Glicker Milstein | Board 25 | Poster 005

Examining Sources of Contamination and Metal Binding Interference in Protein Purification Using ICP-MS

Mentored by: Rachel Austin, Barnard College

JORD BARNETT '25

Afternoon Session | Biology | Glicker Milstein | Board 25 | Poster 005

Mutation in the pdf gene affects clock neuron morphology and reduces morning biting in *Aedes aegypti* mosquitoes

Mentored by: Laura Duvall, Columbia University Main Campus (Morningside)

GILLIAN BARTELS-QUANSAH '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 38 | Poster 068

Deep learning of RNA binding variant effects for Alzheimer's disease association studies

Mentored by: David Knowles, Joint Lab: Columbia University and the New York Genome Center

NOELLE BARTUL '27

Afternoon Session | Biology | Glicker Milstein | Board 25 | Poster 006

Determining the Dependency of Cohesin on Acute Myeloid Leukemia

Mentored by: Viny Aaron, Columbia University Irving Medical Center

BAYLEY BASSON '26

Morning Session | Mathematics & Statistics | Event Oval | Board 12 | Poster 146

Random Lozenge Tilings of Hexagonal Domains

Mentored by: Alisa Knizel, Barnard College

AISATOU BATCHILLY '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 3 | Poster 110

Investigating Spatial Relationship Between Neuronal Nuclear Wrinkles and Amyloid- Plaques in Alzheimer's Disease

Mentored by: Osama Al Dalahmah , Columbia University Irving Medical Center

SOFIA BAVARESCO '25

Morning Session | Chemistry | Glicker Milstein | Board 24 | Poster 004

Visible Light Photochemistry of Silver(I) Dimers

Mentored by: Michael Campbell, Barnard College

MALAK BKHET '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 3 | Poster 116

Role of Central Amygdala Oxytocin Receptors in the Emergence of Pup-directed Behaviors in Virgin Female Mice

Mentored by: Robert Froemke, New York University Langone

MARIA BOCXE '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 1 | Poster 112

Sexually Dimorphic Effects of the DN1pA Clock Neurons in Drosophila

Mentored by: Maria P. Fernandez, Barnard College

SABINE BOHN '27

Morning Session | Chemistry | Glicker Milstein | Board 25 | Poster 006

In-Situ NMR Monitoring of Electrolyte Degradation of LiPF<sub>6</sub> and LiFSI EC/DMC Mixtures

Mentored by: Lauren Marbella, Columbia University Fu Foundation School of Engineering and Applied Science

REBECCA BOJAR '25

Afternoon Session | Biology | Glicker Milstein | Board 26 | Poster 007

Identification of Stem Cell Factors that Confer Antiviral Responses in Human Pluripotent Stem Cells Using Genome-wide CRISPR-inhibition Screen

Mentored by: Jianlong Wang, Columbia University Irving Medical Center

MADISON BOUDREAU POPOVIC '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 2 | Poster 113

Characterization of the Main Pre-Synaptic Partners of Drosophila Circadian Pacemaker Neurons

Mentored by: Maria Fernández , Barnard College

ALILLIA BOWDEN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 2 | Poster 114

The Effect of a Coaching Intervention on the Average Daily Steps of Adults with Parkinson's Disease

Mentored by: Lori Quinn, Columbia University Teachers College

LAIN BREWER '26

Morning Session | Physics & Astronomy | Event Oval | Board 8 | Poster 131

Search for Hard X-Ray Variability in Kepler's Supernova Remnant with NuSTAR

Mentored by: Reshmi Mukherjee, Barnard College

SYDNEY BRICE '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 3 | Poster 115

Effects in Retrosplenial Cortex Activation on a Model of Chronic Social Defeat Stress  
Mentored by: Perla Ontiveros-Ángel, Columbia University – New York State Psychiatric Institute

LIA BROOKHART '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 068

To See or to Believe: When Perceptual and Epistemic Perspective Intersect

Mentored by: Koleen McCrink, Barnard College

GINA BROWN '26

Morning Session | Environmental Science | Event Oval | Board 6 | Poster 127

Concentrating Interplanetary Dust Particles in Ocean Sediments for Extraterrestrial  $^3\text{He}$  Analysis

Mentored by: Sidney Hemming, Columbia University – Lamont-Doherty Earth Observatory

GAYATRI BULSARA '27

Afternoon Session | Biology | Glicker Milstein | Board 26 | Poster 008

Investigating the Effects of Chr3p Deletion and VHL Haploinsufficiency in Lung Squamous Cell Carcinoma (LUSC)

Mentored by: Alison Taylor, Herbert Irving Comprehensive Cancer Center

EMMA BURRIS '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 069

Objective Measurements of Sleep Duration Across Cognitive Statuses in Elderly Populations: Are Normal Sleep Durations Protective Against Cognitive Decline?

Mentored by: Nancy Kerner, Columbia University – New York State Psychiatric Institute

FATOUMATA CAMARA '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 38 | Poster 069

Visualizing Flood Impacts in New York City Neighborhoods Due to Climate Change

Mentored by: Tian Zheng, Columbia University – Climate School

RUMEYSA CAMLICA '26

Morning Session | Chemistry | Glicker Milstein | Board 26 | Poster 007

Post-Synthetic Surface Modification of the 2D Semiconductor CrSBr to Form a Janus Material

Mentored by: Andrew Crowther, Barnard College

SOPHIE CARMAN '25

Morning Session | Environmental Science | Event Oval | Board 6 | Poster 128

Analyzing Water Column Composition in the Kotzebue Sound

Mentored by: Ajit Subramaniam, Columbia University – Lamont-Doherty Earth Observatory

SUZANNE CARPENTER '26

Afternoon Session | Biology | Glicker Milstein | Board 27 | Poster 009

Welfare Practices in U.S. Aquaponic Farms

Mentored by: Becca Franks, New York University Main Campus (West Village)

GABRIELA CARTTAR '26

Afternoon Session | Biology | Glicker Milstein | Board 27 | Poster 010

Investigating Impacts of Pharmacologic Proteasome Inhibition on the Microbiome of Honey Bees

Mentored by: Jonathan Snow, Barnard College

ELIZABETH CASEY '26

Morning Session | Mathematics & Statistics | Event Oval | Board 13 | Poster 147



Unemployment: How Consumer Expectations May Affect Teen Workers

Mentored by: George Dragomir, Columbia University Main Campus (Morningside)

NAOMI CASSEL '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 3 | Poster 116

Role of Central Amygdala Oxytocin Receptors in the Emergence of Pup-directed Behaviors in Virgin Female Mice

Mentored by: Chloe (Mentor), Robert (PI) Bair-Marshall (Mentor)/Froemke (PI), NYU Grossman School of Medicine

FRANCESCA CASTELLARIN '26

Afternoon Session | Cognitive Science | Louise McCagg Gallery | On Wall | Poster 092

What's Memorable in a Movie?

Mentored by: Christopher Baldassano, Columbia University Main Campus (Morningside)

ISAYANA CASTILLO '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 4 | Poster 117

Dopamine and Aging: Their Roles in Novel Object Recognition in Mice

Mentored by: Susana Mingote, CUNY Advanced Science Research Center

YILIN CHAI '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 070

Individual Differences in Information-Seeking Behaviors about Long-Term Reward Anticipation

Mentored by: Kiyohito Iigaya, Columbia University - Zuckerman Institute

RIKA CHAN '26

Afternoon Session | Biology | Glicker Milstein | Board 23 | Poster 011

Investigating Insertion Sequences as a Mechanism for Bacterial Adaptation in Liver Transplant Patients

Mentored by: Anne-Catrin Uhlemann, Columbia University Irving Medical Center

ANKITA CHATTERJEE '27

Afternoon Session | Mathematics & Statistics | Louise McCagg Gallery | On Wall | Poster 094

Mentored by: George Dragomir, Columbia University Main Campus (Morningside)

MARIA CHEMODANOVA '27

Morning Session | Computer Science | Louise McCagg Gallery | Board 38 | Poster 070

Specificity of Beat-Side Protein-Protein Interactions

Mentored by: Barry Honig, Columbia University Irving Medical Center

ALISSA CHEN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 4 | Poster 118

Effect of Usp8 Knockout on  $\alpha$ -synuclein Aggregation in Mouse Models of Parkinson's Disease

Mentored by: Matthew Jennings, Barnard College

MICHELLE CHEN '25

Morning Session | Environmental Science | Event Oval | Board 7 | Poster 129

Measuring Maize Market Stability with Climate Variability and Agricultural Subsidy Programs: Case Study in Zambia

Mentored by: Daniel Osgood, Barnard College

KATHY CHEN '26

Morning Session | Mathematics & Statistics | Event Oval | Board 10 | Poster 149

Predicting M&A Success in the US Retail Industry Using Machine Learning: an Analysis of Financial Metrics

Mentored by: George Dragomir, Columbia University Main Campus (Morningside)

LUCIA CHEN '26

Morning Session | Mathematics & Statistics | Event Oval | Board 13 | Poster 148

Implementing Point Tracking Foundation Models for Animal Pose Estimation

Mentored by: Liam Paninski, Columbia University - Zuckerman Institute

SHUXUAN CHEN '25

Afternoon Session | Biology | Glicker Milstein | Board 23 | Poster 012

Examining the Role of SUMOylation on Insulin Secretion in Pancreatic Beta Cells

Mentored by: Utpal Pajvani, Columbia University Irving Medical Center

SHUYAN CHEN '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 071

Enhancing Automatic Speech Recognition Robot for Mission Critical Voice Experiments Using OpenAI

Mentored by: Jan Janak, Columbia University Fu Foundation School of Engineering and Applied Science

SARAH CHIN '25

Morning Session | Environmental Science | Event Oval | Board 1 | Poster 105

Impact of Mycorrhizal Networks on Tree Growth in Black Rock Forest, NY

Mentored by: K.A. Carreras Pereira, Columbia University Main Campus (Morningside)

