UC **SANTA BARBARA**
Summer Sessions

2022 RESEARCH MENTORSHIP PROGRAM

RESEARCH SYMPOSIUM
PROCEEDINGS

Research Mentorship Program
Summer Sessions

2022 Research Symposium Schedule
Wednesday, July 27

Time	Talk
9:00 AM	**Opening Remarks**
9:04 AM	**Julianne Wu** Validating the Use of Designer Receptors in Manipulating Reward Projections During Methamphetamine Use in B6 Mice
9:16 AM	**Alok U. Thakrar** Investigating Liquidity Providers' Returns in Layer 2 Decentralized Finance Platforms
9:28 AM	**Sean Lee** Cryptocurrency Wallet Analysis: Investigating Individual Trader Behavior on Layer 1 and Layer 2 Blockchain Networks
9:40 AM	**Sachi D. Patel** Utilizing Molecular Dynamics Simulations to Investigate Small Molecules Targeting Alzheimer's Related Peptide Aβ (25–35)
9:52 AM	**Michael Young** Efficient Diagnostics for Assessing Mobility Patterns in the Los Angeles Metropolitan Area
10:04 AM	**Lisa Fung** Data Fusion for Movement Analytics: Evaluating Mobility Patterns During Wildfire Season
10:16 AM	**Suhana Shrivastava** Human Mobility During the COVID-19 Pandemic: Generating Interactive Visualizations for Movement Pattern Analysis
10:28 AM	**Intermission**
10:48 AM	**Angela Zhang** Creative Pipeline for Developing Mixed Reality Theater Experience in a Wide-Area Augmented Environment
11:00 AM	**Joshua J. Lu** Directional Indicator for Mixed Reality Digital Content in Wide-Area Augmented Theatrical Environment
11:12 AM	**Danielle Z. Halperin** Food in Fascist Italy: How Mussolini's Battle for Grain Impacted Women Socially and Culturally
11:24 AM	**Xiaoyun (Jasmine) Li** "Up to the Mountains, Down to the Villages": Cultural Conflicts and the Chinese Communist Party's Failed Rustication Policy
11:36 AM	**April Y. Wen** Mental Health Conversations in Families Across Different Cultures
11:48 AM	**Mario Gianluca Tricoci** Family Discussions about Mental Health in Black and LatinX Communities in the Context of Covid-19 and Civil Unrest
12:00 PM	**Lunch Break – on your own**

2022 Research Symposium Schedule

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Time	Talk
1:40 PM	**Opening Remarks**
1:43 PM	**Cody Busch-Weiss** Developing an Open-source pH Sensor to Monitor Ocean Acidification
1:55 PM	**Michelle Sun** Exploring Interactions between Corynactis californica and Lytechinus pictus in California Kelp Forests
2:07 PM	**Casey S. Chen** Why Words Are the Way They Are: A Typological Analysis of the Influence of Sonority on Language
2:19 PM	**Jonathan W. Chu** Situating the Taboo: Sociocultural Contextualization of Lexical Acceptability in Mandarin-English Code-Switching
2:31 PM	**Kate Jang** Influence of Biopolymers on Microplastic Settling
2:43 PM	**Alan Wang** Optimizing Fine-Tuning Sparsification for Improved Performances in Efficient Transformers
2:55 PM	**S. Ravishankar** Extending the Applications of Efficient Transformers: Applying AlBERT to Machine Translation
3:07 PM	**Steven Amanat** Using Turbulent Air Jets to Optimize Surface Cleaning
3:19 PM	**Intermission**
3:39 PM	**Enming Zhang** Rapid and Energy Efficient Microwave Preparation of Wadsley-Roth Electrode Materials for Li-Ion Batteries
3:51 PM	**Welton Wang** Influence of Metallicity and Disorder on Electrochemistry in $Ti_2Nb_{10}O_{29}$ and $Nb_{12}O_{29}$
4:03 PM	**Neha N. Nabar** Analyzing Anterior Cingulate Cortex c-Fos Levels in Rodent Models of Simple and Biconditional Discriminations
4:15 PM	**Ryan Z. Tang** Entorhinal Cortex Activity During Context-Dependent Behavior
4:27 PM	**Katherine A. Kricorian** The Role of Hormonal Status in Sucrose Reinforcement in Rats
4:39 PM	**Anant A. Jhaveri** Investigating the Role of *OtopLA* in Regulating Drinking in Fruit Flies
4:51 PM	**I. Kim** Conservation of Odorant Binding Proteins in Generalist and Specialist Fly Species
5:05 PM	**End of Day 1**

