



UNIVERSITY OF CONNECTICUT HONORS & ENRICHMENT

# STEM Scholar Senior Showcase

CLASS OF 2024



# Program

STUDENT UNION THEATRE

DATE 04/11/2024

**5:30 PM**

Welcome Messages

**5:40 PM**

STEM Scholar Pitches - Group 1

**5:55 PM**

STEM Scholar Pitches - Group 2

**6:15 PM**

STEM Scholar Pitches - Group 3

**6:35 PM**

Intermission

**6:50 PM**

STEM Scholar Pitches - Group 4

**7:05 PM**

STEM Scholar Pitches - Group 5

**7:25 PM**

Closing Remarks

# PITCH GROUP I

## **Emilia Fong-Gallagher**

*Comparing the Effectiveness of Different Forms of Vitamin E Supplementation (Liquid vs. Powder) on Serum Alpha-Tocopherol Concentrations in Developing Horses*

## **Nishant D'Souza**

*The Role of Zinc and Zinc Homeostasis in Mammalian Growth*

## **Ariel Kuhl**

*Investigation of Reproductive Efficiency of Female Offspring Born to Poorly-fed Ewes During Gestation*

## **Mimi Medeiros**

*Significance of Lipopolysaccharide (LPS) Immune Challenge and Stress Biomarkers in Livestock: A Review*

## **Faith Thomas**

*The Impact of the Ketogenic Diet on Fertility In a Female *Drosophila melanogaster* Canton Special Model*

# PITCH GROUP I

## **Rebecca Tudor**

*Nutritional Management Strategy Effects on Beef x Dairy Crossbred Calf Growth During the Grower Period*

## **Rory Cavicke**

*The Overlap of Engineering and Social Design Considerations for Multifunctional Urban Greenspace*

## **Nicole Wong**

*An Investigation of Accessibility Considerations, Accommodations, and Procedures Implemented for Guests with Disabilities at the Disney Parks, and Proposals for Future Improvement*

## **Grace Vaidian**

*Ability of Aripiprazole to Reverse Effort-related Effects of Tetrabenazine in Female Rats: A Comparison with Male Rats*

# PITCH GROUP II

## **Ananya Aggarwal**

*Characterizing Key Properties of Complex Delivery Systems for the Treatment of Ovarian and Prostate Cancer*

## **Lyla White**

*Impact of Storage Environment on Aspirin Tablets' Physical and Chemical Stability*

## **Sahiti Bhyravavajhala**

*Synthesis of Photoswitchable Pyrimidine Benzamides for KCNQ Channel Regulation*

## **Charlotte Chen**

*Antifouling and Antibacterial Brush-like Polymers from Silk Fibroin Surfaces for Urinary Catheter Coatings*

## **Bryan Goncalves**

*Potential use of Telescopic Actuator Piston in Insulin Pen Design*



# PITCH GROUP II

## **Aashi Kulkarni**

*Behavioral and Biological Indicators of Stress and Cardiometabolic Risk Amongst Young Female Adults*

## **Dave Patel**

*Identification of the Risk Factors Associated with Low Bone Density in Peri- and Early Postmenopausal Women*

## **Jade Rivera**

*Medication Adherence of Psychiatric Medications Among Latinx College Aged (18-25) Women*

## **Videep Soni**

*The BRAFV600E Mutation in Postnatal Radial Glial Cells Alters Glial Development in the Cerebral Cortex*

## **Spoorthi Chetan**

*Mapping Patients' Physiological Stress during Mammogram Screening using the Current Standard of Care as a Benchmark*

# PITCH GROUP III

**Arav Parikh**

*AI-Driven Patent Novelty Assessment*

**Isabella Fabrizi**

*An Analysis of EKF Simultaneous Localization and Mapping Algorithms for UAVs*

**Sangeeta Kuchibhotla**

*GLIMPSE II and GLIMPSE Proper: An Exploratory Study of the Differences Between Two Epochs of the Central Molecular Zone*

**Dwaritha Ramesh**

*Detonation for Small Scale In-Space Propulsion*

**Dillon Snyder**

*Hilbert Reciprocity over Number Fields*

**Kevin Lyle**

*Machine Learning for Machine Health Monitoring*

# PITCH GROUP III

## **Sashank Venugopal**

*Legacy Code Migration: Strategic Analysis from COBOL to Python and DB2 to MySQL – Uncovering Challenges, Leveraging Benefits, and Extracting Insights*

## **Betul Agirman**

*Analyzing Information Cascades through Machine Learning and Data Analytics*

## **Leo Gold**

*Parallelization and Characterization of Multi-Objective Routing*

## **Arvind Kasiliya**

*BGPsy: A Tool for Visualizing BGP Attacks and Vulnerabilities*

## **Ethan Wicko**

*Generative Design for Compliant Mechanism Assemblies*



# PITCH GROUP IV

**Shreya Seshadri**

*An Improved Computational Approach for  
Partial Gene Transfer Detection*

**Thomas Bergendahl**

*Haplotype Assembly and Phasing Unification*

**Nitish Rajagopal**

*Determining the Structure and Function of an  
Unknown Protein: pSGC-L3*

**Lianna Wagner**

*Maintenance of lysosomal integrity by actin  
nucleation factors*

**Maya Ravi**

*Suggested effects of Ketone Supplementation  
on Fertility in Drosophila Melanogaster Model,  
Oregon R*

# PITCH GROUP IV

## **Gunreet Grewal**

*Exploring the role of Autophagy during Ovulation in Drosophila*

## **Rahul Alla**

*The Relationship between Amygdala and Orbitofrontal Cortex Volume with Oppositional Defiant Disorder*

## **Rory Harris**

*A Database and Deep Learning Algorithm for the Characterization of Autism Spectrum Disorder from Smartphone-based Electroretinography*

## **Daniel Paliulis**

*An Empirical Study of Machine Learning Techniques for Accurate Stock Price Forecasting*

# PITCH GROUP V

## **Marianella Salinas**

*Enhancing Stock Price Prediction: An AI/ML Approach Including Macroeconomic Indicators with a Focus on AAPL and the S&P 500*

## **Vikram Chowdury**

*Using AI to Predict Company Stock Valuations*

## **Rashmi Pai**

*The Decisive Power of Indecision: Low-Variance Risk-Limiting Audits and Election Contestation via Marginal Mark Recording*

## **Jillian Milton**

*Building College Community Through User Experience Design*

## **Richard Dube**

*An Educational Resource for Particle Identification (PID) in High-Energy Particle Physics*

# PITCH GROUP V

## **Khadija Shaikh**

*Reimagining Environmental Justice Leadership Curriculum: Centering College Students of Color Perspectives on Environmental Justice*

## **Nivedhya Cheruvari**

*Optometry and Social Media: A Content Analysis of Eye Care Professionals' Communication and Representation on Instagram*

## **Melissa Lowry**

*Effects of Adverse Childhood Experiences on Predicting Patient Pain Outcomes Later in Life*

THANK YOU FOR  
ATTENDING  
&  
CONGRATULATIONS  
SENIORS!