JOANN CHO '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 5 | Poster 119

Effects of Limited BDNF Bioavailability on ELA-induced Acceleration of Hippocampal Neuronal Maturation

Mentored by: Kevin Bath, New York State Psychiatric Institute (NYSPI)

Y. ZOE CHO '25

Morning Session | Chemistry | Glicker Milstein | Board 26 | Poster 008

Modeling SMARCA4 Cancer Variants Using CRISPR Technologies

Mentored by: Carla Concepcion-Crisol, Columbia University Irving Medical Center

EMILY CHOI '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 5 | Poster 120

Impact of Adolescent Social Isolation on Thalamic Activation

Mentored by: Isabel Bravo, Columbia University - New York State Psychiatric Institute

SAI RAMANI CHOUDARI '26

Afternoon Session | Biology | Glicker Milstein | Board 24 | Poster 013

The Effects of Aneuploidy and HPV Infection on Cytokine Secretion in Squamous Cell Carcinoma and AALE Cell Lines

Mentored by: Alison Taylor, Herbert Irving Comprehensive Cancer Center

ARTEMIS CHRISTOFORATOS '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 6 | Poster 121

Profiling the sleep architecture of Chd8 haploinsufficient mice using video EEG/EMG

Mentored by: Rebecca Muhle, Columbia University - New York State Psychiatric Institute

NICOLE CISNEROS GONZALEZ '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 6 | Poster 122

Maternal Stress, Language Development at 6 Months, and the Onset of Disparities

Mentored by: Kimberly Noble, Columbia University Teachers College

ASSTAN CISSE '26

Afternoon Session | Biology | Glicker Milstein | Board 24 | Poster 014

Comparative Genomic Analysis of Horizontal Gene Transfer in Orobanchaceae Using OrthoFinder

Mentored by: Deren Eaton, Columbia University Main Campus (Morningside)

VICTORIA CORDERO '25

Afternoon Session | Biology | Glicker Milstein | Board 25 | Poster 015

The Honey Bee Heat Shock Response is Maintained Throughout Aging

Mentored by: Jonathan Snow, Barnard College

SOFIA CRUZ '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 4 | Poster 123

The Effect of Adolescent Development on Hypothalamic Orexin Levels in Male and Female Rats: Relevance to Stress Reactivity

Mentored by: Russell Romeo, Barnard College

PIA DAVIS '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 5 | Poster 125

The Role of Noradrenaline in Stress-Induced Plasticity

Mentored by: Bianca Jones Marlin, Columbia University – Zuckerman Institute

MADELEINE DAY '27

Morning Session | Chemistry | Glicker Milstein | Board 27 | Poster 009

Developing a Tool Kit for Visualizing and Perturbing Gene Regulation in Living Embryos

Mentored by: Michal Levo, Columbia University Irving Medical Center

OLIVIA DE LUCA '25

Morning Session | Chemistry | Glicker Milstein | Board 27 | Poster 010

C-X Bond Strength is Rate-Determining in Rh/Al<sub>2</sub>O<sub>3</sub> Catalyzed Dehalogenation Reactions of Halogenated Benzenes

Mentored by: Rachel Austin, Barnard College

CAROLYN DEPINHO '25

Afternoon Session | Biology | Glicker Milstein | Board 25 | Poster 016

Deciphering the Bladder Cancer Immune Microenvironment Dynamics in Genetically Engineered Mouse Models (GEMMs) with Epigenetic Dysregulation

Mentored by: Cory Abate-Shen, Columbia University Irving Medical Center

LELA DEVINE '25

Afternoon Session | Biology | Glicker Milstein | Board 26 | Poster 017

Assessing Nrf2 Dependent Responses to Oncogenic KRAS G12D Inhibition In Pancreatic Cancer (PDAC)

Mentored by: In Christine Chio, Herbert Irving Comprehensive Cancer Center

MARINA DEVINE GUZMÁN '26

Morning Session | Environmental Science | Event Oval | Board 1 | Poster 105

Mentored by: Duncan Menge, Columbia University Main Campus (Morningside)

MAYRA DIAZ CASARRUBIAS '26

Afternoon Session | Biology | Glicker Milstein | Board 26 | Poster 018

Infection Prevalence in *Ilyanassa obsoleta* Populations is Higher in Protected Embayments Across New York City

Mentored by: Emlyn Resetarits, Barnard College

ISABELLA DINATALE '25

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 011

Ligand Design for Silver(I) Dimers

Mentored by: Michael Campbell, Barnard College

AMELIA DING '26

Morning Session | Environmental Science | Event Oval | Board 2 | Poster 107

Key Takeaways and Strategies for Community Engagement

Mentored by: Paul Gallay, Columbia University - Climate School

CHLOE DO '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 5 | Poster 126

Investigating the developmental onsets of altered cholinergic innervations in Lrrk2G2019S knockin mice

Mentored by: George Huntley, Icahn School of Medicine at Mount Sinai

ANGELA DONG '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 13 | Poster 147

How Does Blocking ATP Neurotransmission Impact Taste?

Mentored by: John Glendinning, Barnard College

TRAMY DONG '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 072

Predicting Task Confusion States Through Physical Signals

Mentored by: Wendy Ju, Cornell Tech

JOSEPHINE DOUCETTE '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 6 | Poster 127

Gaining Genetic Access to the Dopaminergic Reward System in the Peromyscus Brain

Mentored by: Christoph Gebhardt, Columbia University - Zuckerman Institute

INANNA DOYTCH '25

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 012

Fabrication and Characterization of Injectable Prevascularized Organoids Containing iPSC-Derived Endothelial Cells

Mentored by: Samuel Sia, Columbia University Fu Foundation School of Engineering and Applied Science

MALKA DRANG '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 39 | Poster 071

Anxiety and Depression in Patients Seeking Eating Disorder Treatment

Mentored by: Tom Hildebrandt, Icahn School of Medicine at Mount Sinai

MOLLY DURAWA '25

Afternoon Session | Biology | Glicker Milstein | Board 27 | Poster 019

Isoform-Specific Functions of the RBM10 Splicing Factor

Mentored by: David Knowles, New York Genome Center

LAUREN EDWARDS '26

Afternoon Session | Biology | Glicker Milstein | Board 27 | Poster 020

Substrate Type Influences Trematode Prevalence and Diversity in New York City

Mentored by: Emlyn Resetarits, Barnard College

EDEN ELIKAN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 39 | Poster 072

Influence of Effort Expenditure on Reward Preference

Mentored by: Ken/ Peter Light/ Balsam, Columbia University – New York State Psychiatric Institute

OGO ELUMELU '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 6 | Poster 128

Cholinergic Modulation of Thalamocortical Projections to mPFC in Cognitive Processing and Schizophrenia

Mentored by: Raudales Ricardo, Columbia University – New York State Psychiatric Institute

SAMANTHA ENNIS '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 7 | Poster 129

Striatal Acetylcholine Knockout Impairs Reversal Learning in Mice

Mentored by: Daniel Lowes, Columbia University – New York State Psychiatric Institute

AEREN EVANS '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 7 | Poster 130

Mentored by: Elizabeth Bauer,

PAOLA FABIAN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 8 | Poster 131

Guided behavior and time uncertainty affects decision-making

Mentored by: Alexander Harris, Columbia University – New York State Psychiatric Institute

SOPHIA FAISAL '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 8 | Poster 132

Deficits in an Auditory Signal Detection Task in a Mouse Model of 22q11 Syndrome

Mentored by: Arturo Torres-Herraez, Columbia University – New York State Psychiatric Institute

ANTONELLA FASULO '25

Morning Session | Environmental Science | Event Oval | Board 2 | Poster 108

Attitudes Towards Adopting AI + Robotics for Energy Efficiency in NYC Buildings

Mentored by: Yutong Si, Columbia University Mailman School of Public Health

OLIVIA FEENEY '26

Afternoon Session | Biology | Glicker Milstein | Board 28 | Poster 021

Utilizing Mutual Exclusivity of Copy Number Alterations To Determine Oncogenic Pathways

Mentored by: Carol Prives, Columbia University Main Campus (Morningside)

KIMYA FIROOZAN '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 9 | Poster 133

Parallel Processing of Written Words as a Function of Visual Field Position

Mentored by: Alex White, Barnard College

RENEÉ FRANKLYN '25

Morning Session | Chemistry | Glicker Milstein | Board 24 | Poster 013

Mentored by: Marisa Buzzeo, Barnard College

JULIA FULKERSON '26

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 002

Synthetic Studies Towards Triplet Sensitization of Azidoformate Groups in D-Glucal Derivatives

Mentored by: Christian Rojas, Barnard College



SANIYA GAITONDE '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 39 | Poster 073

Impact of Visual and Semantic Complexity on Objective Scene Recognition Measured by Steady-State Visual Evoked Potentials

Mentored by: Michelle Greene, Barnard College

CELESTE GAMBLE '27

Morning Session | Environmental Science | Event Oval | Board 4 | Poster 123

Effects of Urbanization on the Presence of Antibiotic-Resistant Bacteria

Mentored by: Vijay Vulava, College of Charleston

HAILEY GAMER '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 073

MultiPA: A Multi-task Speech Pronunciation Assessment Model for Open Response Scenarios

Mentored by: Julia Hirschberg, Columbia University Main Campus (Morningside)

VIVIAN GAO '27

Afternoon Session | Psychology | Louise McCagg Gallery | On Wall | Poster 093

Impact of Visual and Semantic Complexity on Event Related Potentials in Early Visual Processing

Mentored by: Michelle Greene, Barnard College

YELISBETH GARCIA '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 9 | Poster 134

Associations Between Parent Child Activities, Socioeconomic Status and Language Development at 6 Months