2022 Research Symposium Schedule

Thursday, July 28

Time	Talk
9:00 AM	**Opening Remarks**
9:04 AM	**Anika Sikka** Studying Human Behavior when Navigating in Outdoor Augmented Reality
9:16 AM	**W. Wang** Improving Gaze Target Determination Accuracy with Prioritized Volume-Based Queries
9:28 AM	**Emily Shen** Exploring the Effect of Physical Attractiveness on Online Self-Disclosure
9:40 AM	**James Roberts** Review of Recent Communication Technology Research: A Content Analysis of the *Journal of Computer-Mediated Communication*
9:52 AM	**A. Choudhri** Straining WSe_2 Monolayers for a Frequency Tunable Light Source
10:04 AM	**Caprisabel Acquistapace** Communal Coping in the Context of Cancer: Identifying the Paradoxical Functions Within Families
10:16 AM	**Jifan (Jerry) Zhu** Effects of Impostor Phenomenon on Organizational Assimilation in Graduate Students
10:28 AM	**Intermission**
10:48 AM	**Matthew Chang** A Bioinformatic Analysis of Foliar Fungal Endophytes in Litter Decomposition
11:00 AM	**William Jenkins** Identifying Possible Pathogenic Bacteria in the Salton Sea and Their Potential Effects on Human Health
11:12 AM	**Javier Raynoso** Analyzing the Role of Summertime Atmospheric Processes on Arctic Sea Ice Decline
11:24 AM	**Ved Srivathsa** Investigating the effects of sea ice melting on oceanic warming in the Arctic
11:36 AM	**Justin C. Ahn** Borrow or Burn?: How Credit Constraints in Rural India Perpetuate Crop Residue Burning
11:48 AM	**Rohit Raman** Detection of Smoke Plumes From Crop Burning Using Satellite Imagery
12:00 PM	**A. Murthy** Transport Measurements for 2-Dimensional Electron Gas in a Tunable Terahertz Sensor for Planetary Science
12:15 PM	**Lunch Break – on your own**

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Time	Talk
1:40 PM	**Opening Remarks**
1:43 PM	**Cynthia Wang** Comparing Price Manipulation Attacks Across Layer 1 and Layer 2 Decentralized Exchange Platforms
1:55 PM	**Elia Ching** Examining Price Efficiency in Layer 2 Networks
2:07 PM	**Austin Park** Determining Optimal Resource Distribution Strategies to Maximize Surviving Offspring using Non-Linear Optimization Methods
2:19 PM	**Tyler Kim** A Discrete-Time Model of Host-Microbiome Coevolution: Population Dynamics of Cycling and Asymptotic Stability
2:31 PM	**Zechang (Charlie) Yang** Developing a Discrete Mathematical Model to Characterize the Long-Term Population Dynamics in Holobiont Evolution
2:43 PM	**Haoyun Yang** Disability Justice: What are Students With Disability Demanding of Higher Education Spaces at Public Universities in California?
2:55 PM	**J. Chen** Using Improvisation to Support Open-Ended Learning Experiences at MOXI, the Wolf Museum of Exploration + Innovation
3:10 PM	**Intermission**
3:30 PM	**Poster Session** Campbell Courtyard
5:00 PM	**End of Day 2**