Mentored by: Kimberly Noble, Columbia University Teachers College

EMILY GARCIA '26

Afternoon Session | Biology | Glicker Milstein | Board 28 | Poster 022

Investigation into the Endoderm's Role in Heart Development of the Chick Embryo

Mentored by: Nandan Nerurkar, Columbia University Fu Foundation School of Engineering and Applied Science

SARA GHARIB '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 7 | Poster 135

Determination of the Neurobiological Origins of the CHD8 Phenotype Using Genetic Cre Drivers

Mentored by: Rebecca Muhle, Columbia University - New York State Psychiatric Institute

IRENE GHOBRIEL '26

Morning Session | Chemistry | Glicker Milstein | Board 25 | Poster 015

Optimizing the Purification of Als3 in Engineered *Saccharomyces cerevisiae*

Mentored by: Virginia W. Cornish, Columbia University Main Campus (Morningside)

KAMILA GIERMAKOWSKI RIOS '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 7 | Poster 136

Reducing Mu Opioid Receptor Expression in the Nucleus Accumbens Improves Motivation in Adult Developmentally Fluoxetine-Exposed Mice

Mentored by: Sarah Canetta, Columbia University - New York State Psychiatric Institute

MAYA GOLLERKERI '25

Morning Session | Environmental Science | Event Oval | Board 1 | Poster 105

Impact of Mycorrhizal Networks on Tree Growth in Black Rock Forest, NY

Mentored by: K.A. Carreras Pereira , Columbia University Main Campus (Morningside)

YIRAN GONG '26

Afternoon Session | Cognitive Science | Louise McCagg Gallery | On Wall | Poster 095

THE ROLE OF COMMUNICATION IN COLLABORATIVE PLANNING

Mentored by: Wei Ji Ma, New York University Main Campus (West Village)

PEYTON GOODMAN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 8 | Poster 137

Associations Between Postpartum Depression and Child Language Development

Mentored by: Kim Noble, Columbia University Teachers College

YETHMIE GOONATILLEKE '27

Morning Session | Chemistry | Glicker Milstein | Board 25 | Poster 016

Mapping the substrates of tyrosine phosphatases with photocrosslinking chemistry

Mentored by: Neel Shah, Columbia University Main Campus (Morningside)

ANANYA GOVINDARAJAN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 8 | Poster 138

Regional Expression of Prader-Willi Syndrome Associated Secretory Granule Proteins in Mouse and Human Neuronal Models

Mentored by: Yasir Qureshi, Columbia University Irving Medical Center

CAROLINE GREENSTONE '26

Afternoon Session | Biology | Glicker Milstein | Board 29 | Poster 023

The Role of ZMIZ1 Somatic Alterations in Driving Relapse in Pediatric Acute Lymphoblastic Leukemia

Mentored by: William Carroll, New York University Langone

JESSICA GUEVARA MORAN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 9 | Poster 139

Investigating Insula Activity in Resilience Using a Chronic Social Defeat Stress Model in Mice

Mentored by: Dani Dumitriu, Columbia University Irving Medical Center

ALEXA GUZMAN '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 39 | Poster 074

Differences in Sustained Attention in Monolingual and Multilingual Infants

Mentored by: Natalie Brito, New York University Main Campus (West Village)

ADRIANA GYEPES '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 39 | Poster 075

The Influence of Co-Rumination on Cardiac Activity

Mentored by: Niall Bolger, Columbia University Main Campus (Morningside)

QUAN HA '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 9 | Poster 140

Tagging Novelty-Responsive Neurons in the Lateral Entorhinal Cortex

Mentored by: Susana Mingote, CUNY Graduate Center

AVA HAJRATWALA '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 074

Exploiting Failure in Evolution: Variants of FI-2Pop in the Lunar Lander Game Environment

Mentored by: Lisa Soros, Barnard College

CATHERINE HARMON '26

Morning Session | Physics & Astronomy | Event Oval | Board 8 | Poster 132

Mapping the Environment of the Protoplanetary Disk GM Aur

Mentored by: Jane Huang, Columbia University Main Campus (Morningside)

SADANALA HARSHINI '26

Morning Session | Chemistry | Glicker Milstein | Board 29 | Poster 024

Using Metal-Chelating Peptides as a Redox Language for Living Biosensors

Mentored by: Virginia Cornish, Columbia University Main Campus (Morningside)

LAUREN HECK '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 39 | Poster 076

Musical Primitive

Mentored by: Robert Remez, Barnard College

DYLAN HELLER '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 10 | Poster 141

Optimizing Conditions for Enhancer Quantification in iPSC-derived Neurons

Mentored by: Nan Yang, Icahn School of Medicine at Mount Sinai

FERNANDA HERRERA MIRAMONTES '27

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 002

Synthetic Studies Towards Triplet Sensitization of Azidoformate Groups in D-Glucal Derivatives

Mentored by: Christian Rojas, Barnard College

ELIANA HIAM '25

Morning Session | Environmental Science | Event Oval | Board 3 | Poster 110

Use of Edge Habitats by Click Beetles (Family Elateridae) in New York City Parks

Mentored by: Bekka Brodie, Columbia University Main Campus (Morningside)

NYA HITCHMAN '27

Afternoon Session | Biology | Glicker Milstein | Board 29 | Poster 024

Are reductions of anorexia-like vulnerability that are achieved through ketogenic diet sustained in mice undergoing induction of anorexia relapse?

Mentored by: Chiye Aoki, New York University Main Campus (West Village)

VALENCIA HOPKINS '25

Morning Session | Chemistry | Glicker Milstein | Board 26 | Poster 018

Using Deep Learning-Assisted Volume EM to Analyze Lysosome-Regulated Homeostasis in the Brain in Response to Neurodegenerative Disorder Aggregates

Mentored by: Ya-Cheng Liao, Columbia Taub Institute for Research on Alzheimer's Disease and the Aging Brain

ARINNE HOQUE '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 10 | Poster 142

Exploring Developmental Dynamics of CHD8 Phenotypes in the Mouse Using Viral Mediated Cre Deletion

Mentored by: Rebecca Muhle, Columbia University - New York State Psychiatric Institute

SOFIE TZU CHING HUANG '25

Morning Session | Environmental Science | Event Oval | Board 1 | Poster 106

Popular Parks? Visitor Attendance and Perception: Comparing Parkland Populations in Northern Queens in 2014 and 2024

Mentored by: Elizabeth Cook, New York City Urban Field Station

CAITLIN HUNTSMAN '25

Morning Session | Environmental Science | Event Oval | Board 1 | Poster 111

Leaf Waxes in Lake Sediment Reveal 14,000 Years of Vegetation Change in the Catskill Mountains, NY

Mentored by: William D'Andrea, Columbia University - Lamont-Doherty Earth Observatory

STAR IGBINOSA '26

Morning Session | Environmental Science | Event Oval | Board 3 | Poster 109

Exploring Relational Values: Access and Community in New York City Parks

Mentored by: Elizabeth Cook, Barnard College

ENRISTA ILO '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 075

Deep Learning for Unsupervised Animal Behavior Classification

Mentored by: Corey Toler-Franklin, Barnard College

NICOLE INEZA '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 076

Constrained Parallel Differential Dynamic Programming for Robot Trajectory Planning

Mentored by: Brian Plancher, Barnard College

LARISSA IRAJ '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 11 | Poster 143

Disruption of Ventral Pallidum Projection Activity to Nucleus Accumbens Underlies Early Life Stress Induced Hedonic Deficits

Mentored by: Piray Atsak, Columbia University - New York State Psychiatric Institute

AROOSHA IRFAN '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 11 | Poster 144

Maternal Serotonin Accessibility to the Fetus

Mentored by: Kally Sparks, Columbia University - New York State Psychiatric Institute

RAYNA ISBER '26

Afternoon Session | Biology | Glicker Milstein | Board 30 | Poster 025

How Does the Sweet Taste of Glucose Stimulate Insulin Release?

Mentored by: John Glendinning, Barnard College

ASHFIA ISLAM '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 12 | Poster 145

THE ROLE OF 5-HT MODULATING GABAERGIC NEURONS IN THE dIPAG DURING INNATE FEAR RESPONSES

Mentored by: Giulia Zanni, Columbia University - New York State Psychiatric Institute

FABIHA ISLAM '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 074

Exploiting Failure in Evolution: Variants of FI-2Pop in the Lunar Lander Game Environment

Mentored by: Lisa Soros, Barnard College

SHAIRA JAFAR '25

Afternoon Session | Biology | Glicker Milstein | Board 30 | Poster 026

What are the crucial amino acid residues on the RAD51 protein surface?

Mentored by: Eric Greene, Columbia University Irving Medical Center

TEISHA JALAN '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 077  
The Association Between Maternal Stress and Executive Functioning in 4.5 to 5-Year-Olds  
Mentored by: Sonya Troller-Renfree, Columbia University Teachers College

AUGUST JAUNZARINS ROBERTS '25

Morning Session | Chemistry | Glicker Milstein | Board 27 | Poster 019  
Examining the Hydroxylation and Defluorohydroxylation Activity of Alkane Monooxygenase  
Mentored by: Rachel Austin, Barnard College

LOYCA JEAN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 12 | Poster 146  
Effects of Contingency Conditions on Fear Conditioning of Adult and Adolescent Male and Female Rats  
Mentored by: Elizabeth Bauer, Barnard College

MEGAN JEN '25

Morning Session | Chemistry | Glicker Milstein | Board 27 | Poster 020  
Designing Polyelectrolyte Complex Micelles with Globular Proteins  
Mentored by: Allie Obermeyer, Columbia University Fu Foundation School of Engineering and Applied Science

YIXIN JIA '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 13 | Poster 147  
How Does Blocking ATP Neurotransmission Impact Taste?  
Mentored by: John Glendinning, Barnard College

NAOMI JIANG '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 40 | Poster 078  
GPS-based Pedestrian Intent Estimation at Intersections  
Mentored by: Caspar Lant, Columbia University Fu Foundation School of Engineering and Applied Science

EMMA JOING '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 078  
Family Matters: How Attitudes Toward Paid Care by a Family Member Affect Support for Government Caregiver Programs  
Mentored by: Ana Gantman, CUNY Graduate Center

KAILEY JONES '25

Morning Session | Environmental Science | Event Oval | Board 1 | Poster 112  
Examining the Potential Impacts of Anthropogenic Warming on Tropical Cyclone Frequency Using the NOAA-20CRv3 Reanalysis Dataset  
Mentored by: Suzana Camargo, Columbia University - Lamont-Doherty Earth Observatory

SHELLEY JONES '26

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 002  
Mentored by: Christian Rojas, Barnard College

KRISTEN KALLOK '26

Afternoon Session | Biology | Glicker Milstein | Board 31 | Poster 027  
Developing Low-Cost Tracking Technology to Support Research on the Ecology and Conservation of Turtles  
Mentored by: Suzanne Macey, Columbia University - Black Rock Forest



NOUR KANDIL '25

Afternoon Session | Biology | Glicker Milstein | Board 31 | Poster 028

Identifying Novel Strategies for Treatment of Squamous Cell Carcinomas

Mentored by: Nakagawa Hiroshi, Columbia University Irving Medical Center

MIMANSA KANT '27

Morning Session | Computer Science | Louise McCagg Gallery | Board 40 | Poster 079

Temporal Transformer: Analyzing Signal Responses in Reward-predicting Event Sequences

Mentored by: Corey Toler-Franklin, Barnard College

CHIAMAKA KANU '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 13 | Poster 148

Effect of Contrast on Adaptation Strength in Behavioral Tasks to Assess Perceptual Insight

Mentored by: Guillermo Horga, Columbia University - New York State Psychiatric Institute

XINYU KE '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 10 | Poster 149

Chronic Sleep Deprivation and Obesity under Neuroscience

Mentored by: Yueqing Peng, Columbia University Irving Medical Center

ELLEN KEEFE '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 079

Examining Postpartum Depression and Anxiety in Birthing and Non-Birthing Parents

Mentored by: Erin O'Connor, New York University Main Campus (West Village)

OLIVIA KEUM '26

Afternoon Session | Biology | Glicker Milstein | Board 32 | Poster 029

NOD2 Variants and Disease Outcomes in an Inflammatory Bowel Disease (IBD) Cohort

Mentored by: Louis Cohen, Icahn School of Medicine at Mount Sinai

MYEONGHYE KIM '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 10 | Poster 150

DOES LEAP2 MODULATE STRESS RESILIENCE AND VULNERABILITY?

Mentored by: Ki Goosens, Icahn School of Medicine at Mount Sinai

MILLIE KIM '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 13 | Poster 156

Does LEAP2 Modulate Stress Resilience and Vulnerability?

Mentored by: Ki Goosens, Icahn School of Medicine at Mount Sinai

MILA KINNEAR '27

Afternoon Session | Biology | Glicker Milstein | Board 32 | Poster 030

Tracking the lineage of Hoxa5-expressing cells in developing brown adipose tissue

Mentored by: Jennifer Mansfield, Barnard College

RIYA KISHEN '26

Afternoon Session | Biology | Glicker Milstein | Board 28 | Poster 031

Synthetic Lethality in MSI-H Cancers: Characterizing Resistance Mechanisms to WRN Inhibition

Mentored by: Edmond Chan, Herbert Irving Comprehensive Cancer Center

REBECCA KLEIN '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 080  
Self-Disclosure and Responsiveness: An In-Depth Look at the Behavioral Coding Process  
Mentored by: Katherine Thorson, Barnard College

MAISIE KLEM '25

Morning Session | Environmental Science | Event Oval | Board 2 | Poster 113  
Extreme Heat in NYC: How Can We Measure Its Impact on Outdoor Workers?  
Mentored by: Sari Blakeley, Columbia University - Climate School

ILANA KNOLL '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 081  
The Correlation Between Parent-Child Affect States and Parents' Implementation of IY-ASLD®  
Strategies  
Mentored by: Laudan Jahromi, Columbia University Teachers College

GOWRI KONKESA '25

Afternoon Session | Biology | Glicker Milstein | Board 28 | Poster 032  
SARS-CoV-2 Vaccination Elicits Durable Neutralizing Antibody Activity in Diverse Pediatric Cohort  
Mentored by: Thomas Connors, Columbia University Irving Medical Center

HAILEY KOPP '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 11 | Poster 151  
Influence of Perceived Racial Discrimination as a Chronic Stressor on Memory Systems in Adolescents  
Mentored by: BJ Casey, Barnard College

LUCIA KOURI '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 38 | Poster 068  
To See or to Believe: When Perceptual and Epistemic Perspective Intersect  
Mentored by: Koleen McCrink, Barnard College

SHALINI KUDINOOR '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 082  
The Role of Empathy in Generalized Shared Reality and Social Emotion Regulation Strategies in  
Friendships  
Mentored by: Kevin Oschner, Columbia University Main Campus (Morningside)

LILY KUNCZYNSKI '25

Morning Session | Chemistry | Glicker Milstein | Board 27 | Poster 019  
Examining the Hydroxylation and Defluorohydroxylation Activity of Alkane Monooxygenase  
Mentored by: Rachel Narehood Austin, Barnard College

ALICE LANDER '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Oval Lobby | Poster 206  
Modeling the Oviposition Decision Making Circuit  
Mentored by: Gabrielle Gutierrez, Barnard College

AMELIA LANG '25

Morning Session | Environmental Science | Event Oval | Board 2 | Poster 114  
Icebergs Far From Home: Ice-Rafted Debris Near Subantarctic Front of the Southern Ocean  
Mentored by: Gisela Winckler, Columbia University - Lamont-Doherty Earth Observatory

NAOMI LEBOWITZ '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 12 | Poster 153

Learning Migraine Self-Management Techniques: Baseline Findings

Mentored by: Mia Minen, New York University Langone

JUNE LEE '26

Afternoon Session | Cognitive Science | Louise McCagg Gallery | Board 12 | Poster 096

Two Tongues, Two Minds?

Mentored by: Alfredo Spagna, Columbia University Main Campus (Morningside)

EUN LEE '26

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 154

The Role of the Main Olfactory Epithelium During Motherhood

Mentored by: Bianca Marlin, Columbia University - Zuckerman Institute

AIDYN LEVIN '25

Afternoon Session | Biology | Glicker Milstein | Board 29 | Poster 033

Can Snail Trematode Infections Act as a Proxy for Fish Diversity and Abundance?

Mentored by: Emlyn Resetarits, Barnard College

HAILEY LEVITZ '25

Morning Session | Chemistry | Glicker Milstein | Board 29 | Poster 023

Ligament Injury in Adult Zebrafish Triggers Legumain Expression During Regeneration

Mentored by: Joanna Smeeton, Columbia University Irving Medical Center

MIRANDA LIN '26

Morning Session | Mathematics & Statistics | Event Oval | Board 11 | Poster 151

Generalizations of TASEP in Discrete Space and Time

Mentored by: Alisa Knizel, Barnard College

ROSE LIU '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 13 | Poster 155

Behavioral Effects of Novel Phenylethylamines in Fear Extinction

Mentored by: Dalibor Sames, Columbia University Main Campus (Morningside)

MORI LIU '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 40 | Poster 080

Mentored by: Lydia Chilton, Columbia University Main Campus (Morningside)

NICOLE LLANOS '26

Afternoon Session | Biology | Glicker Milstein | Board 29 | Poster 034

Exploring the Role of Environmental Fungi on Vairimorpha (nosema) ceranae Infection in Honey Bees

Mentored by: Jonathan Snow, Barnard College

ANGELICA LOPEZ-TUCKER '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 11 | Poster 152

Influence of Perceived Racial Discrimination as a Chronic Stressor on Hippocampal Micro- and Macro-structure in Adolescents

Mentored by: BJ Casey, Barnard College

XARIA LUBENSKY '26

Morning Session | Physics & Astronomy | Event Oval | Board 9 | Poster 133

Hard X-ray analysis of IceCube detected neutrino candidate source  
Mentored by: Reshmi Mukherjee, Columbia University Main Campus (Morningside)

JEANETTE MARIE LUNA '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 14 | Poster 157  
The CHD8 Haploinsufficient Mouse As a Model of CHD8-Deletion Syndrome: Opportunities for Cross-Species Validation

Mentored by: Rebecca Muhle, Columbia University – New York State Psychiatric Institute

JACQUELINE LYU '26

Morning Session | Mathematics & Statistics | Event Oval | Board 13 | Poster 156

Mentored by: , Columbia University Main Campus (Morningside)

FIONA MADRID '25

Morning Session | Environmental Science | Event Oval | Board 3 | Poster 115

Lipid Biomarkers Provide Temperature Record at Lake Kulusuk in Southeast Greenland

Mentored by: William D'Andrea, Columbia University – Lamont-Doherty Earth Observatory

MADELINE MALDONADO GUTIERREZ '26

Morning Session | Physics & Astronomy | Event Oval | Board 9 | Poster 134

Detection and Validation of Transiting Exoplanets Around Nearby M-dwarf Stars

Mentored by: Feliz Dax, American Museum of Natural History

MONICA MANMADKAR '25

Afternoon Session | Biology | Glicker Milstein | Board 30 | Poster 035

Surgical Procedure Impacts Cerebral Autoregulation in Post-Operative Congenital Heart Neonates

Mentored by: Nimrod Goldshtrom, Columbia University Irving Medical Center

LAURA MANRIQUE '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 14 | Poster 158

Can we Potentiate Serotonin in the Raphe Nucleus During Development, Specifically During P14 to P21?