Research Mentorship Program

Summer Sessions

2022 Research Symposium Schedule

Friday, July 29

Time	Talk
9:00 AM	**Opening Remarks**
9:04 AM	**Caroline Wei** Optimizing COVID-19 Mask Distribution During Emergency Response
9:16 AM	**Gautam Nair** Investigating the Effect of Thermoelectric Plants on Marine Fisheries' Production Along the Coast of Chile
9:28 AM	**Alan Zhong** Machine Learning-Based Classification and Fusion of Satellite Precipitation Products
9:40 AM	**Krish Arora** Tensor Decomposition for Deep Neural Network Compression
9:52 AM	**Sanjay Adhikesaven** Ensemble Method to Improve Automated Segmentation of Brain CT Scans for the Diagnosis of Normal Pressure Hydrocephalus
10:04 AM	**Kathy M. Li** Automated Classification of Brain CT Scans for the Diagnosis of Normal Pressure Hydrocephalus
10:16 AM	**L. Iwamoto** Building a Wireless Arduino Interface to Measure Laser Power
10:28 AM	**Intermission**
10:48 AM	**Zhaozhong (Alex) Wang** Robust Method for 3D Lesion Segmentation of COVID-19 from Lung CT Scans
11:00 AM	**Claire Y. Chen** Classification of COVID-19 From Other Forms of Viral Pneumonia Using Chest CT Scans
11:12 AM	**K. He** Electrical Characterization of Aluminum Gallium Oxide Thin Films for Applications in High Power Devices
11:24 AM	**Saad Asad** Electrical Characterization of β-Ga2O3 MOVPE-Grown Schottky Diodes with Au and Ni Contacts
11:36 AM	**Alexa C. Pelzer** Believing the Victim: Making Sense of Belief-Related Victim Advocacy in Sexual Assault Cases
11:48 AM	**Gayathri Kaimal** Rethinking Implicit Bias: Exploring the Role of Non-Integration in Explaining Why People Act Contrary to Their Beliefs
12:00 PM	**Riya Mitra** A Failure of Self-Knowledge: Explaining the Disconnect Between Belief and Action
12:15 PM	**Lunch Break – on your own**

2022 Research Symposium Schedule
Friday, July 29

Time	Talk
1:40 PM	**Opening Remarks**
1:43 PM	**Elise R. Chiu** Quantifying the Conservation Potential of Urchin Fishing Patterns for Kelp Restoration
1:55 PM	**Abigail Chang** Evaluating State-Level Aquaculture Policies: Meta-Analysis of Best Management Practices Across the United States
2:07 PM	**Penelope T. Stinson** Second Shift or Quit: Investigating the Impact of COVID-19 on Childcare Responsibilities
2:19 PM	**Celerina Chao** On Site: The Architecture of Helena Arahuete
2:31 PM	**Olivia Chiang** Living Cultural Conflict: Scientific Christians as a Lens Into American Political Culture
2:43 PM	**Joyce Jiang** Dissecting the American Eugenics Movement: Anatomy and the Production of Scientific Racism
2:55 PM	**S. Perrine** The Pregnant Female Cadaver: An Analysis of *Sectio in Mortua* and Women's Bodily Value
3:07 PM	**Intermission**
3:27 PM	**Anandita Agarwal** The Lost Citizens: The Legacy of the Indian Partition and the 2019 Citizenship Amendment Act on Muslim Minorities
3:39 PM	**Xinni (Sunshine) Chen** Bargaining with the Patriarchy: Examining Chinese State Feminism through the 1995 UN World Conference on Women
3:51 PM	**Wency Suo** Flood Factor Semantic Image Segmentation of Aerial Images with Convolutional Neural Networks for Flood Detection
4:03 PM	**Mahek Patel** Evaluating the role of Physical Attractiveness on Online Self-Disclosure Utilizing the Expectancy Violations Theory
4:15 PM	**Siddharth Banerjee** Experiencing Machine Learning: Exploring the Impact of User Presence on Live ML Training in Extended Reality
4:35 PM	**End of Day 3**
5:00 PM	**RMP Closing Event** Goleta Beach – Area D