Mentored by: Sarah Canetta, Columbia University – New York State Psychiatric Institute

NAIA MARCELINO '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 15 | Poster 159

The Timing of Changes in Synaptic Function during Learning in Multiple Memory Systems

Mentored by: Kally Sparks, Columbia University – New York State Psychiatric Institute

NINA MARQUARD '26

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 011

Ligand Design for Silver(I) Dimers

Mentored by: Michael Campbell, Barnard College

IZA MARTINEZ '25

Afternoon Session | Biology | Glicker Milstein | Board 30 | Poster 036

Fractionation and Enrichment of Dairy Products for Avian Flu Detection

Mentored by: JJ Miranda, Barnard College

CECILIA MARTINEZ RODRIGUEZ '26

Morning Session | Physics & Astronomy | Event Oval | Board 7 | Poster 135

Spectral and Temporal Studies of the Gamma-ray Blazar B2 1811+31

Mentored by: Reshmi Mukherjee, Barnard College

JADEN MCDANIEL '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 15 | Poster 160  
Comparing the 2-Process Model and the Gated Oscillator Model

Mentored by: Gabrielle Gutierrez, Barnard College

DELIA MCGOWAN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 16 | Poster 161  
The Influence of Gestational Diabetes Mellitus on Duration of Fetal Behavioral States

Mentored by: William Fifer, Columbia University - New York State Psychiatric Institute

ORLA MEEHAN '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 080

Self-Disclosure and Responsiveness: An In-Depth Look at the Behavioral Coding Process

Mentored by: Kate Thorson, Barnard College

DAIRA MEJIA-CUELLO '26

Morning Session | Physics & Astronomy | Event Oval | Board 7 | Poster 136

Unraveling the Mystery of SN 1987A with Ionizing Radiation and X-Ray Imaging

Mentored by: Frits Paerels, Columbia University Main Campus (Morningside)

KATE MEKECHUK '25

Morning Session | Mathematics & Statistics | Event Oval | Board 11 | Poster 152

Geometry and Morse Theory

Mentored by: Konstantin Aleshkin, Barnard College

ISABELLA MELÉNDEZ '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 41 | Poster 083

Memories in the Making: Exploring False Recall and Implanted Beliefs in 3-6 Year Olds

Mentored by: Koleen McCrink, Barnard College

QINGYANG MENG '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 1 | Poster 111

Greater Neural Dissimilarity in Early Visual Regions to Emotional Stimuli is Associated with Symptoms of Psychopathology in Adolescents

Mentored by: BJ Casey, Barnard College

NAOMI MILLER '27

Morning Session | Chemistry | Glicker Milstein | Board 30 | Poster 025

Changing the Fate of Forever Chemicals: Comparison of AlkB Defluorohydroxylation Products with Synthetic Fluorinated Compounds

Mentored by: Rachel Austin, Barnard College

ANGELIQUE MITCHELL '27

Morning Session | Chemistry | Glicker Milstein | Board 24 | Poster 004

Visible Light Photochemistry of Silver(I) Dimers

Mentored by: Michael Campbell, Barnard College

RUQAIYA MITHANI '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 17 | Poster 163

Interactions Between Tau Protein and Post Synaptic Density Protein 95 (PSD95)

Mentored by: Karin Hochrainer, Weill Cornell



MIRA MODI '26

Morning Session | Environmental Science | Event Oval | Board 3 | Poster 116

Methane Emissions from Sewers in NYC

Mentored by: Róisín Commane, Columbia University - Lamont-Doherty Earth Observatory

SAMARA MOHAN '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 074

Exploiting Failure in Evolution Variants of FI-2Pop in the Lunar Lander Game Environment

Mentored by: Lisa Soros, Barnard College

MAIRA MOLINA '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 40 | Poster 079

Temporal Transformer: Analyzing Signal Responses in Reward-predicting Event Sequences

Mentored by: Corey Toler Franklin, Barnard College

VIANNY MONDRAGON '26

Morning Session | Chemistry | Glicker Milstein | Board 31 | Poster 027

Exploring Alternative Catalysts for Halogenated Benzene Hydrogenolysis

Mentored by: Rachel Austin, Barnard College

ELIS MOORE '25

Afternoon Session | Biology | Glicker Milstein | Board 31 | Poster 037

Investigating Apomixis and Hybridization in the troublesome weed *Amaranthus palmeri*

Mentored by: David Timerman, Columbia University Main Campus (Morningside)

ADRIANNA MORRILL '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 17 | Poster 164

Assessing Motivation in Postnatal Fluoxetine Mice Following MCAM Administration

Mentored by: Sarah Canetta, Columbia University - New York State Psychiatric Institute

TATIANA MROCZEK '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 40 | Poster 080

Mentored by: Katherine Thorson,

MAURA MULHOLLAND '25

Morning Session | Environmental Science | Event Oval | Board 4 | Poster 117

Reconstructing Early Holocene Temperature in the Catskills Mountains, NY

Mentored by: William D'Andrea, Columbia University - Lamont-Doherty Earth Observatory

AISHA NABALI '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 14 | Poster 165

Uromodulin Levels in Urine are an Ineffective Biomarker in Testing for Preeclampsia

Mentored by: Anthony Fitzpatrick, Columbia University - Zuckerman Institute

KIRA NAKUSHIAN '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 14 | Poster 166

Exploration of New Environments and Neural Activity in the Ventral Subiculum

Mentored by: Elizabeth Bauer, Barnard College

NIKITA NAMBIAR '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 15 | Poster 167

Exploring Cue Integration and Learning in Mice: Insights from a Cheeseboard Maze Experiment  
Mentored by: Jayeeta Basu, New York University Langone

PRIYANKA NANAYAKKARA '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 16 | Poster 162

Elucidating Glial Cell Responses in an Acute Model of Amyloid-Beta Toxicity

Mentored by: Carol Troy, Columbia University Irving Medical Center

AHANA NAYAR '27

Morning Session | Chemistry | Glicker Milstein | Board 31 | Poster 028

Investigating Interactions between SSBP3 and Olfactory Receptor Transcription Factors

Mentored by: Stavros Lomvardas, Columbia University – Zuckerman Institute

MST NAYMA '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 41 | Poster 083

Mentored by: Lisa Soros,

ALIAYA NESRU '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 16 | Poster 169

Survey profiles in people with functional movement disorders before and after a single bout of Hatha

Yoga and moderate-vigorous intensity aerobic exercise: a case series for a pilot feasibility study

Mentored by: Lori Quinn, Columbia University Teachers College

AMY NGUYEN '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 41 | Poster 084

Impact of Visual and Semantic Complexity on Event Related Potentials in Early Visual Processing

Mentored by: Michelle Greene, Barnard College

SARAH NORDLICHT '27

Afternoon Session | Biology | Glicker Milstein | Board 30 | Poster 025

How Does the Sweet Taste of Glucose Stimulate Insulin Release?

Mentored by: John Glendinning , Barnard College

KIMBERLY NORRELL '25

Morning Session | Physics & Astronomy | Event Oval | Board 8 | Poster 137

Data and Metadata Web Interface for Multi-messenger Astrophysics

Mentored by: Zsuzsanna Marka, Columbia University Main Campus (Morningside)

MALIN NYSTROM '25

Morning Session | Environmental Science | Event Oval | Board 4 | Poster 118

Perceptions of Nature: Relational Values in NYC Parks

Mentored by: Elizabeth Cook, Barnard College

EMILEA OKAYASU '26

Afternoon Session | Biology | Glicker Milstein | Board 32 | Poster 039

A New Organ Culture System of Esophagus Reveals Epithelial Reaction to Cytokines with Interaction to the Tissue Microenvironment

Mentored by: Hiroshi Nakagawa, Herbert Irving Comprehensive Cancer Center

SYLVIE OLDEMAN '25

Afternoon Session | Biology | Glicker Milstein | Board 32 | Poster 040

Is The Excess Nitrogen Required For Cell Growth Used To Make Polyamines?

Mentored by: Juan Manuel Schwartzman, Columbia University Irving Medical Center

CORINNE O'LEARY-LEE '25

Morning Session | Environmental Science | Event Oval | Board 5 | Poster 119

A Threat to NYC Whales; Marine Debris in The Atlantic

Mentored by: Richard Klyver, Gotham Whale

MICAELA OLIVEIRA DAVID '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 4 | Poster 124

Differences in Activation on the Habenula in a Chronic Social Defeat Stress Mice Model

Mentored by: Perla Ontiveros-Ángel, Columbia University - New York State Psychiatric Institute

LUCY ONDERDONK '26

Morning Session | Environmental Science | Event Oval | Board 5 | Poster 120

The Degradation of PET Microfibers

Mentored by: Joaquim Goes, Columbia University - Lamont-Doherty Earth Observatory

BRYANNA O'NEILL '27

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 16 | Poster 170

Localization of Insulin Receptor mRNA and Protein in Striatal Cholinergic Interneurons in the Brain

Mentored by: Jyoti Patel, New York University Langone

ANNA OSTLUND '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 3 | Poster 116

Role of Central Amygdala Oxytocin Receptors in the Emergence of Pup-directed Behaviors in Virgin Female Mice

Mentored by: Chloe / Robert Bair-Marshall / Froemke, Barnard College

SHIVANI PATEL '26

Afternoon Session | Biology | Glicker Milstein | Board 33 | Poster 041

Natural Killer Cells: Functional Specialization and Tissue-Specific Distribution of Subsets Revealed by Multi-Omics Analysis

Mentored by: Donna Farber, Columbia University Irving Medical Center

SACHI PATEL '27

Morning Session | Computer Science | Louise McCagg Gallery | Board 41 | Poster 084

Conveying Empathy in Multiple Modalities

Mentored by: Julia Hirschberg, Columbia University Main Campus (Morningside)

ALEXANDRA PAUL '27

Afternoon Session | Biology | Glicker Milstein | Board 33 | Poster 042

Gamma-linolenic acid Impairs CD8<sup>+</sup> T cell Functionality in Overnutrition-Promoted Hepatocellular Carcinoma

Mentored by: Viraj Sanghvi, Columbia University Irving Medical Center

ANA PEKEC '26

Morning Session | Physics & Astronomy | Event Oval | Board 8 | Poster 138

Machine Learning Applications for Reconstruction Algorithms of Gamma-Ray Events

Mentored by: Reshmi Mukherjee, Barnard College

CALLIE PERALTA-PRACHAR '26

Morning Session | Chemistry | Glicker Milstein | Board 23 | Poster 002

Synthetic Studies Towards Triplet Sensitization of Azidoformate Groups in D-Glucal Derivatives

Mentored by: Christian Rojas, Barnard College

LEEZA PESOK '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 17 | Poster 172

Effects of Unilateral Goro Neuron Activation on Escape Behavior in *Drosophila Melanogaster* Larvae

Mentored by: Wesley Grueber, Columbia University - Zuckerman Institute

GRACE PETRUSEK '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 18 | Poster 173

Deciphering epigenetic contributions to amyotrophic lateral sclerosis-frontotemporal dementia (ALS-FTD) in mouse models and patient-derived cells

Mentored by: Rachel, Ji Hyun, and Shawn Gonzalez, Hwang, and Liu, Columbia University Irving Medical Center

KARA PHILIP '26

Morning Session | Chemistry | Glicker Milstein | Board 34 | Poster 043

Design and Characterization of Nanoparticle Estrogen Receptor Degradable (NERDs)

Mentored by: Quincey or Daniel LaPlant or Heller, Memorial Sloan Kettering Cancer Center/ Mortimer B. Zuckerman Research Center

CHARLIZE PHILLIPS '26

Afternoon Session | Biology | Glicker Milstein | Board 34 | Poster 042

Glutamate Signaling in Bone Promotes Cognition & Stress Response

Mentored by: Gerard Karsenty, Columbia University Irving Medical Center

ZOE PICKARD '27

Afternoon Session | Psychology | Louise McCagg Gallery | Board 41 | Poster 085

Don't Fall! Depth, Danger, and Reward in Young Children

Mentored by: Kileen McCrink, Barnard College

CIONNIE PINEDA '26

Morning Session | Mathematics & Statistics | Event Oval | Board 12 | Poster 153

Reimagining Manhattan: A Mathematical Modeling Approach to Superblock Development

Mentored by: George Dragomir, Columbia University Main Campus (Morningside)

ASHIKA PRAKASH '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 18 | Poster 174

MULTISENSORY LEARNING & SENSORY INTEGRATION in *DROSOPHILA*

Mentored by: Rudy Behnia, Columbia University - Zuckerman Institute

AMANDA PRASHAD '26

Morning Session | Chemistry | Glicker Milstein | Board 32 | Poster 030

Optimizing Methods to Determine the Role of Serine 419 Phosphorylation in YTHDF2

Mentored by: Sara Zaccara, Columbia University Irving Medical Center

SAMANTHA PRATT '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 41 | Poster 086

Exploring the Effect of Social Norms on Moral Outrage

Mentored by: Tessa West, New York University Main Campus (West Village)

XINYI QIN '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 19 | Poster 175

Characterizing Axonal Pathology in P301S Mice: SARM1 As A Potential Target for Early Intervention in Alzheimer's Disease

Mentored by: Jae-eun Kang Miller, Columbia University Irving Medical Center

CLAIRE QU '26

Morning Session | Mathematics & Statistics | Event Oval | Board 12 | Poster 154

Predicting M&A Status in the US Retail Industry Using Machine Learning: an Analysis on Stock Performance

Mentored by: George Dragomir, Columbia University Main Campus (Morningside)

LEANDRA QUICK '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 19 | Poster 176

Fear Factor: Understanding How Excitatory and Inhibitory Neurons Impact Innate Threat Responses

Mentored by: Giulia Zanni, Columbia University - New York State Psychiatric Institute

TALIA RABBAN '25

Morning Session | Physics & Astronomy | Event Oval | Board 9 | Poster 139

Simulation Studies of NASA-Funded Prototype Balloon Project pGRAMS

Mentored by: Reshmi Mukherjee, Barnard College

NOGA RAFALIN '27

Morning Session | Chemistry | Glicker Milstein | Board 30 | Poster 025

Changing the Fate of Forever Chemicals: Comparison of AlkB Defluorohydroxylation Products with Synthetic Fluorinated Compounds

Mentored by: Rachel Austin, Barnard College

ANIKA RAHMAN '25

Afternoon Session | Biology | Glicker Milstein | Board 35 | Poster 043

Defining Heteroresistance to Polymyxin in *Serratia marcescens*

Mentored by: Anne-Catrin Uhlemann, Columbia University Irving Medical Center

UMME RAISAH '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 41 | Poster 084

Conveying Empathy in Multiple Modalities

Mentored by: Julia Hirschberg, Columbia University Main Campus (Morningside)

ADVIKA RAMESH '26

Afternoon Session | Biology | Glicker Milstein | Board 35 | Poster 044

Validating a Streamlined Survey for Evaluating Surgical Success and Gender Dysphoria Resolution in Gender-Affirming Vaginoplasty

Mentored by: Jess Ting, Icahn School of Medicine at Mount Sinai

APRIL RAMOS '26

Morning Session | Chemistry | Glicker Milstein | Board 28 | Poster 032

Dynamics of Asymmetric Microrobots in Time-Varying Magnetic Fields on an Inclined Plane

Mentored by: Kyle Bishop, Columbia University Fu Foundation School of Engineering and Applied Science

JESSICA RESCHNY '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 20 | Poster 177

Mental Rotation Impacts Bistable Perception of Visual Illusion

Mentored by: Alfredo Spagna, Columbia University Main Campus (Morningside)

CLARA RESNICK '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 3 | Poster 109

Conditioning Cephalic Phase Insulin Release to a Novel Chow

Mentored by: John Glendinning, Barnard College

DAHLIA REYNOLDS '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 18 | Poster 179

The DNAl Circadian Clock Neuron Cluster Regulates Female Sleep in Drosophila

Mentored by: Maria Fernandez, Barnard College

CHARLOTTE RIES '26

Morning Session | Chemistry | Glicker Milstein | Board 39 | Poster 033

Development of a Formin Microtubule Colocalization Assay

Mentored by: Christina Vizcarra, Barnard College

MONICA RIVERA '26

Afternoon Session | Biology | Glicker Milstein | Board 36 | Poster 045

iCAFs Promote Regulatory T Cell Localization in Lung Metastatic Malignancies

Mentored by: Nicholas Arpaia, Columbia University Irving Medical Center

DANIELLA RIVERA-AGUDELO '25

Morning Session | Environmental Science | Event Oval | Board 12 | Poster 154

Daylighting a Stream: Balancing Climate Resilience and Community Culture in Queens, NYC

Mentored by: Elizabeth Cook, Barnard College

JULIA ROCHA '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 18 | Poster 180

Striatal Dopamine and Cue-Action Requirements

Mentored by: Peter Balsam, Columbia University - New York State Psychiatric Institute

LAYLAH RODRIGUEZ-JOHNSON '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 19 | Poster 181

Examining the Association Between Social Attachment and Uncertainty-Driven Exploration

Mentored by: Lior Abramson, Columbia University Main Campus (Morningside)

SAMANTHA ROSEN '25

Afternoon Session | Biology | Glicker Milstein | Board 36 | Poster 046

Hyperactivation of the PI3K Pathway in LMs Leads to Increased CD31 and LAMP1 Expression

Mentored by: Carrie Shawber, Columbia University Irving Medical Center

MADELEINE ROSENTHAL '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 19 | Poster 182

In-cell Analysis of Mutations in Adhesion G Protein-Coupled Receptor G1 (GPR56/ADGRG1)

Mentored by: Jonathan Javitch, Columbia University - New York State Psychiatric Institute

ANWESHA ROY '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 12 | Poster 146

Effects of Contingency Conditions on Fear Conditioning of Adult and Adolescent Male and Female Rats

Mentored by: Elizabeth Bauer, Barnard College

AZUL RUIZ DIAZ '25

Morning Session | Physics & Astronomy | Event Oval | Board 9 | Poster 140

Modeling the Atmosphere of the Cool Exoplanet COCONUTS-2b

Mentored by: Niall Whiteford, American Museum of Natural History



MADELINE SAAVEDRA BAGDONAS '26

Afternoon Session | Biology | Glicker Milstein | Board 37 | Poster 047

Investigating the Contribution of P63 to Disturbed Basal Cell Differentiation in the Context of Aneuploidy

Mentored by: Alison Taylor, Columbia University Irving Medical Center

TALIA SACHS '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 20 | Poster 183

Sciatic Nerve Activation During Focused Ultrasound Neuromodulation at Two Temperatures in Vivo in Mice

Mentored by: Elisa Konofagou, Columbia University Fu Foundation School of Engineering and Applied Science

HARSHINI SADANALA '26

Morning Session | Chemistry | Glicker Milstein | Board 29 | Poster 034

Using Metal-Chelating Peptides as a Redox Language for Living Biosensors

Mentored by: Virginia Cornish, Columbia University Main Campus (Morningside)

NORA SAMADI '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 20 | Poster 184

Trial-by-Trial Variance and Habituation of Neural Correlates of Magnocellular Processing Differences in Developmental Dyslexia

Mentored by: Karen Froud, Columbia University Teachers College

SAPHIRA SAMUELS '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 29 | Poster 185

Gastrin-Releasing Peptide in the Suprachiasmatic Nucleus Interacts with Nearby Capillaries, Questioning Our Understanding of the Blood-Brain Barrier

Mentored by: Rae Silver, Columbia University Main Campus (Morningside)

SOPHIE SANDLER '25

Afternoon Session | Biology | Glicker Milstein | Board 37 | Poster 048

Tracking SARS-CoV-2 Variants Using Surface Swabs of Campus Elevators

Mentored by: JJ Miranda, Barnard College

HANNAH SANGHVI '25

Morning Session | Environmental Science | Event Oval | Board 6 | Poster 121

Adherence of Carceral Facilities to Indoor Cooling Provisions

Mentored by: Robbie Parks, Columbia University Mailman School of Public Health

EVA SCHOLZ-CARLSON '24

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 21 | Poster 186

Mentored by: Maria Fernandez,

CHELSEA SEIDEL '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 4 | Poster 123

The Effect of Adolescent Development on Hypothalamic Orexin Levels in Male and Female Rats: Relevance to Stress Reactivity

Mentored by: Russell Romeo, Barnard College

LYNA SENNOUN '25

Afternoon Session | Biology | Glicker Milstein | Board 33 | Poster 049

Contribution of COL4A3-5 Mutations to Idiopathic Nephrotic Syndrome Across Lifespan, Response to Therapy, and Genetic Ancestry

Mentored by: Simone Sanna-Cherchi, Columbia University Irving Medical Center

JORDAN SHIFF '25

Morning Session | Mathematics & Statistics | Event Oval | Board 13 | Poster 155

Reducing Wait Times for Mental Health Call Centers: An Operations Research Approach

Mentored by: Yaren Bilge Kaya, Columbia University Fu Foundation School of Engineering and Applied Science

MIA SHIH '26

Afternoon Session | Psychology | Louise McCagg Gallery | Board 41 | Poster 087

Mediating and Moderating Effects of Rumination and Resilience on MDD and PTSD Severity

Mentored by: Sara Hameed, Icahn School of Medicine at Mount Sinai

RENGE SHIRAI '25

Morning Session | Environmental Science | Event Oval | Board 6 | Poster 122

Climate Resilient Rail: A Comparison of Flood Readiness in New York City and Tokyo

Mentored by: Jacqueline M. Klopp, Center for Sustainable Urban Development at the Columbia University Climate School

DANIELA SHOHAM '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 41 | Poster 086

Mentored by: Erdem Varol, New York University Tandon School of Engineering

KHADIJA SIDDIQUI '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 22 | Poster 078

Constrained Parallel Differential Dynamic Programming for Robot Trajectory Planning

Mentored by: Brian Plancher, Barnard College

OMNA SIDDIQUI '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 40 | Poster 188

Mentored by: Giulia Zanni, Columbia University - New York State Psychiatric Institute

ARYA SINHA '27

Morning Session | Computer Science | Louise McCagg Gallery | Board 41 | Poster 067

Examining the Impact of Haptic Juiciness on Illusions of Agency

Mentored by: Lisa Soros, Barnard College

ESME SMITH '26

Morning Session | Physics & Astronomy | Event Oval | Board 10 | Poster 141

Using Biopolymers to Facilitate the 3D Printing of Clay

Mentored by: Shiho Kawashima, Columbia University Fu Foundation School of Engineering and Applied Science

AROOJ SOHAIL '27

Afternoon Session | Biology | Glicker Milstein | Board 41 | Poster 050

DEFINING THE POTENTIAL TUMORIGENIC PROPERTIES OF SARS-CoV-2

Mentored by: Lisa Miorin, Icahn School of Medicine at Mount Sinai

EUNICE SON '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 21 | Poster 189

Venturing Into Uncharted Waters: Initial Neural ECM Mapping in *Astatotilapia burtoni*

Mentored by: Sebastian Alvarado, CUNY Graduate Center

MIA SPIRA '26

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 102  
Investigating the Effects of Chronic THC Vaping on CB1-Dependent Behavioral Tetrad  
Mentored by: Jacqueline-Marie Ferland, Icahn School of Medicine at Mount Sinai

AANYA SRINIVASAN '26

Afternoon Session | Biology | Glicker Milstein | Board 33 | Poster 051  
Indirect Benefits of Male Mate Choice in *Drosophila melanogaster*  
Mentored by: Alison Pischedda, Barnard College

RILEY STACY '27

Morning Session | Computer Science | Louise McCagg Gallery | On Wall | Poster 090  
Analysis of Expert Stakeholder Preferences on Pretrial Risk Assessment Input Factors  
Mentored by: Emily Black, Barnard College

SKYLAR STADHARD '27

Afternoon Session | Psychology | Louise McCagg Gallery | Board 39 | Poster 073  
Impact of visual and semantic complexity on objective scene recognition measured by steady-state visual evoked potentials  
Mentored by: Michelle Greene,

ROSE STIRLING '25

Morning Session | Chemistry | Glicker Milstein | Board 30 | Poster 035  
Developing Ca<sup>2+</sup> Sensitive Microelectrodes  
Mentored by: Elizabeth Olson, Columbia University Irving Medical Center

YARA STUDER '25

Afternoon Session | Psychology | Louise McCagg Gallery | Board 41 | Poster 088  
fMRI Naturalistic Emotion Decoding Using 60 Hours of Friends  
Mentored by: Jon Freeman, Columbia University Main Campus (Morningside)

CATHERINE SU '27

Morning Session | Chemistry | Glicker Milstein | Board 30 | Poster 036  
Characterizing Intracellular Response to Lysosomal Stress through Application of Concurrent FIB-SEM and Live-cell Imaging  
Mentored by: Ya-Cheng Liao, Columbia University Irving Medical Center

SOFIA SUBRAMANIAM '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 22 | Poster 192  
Structural Differences in Striatum in Mutant and Control Mice  
Mentored by: Arturo Torres, New York Psychiatric Institution

JILLIAN SULLIVAN '26

Afternoon Session | Biology | Glicker Milstein | Board 4 | Poster 052  
Rearing Eastern Mudsail Larvae in the Laboratory  
Mentored by: Emlyn Resetarits, Barnard College

SUMYA SULTANA '27

Morning Session | Physics & Astronomy | Event Oval | Board 10 | Poster 142  
Estimating Subsidence, Sedimentation and Elevation change in Coastal Bangladesh Using InSAR and Surface Measurements

Mentored by: Michael Steckler, Columbia University – Lamont–Doherty Earth Observatory

ELLIE SUZUKI '26

Afternoon Session | Cognitive Science | Louise McCagg Gallery | On Wall | Poster 097

Event segmentation of continuous experiences

Mentored by: Christopher Baldassano,

CHARLIZE SZETO '26

Afternoon Session | Biology | Glicker Milstein | Board 34 | Poster 053

Inhibition of D2–NR2B Interaction in the Medial Ventral Striatum Leads to Reduced Aversive Learning

Mentored by: Ying Zhu, Columbia University – New York State Psychiatric Institute

MILLIE TAKEDA–BYRNE '27

Morning Session | Chemistry | Glicker Milstein | Board 31 | Poster 037

Tracking Long–Lived RNAs in the Olfactory Epithelium

Mentored by: Alexa Osterhoudt, Columbia University – Zuckerman Institute

ALIYA TANG '26

Morning Session | Computer Science | Louise McCagg Gallery | On Wall | Poster 091

Optimizing Edge Robotics with YOLO, SORT, and TinyMPC for Enhanced Object Tracking and Control

Mentored by: Brian Plancher, Barnard College

RUYA TAZEBAY '25

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 193

Revisiting the BBB: Localizing Vasoactive Neurosecretions in the SCN–OVLN Portal System

Mentored by: Rae Silver, Columbia University Main Campus (Morningside)

ISABELA TELLEZ '25

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 194

The Basolateral Amygdala's Role in Processing Uncertainty

Mentored by: Peter Balsam, Barnard College

OLIVIA TENG '26

Morning Session | Physics & Astronomy | Event Oval | Board 11 | Poster 143

Optimization of Tunable Polyacrylamide Hydrogel Fabrication to Probe Early Embryonic Biomechanics

Mentored by: Mijo Simunovic, Columbia University Fu Foundation School of Engineering and Applied Science

KAYLEE THOMSEN '25

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 195

Elucidating the Mechanism of Resistance to HDAC Inhibitors in Group 3 Medulloblastoma

Mentored by: Robert Wechsler–Reya, Herbert Irving Comprehensive Cancer Center

MARA TOMA '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Board 39 | Poster 072

Influence of Effort Expenditure on Reward Preference

Mentored by: Kenneth Light, Barnard College

ERIN TORRES '26

Afternoon Session | Cognitive Science | Louise McCagg Gallery | Board 41 | Poster 083

Memories in the Making: Exploring False Recall and Implanted Beliefs in 3–6 Year Olds

Mentored by: Kileen McCrink, Barnard College

MARIAM TOURAY '25

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 196

The Relationship Between 3rd Trimester Interleukin-6 (IL- 6) Cytokine Concentrations and Perinatal Depression in Pregnant Adolescents

Mentored by: Catherine Monk , Columbia University Irving Medical Center

AMADEA TOUTOUNGIS '26

Afternoon Session | Biology | Glicker Milstein | Board 34 | Poster 054

How do Donor-Derived APOL1 Kidney Risk Variants (KRVs) Influence Chronic Histologic Changes and Kidney Allograft Survival?

Mentored by: Ibrahim Batal, Columbia University Irving Medical Center

ANNA TREAT '26

Afternoon Session | Neuroscience & Behavior | Event Oval | On Wall | Poster 197

Psilocybin's Effect on BDNF and 5HT Levels in the Hippocampus

Mentored by: Gergely Turi, Columbia University - New York State Psychiatric Institute

AMRUTA TURLAPATI '27

Morning Session | Chemistry | Glicker Milstein | Board 31 | Poster 038

Retrieving Base Pair Conformation in Transposon DNA Hairpins through Their Relative Thermodynamic Stability

Mentored by: Hashim Al-Hashimi, Columbia University Irving Medical Center

TASFIA UDDIN '27

Afternoon Session | Biology | Glicker Milstein | Board 35 | Poster 055

Characterization of Cytopenias in Primary Immunodeficiencies

Mentored by: Manar AbdalGANI, Columbia University Irving Medical Center

OLAEDO UDENSI '26

Afternoon Session | Biology | Glicker Milstein | Board 31 | Poster 038

Hepatitis B Serostatus Among Persons Treated for Hepatitis C in the New York City Jail System, 2022-2024

Mentored by: Chibuzo Enemchukwu, New York City Health+Hospitals - Correctional Health Services

ESTEFANY VALDEZ '25

Morning Session | Chemistry | Glicker Milstein | Board 32 | Poster 039

Mentored by: Christina Vizcarra,

THAIS VELAZQUEZ '26

Morning Session | Physics & Astronomy | Event Oval | Board 11 | Poster 144

The Stereo Reconstruction of Gamma Rays using Ctapipe

Mentored by: Reshmi Mukherjee, Barnard College

LUANNA VERONEZE QUINALHA '27

Morning Session | Physics & Astronomy | Event Oval | Board 12 | Poster 145

Breaking the Stereotype: Realistic, Non-Spherical Initial Conditions for Star Cluster Simulations

Mentored by: Mordecai-Mark Mac Low, American Museum of Natural History

ISABELLA VIRTUE '26

Afternoon Session | Psychology | Louise McCagg Gallery | On Wall | Poster 089

Associations between Foreign and U.S. Nativity and Prenatal Physiological and Perceived Stress

Mentored by: Kimberly Noble, Columbia University Teachers College

ANYA VOIT '26

Afternoon Session | Biology | Glicker Milstein | Board 35 | Poster 056

The Developmental Effects On Parasitic Spores From LiCl and Fumagillin

Mentored by: Jonathan Snow, Barnard College

ANUTHMI WAAS '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Oval Lobby | Poster 199

BNST Involvement in Counterconditioning

Mentored by: Elizabeth Bauer, Barnard College

ALICE WANG '25

Morning Session | Environmental Science | Event Oval | Board 4 | Poster 124

Ruminate on this: Zoo-housed goats and sheep show more visitor-approaching and competition behaviors under the conditions of public feeding and higher numbers of visitors

Mentored by: Allison Bailey, Wildlife Conservation Society

ALINA WANG '26

Morning Session | Mathematics & Statistics | Event Oval | Board 10 | Poster 149

Mentored by: George Dragomir,

ZIJING WANG '25

Afternoon Session | Biology | Glicker Milstein | Board 28 | Poster 058

Characterizing SH2 sequence specificity with chimera proteins

Mentored by: Neel Shah, Columbia University Main Campus (Morningside)

GRACE WANG '25

Morning Session | Chemistry | Glicker Milstein | Board 32 | Poster 040

Functional Analysis of Rad51/Dmc1 Recombinases Harboring Non-native Binding Loops

Mentored by: Eric Greene, Columbia University Irving Medical Center

EMMA WANG '25

Afternoon Session | Biology | Glicker Milstein | Board 36 | Poster 059

Refined Scaffold Micro-Architecture to Guide Rotator Cuff Regeneration

Mentored by: Chang Lee, Columbia University Irving Medical Center

ANNIE WANG '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 076

Constrained Parallel Differential Dynamic Programming for Robot Trajectory Planning

Mentored by: Brian Plancher, Barnard College

JADAE WATSON '25

Afternoon Session | Biology | Glicker Milstein | Board 37 | Poster 059

Mentored by: Almudena Chaves Perez, Memorial Sloan Kettering Cancer Center

ARIEL WEINSAFT '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Oval Lobby | Poster 200

Autonomic Dysfunction Severity and Cardiovascular Symptoms in ATTR Cardiac Amyloidosis: Insights from the COMPASS-31 Questionnaire

Mentored by: Mathew Maurer, Columbia University Irving Medical Center

YUK YI WONG '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 38 | Poster 067

Examining the Impact of Haptic Juiciness on Illusions of Agency



Mentored by: Lisa Soros, Barnard College

DARYN WONG '26

Afternoon Session | Psychology | Louise McCagg Gallery | On Wall | Poster 090

Better Left Unspoken: The Role of Meaningful and Non-Meaningful Gestures in Learning and Encoding Information

Mentored by: Koleen McCrink, Barnard College

CHANTEL WONG '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Oval Lobby | Poster 201

Investigating Lipid Droplets in Parkinson's Disease Neurons

Mentored by: 1. Serge 2. Peter 1. Przedborski 2. Barbuti, Columbia University Irving Medical Center

CHLOE WONG '25

Afternoon Session | Cognitive Science | Louise McCagg Gallery | On Wall | Poster 098

Bias against AI art can enhance perceptions of human creativity

Mentored by: Carl Horton, Barnard College

FAITH WOOD '26

Afternoon Session | Psychology | Louise McCagg Gallery | On Wall | Poster 091

Comparison of Sexual Identity Data Collection Methods & Implications for Health Disparities Among Sexual Minority Women

Mentored by: Tonda Hughes, Columbia University School of Nursing

TONGXIN WU '27

Morning Session | Chemistry | Glicker Milstein | Board 33 | Poster 003

Optimizing the Purification of Als3 in *S. Cerevisiae* for Testing its Immogenic Properties

Mentored by: Virginia Cornish, Columbia University Main Campus (Morningside)

YI WU '26

Afternoon Session | Biology | Glicker Milstein | Board 37 | Poster 060

THE ROLE of MACROPHAGES in ISCHEMIA-REPERFUSION INJURY in CARDIAC TISSUE

Mentored by: Gordana Vunjak-Novakovi , Columbia University Fu Foundation School of Engineering and Applied Science

LAURINA XIE '27

Morning Session | Environmental Science | Event Oval | Board 1 | Poster 105

Impact of Mycorrhizal Networks on Tree Growth in Black Rock Forest, NY

Mentored by: Aria Pereira, Columbia University Main Campus (Morningside)

KRISTI XING '26

Afternoon Session | Biology | Glicker Milstein | On Wall | Poster 061

Decoding Genetic Diversity of Neuropil Glia Using Single-Cell RNA Sequencing in *Drosophila melanogaster*

Mentored by: Richard Mann, Columbia University - Zuckerman Institute

MELODY XU '26

Afternoon Session | Biology | Glicker Milstein | On Wall | Poster 062

Exploration of Pigmentation Loss in *Drosophila* Evolution: Creating Ebony Introgression Line

Mentored by: Peter Andolfatto, Columbia University Main Campus (Morningside)

ANYIANG YAK '27

Morning Session | Environmental Science | Event Oval | Board 5 | Poster 126

Analyzing the Effectiveness of NYC Sustainability Plans

Mentored by: Elizabeth Cook, Barnard College

STEPHANIE YANG '25

Afternoon Session | Biology | Glicker Milstein | On Wall | Poster 063

Investigating the Formation and Polarization of Msd1 Signaling Complexes in *Xenopus laevis* Embryonic Ectoderm

Mentored by: Sergei Sokol, Icahn School of Medicine at Mount Sinai

SUZANNE YE '26

Afternoon Session | Neuroscience & Behavior | Event Oval | Oval Lobby | Poster 202

Effects of Culture Conditions on Cortical Interneuron Synaptic Connections in vitro

Mentored by: Edmund Au, Columbia University Irving Medical Center

PATARADA YONTRARAK '25

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 074

Exploiting Failure in Evolution: Variants of FI-2Pop in the Lunar Lander Game Environment

Mentored by: Lisa Soros, Barnard College

YASUKO YOSHIDA '27

Morning Session | Chemistry | Glicker Milstein | Board 33 | Poster 042

Sequence-Dependency of Hoogsteen Base Pairs Population in Duplex DNA using UV Melting and NMR Analysis

Mentored by: Serafima Guseva, Columbia University Irving Medical Center

RACHEL ZACKAI '26

Afternoon Session | Biology | Glicker Milstein | On Wall | Poster 064

Single Cell Analysis of Mitotic Recombination After an Induced dsDNA Break Using Fluorescence Microscopy

Mentored by: Robert Reid, Columbia University Irving Medical Center

EILEEN ZALAVARRIA '27

Morning Session | Computer Science | Louise McCagg Gallery | Board 41 | Poster 084

Conveying Empathy in Multiple Modalities

Mentored by: Julia Hirschberg, Columbia University Main Campus (Morningside)

FIKER ZEWDIE '25

Afternoon Session | Neuroscience & Behavior | Event Oval | Oval Lobby | Poster 205

Investigating Age-Associated Changes in KLF9 and Spinophilin mRNA Levels in Normal Aging and Alzheimer's Disease

Mentored by: Maura Boldrini, Columbia University - New York State Psychiatric Institute

CATHERINE ZHAO '26

Morning Session | Computer Science | Louise McCagg Gallery | Board 39 | Poster 076

Constrained Parallel Differential Dynamic Programming for Robot Trajectory Planning

Mentored by: Brian Plancher, Barnard College

LILLIAN ZHI '26

Morning Session | Chemistry | Glicker Milstein | Board 34 | Poster 043

Investigating Vanadium Oxidation with Applications in Energy Storage Using UV Mutagenesis in *A. ferrooxidans*

Mentored by: Rachel Austin, Collaboration with Barnard College and Columbia Engineering

MICHELLE ZHOU '26

Morning Session | Computer Science | Louise McCagg Gallery | On Wall | Poster 097

Location Sharing Behavior

Mentored by: Damon McCoy, New York University Tandon School of Engineering

SHEEN ZUTSHI '26

Morning Session | Computer Science | Louise McCagg Gallery | On Wall | Poster 098

Mentored by: Fabien Cottier, Columbia University - Lamont-Doherty Earth Observatory



# Summer Research Institute

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