

UC SANTA BARBARA
Summer Sessions

2022 SUMMER RESEARCH ACADEMIES

CAPSTONE SEMINAR PROCEEDINGS



2022 Capstone Seminar

List of talks

Thursday, July 21

Antibody staining in Tun State of Tardigrade *Hypsibius exemplaris*

Anushka Agarwal, Rosalyn Weng, and Sylvia Ni

Surprising Impacts of Increasing Water Temperature on Response to Predator Cue Across *Tigriopus californicus* Copepod Populations

Alan Ahumada, Ambar Condori-Boughton, and Dylan Lum

Advertising...the Right Way: Triangulating the Forces Behind a Social Media Promotion's Success

Ava (Yecheng) Zhao, Ayush Gautham, and Monte Berman

Correlation Between Anxiety and Depression Symptoms and Anorexia and Bulimia in High Schoolers

Grace A. Rutherford, Julia Taylor, and Olivia Barker

Gravitaxis in Adult *C. elegans* with Mutations in the *mec-12* or *mec-7* Genes

Caden Payne, Krithi Saravanan, and Rachel Cho

Increases in Chiton Feeding Rate in Response to Ocean Acidification Stressors

Elizabeth Stewart, Evan Wang, and Sophia Lande

Update the Workplace, Not the Game: How Worker Abuse Is Incentivized in the Video Game Industry

Darien Hueso, John Park, and William Sartorio

An Analysis of Neuroanatomical Effects Before and After PEERS Intervention in Autistic Adolescents

Carol Chen, Fangyi (Serina) Cao, and Sanjana Bajaj

Observing Motor-Related Differences of Male and Female *Drosophila* Expressing Mutant Alpha-Synuclein

Jaanya Chawla, Lisa Trejo, and QingYu (Andy) Wang

Comparing the Abundance of Microplastic Consumption Across Different Feeding Techniques in Marine Species

Anish Vuppala, Krishna Narayanasamy, and Tyler R. Patterson

The Polar Text-Press: An Analysis of the Effect of Tweet Length on Political Polarization in the Context of *Roe v. Wade*

Aidan Cohen, Mihir S. Arya, and Rohan Sontakke

Effects of Russian Aggressions on Ukrainian Nationalism and National Identity

Jingfei Weng, Neel Kulkari, and Saket Kelkar

Summer Research Academies

Summer Sessions

2022 Capstone Seminar

List of talks

Thursday, July 21

Deep Learning for Audio Source Separation: Exploring the Effect of Pitch Shift and Sound Separation with ConvTasNet

Cheryl Liu, Prisca He, and Richard Tang

SEABRD: Soft Engineered Algal Bloom Reduction Device

Akshaya Jayaprakash, Angela Anji Yang, and Xinyuan (Yolanda) Zhou

Judging by the Cover: Influences of Product Packaging on Consumer Behavior

Alan Shi, Kevin Yang, and Roy Kapoor

Suez 1956: US Oil Policy Under Crisis

Alexis Reese, Jonathan Yoo, and Najman Mahboub

Approximating Wait Time in a Queue with Computer Vision: An Amodal Object Counting Approach

Parth Paliwal, Raymond Walker II, and Siddharth Navale

Cephalopod-Inspired Microplastic Filtration and Ocean Exploration Soft Robot

Joshua Ikehara, Kevin Tang, and Sreyash Das Sarma

Examining Chemotaxis in *H. exemplaris*

Aiden Wang, Anika Garg, and Priya Kumar

Follow the Money: How Contemporary Racial and Ethnic Representation in Film Reflects Hollywood's Fear of Financial Risk

Myra Limon and Samantha Ivanetz

Comparison of Intelligent Deep Fake Identifiers Using Machine Learning

Aarush Kachhawa, Daniel Felix, and Prahit Yaugand

Hues in News: An Examination of Journalistic Social Media Through a Visual Perspective

SaiMaya Selvaraj and Semira Arora

Characterizing the Mutant "Moonwalker" *Drosophila Melanogaster* Strain Through Optogenetic and Chemotaxis Assays

Ananya Anand, Katelyn Guo, and Maya Gabrielle Aler Srinivasan

Instagram and Black Lives Matter: How The Platform Became the Destination for Social Activism

Abril Rodriguez Flores, Ashley Zhao, and Catherine Han

2022 Capstone Seminar

List of talks

Thursday, July 21

Automatic Detection of Craters on Mars Using a Convolutional Neural Network

Alexander Filonov, Rohan Parikh, and Stefan Shakeri

The Impact of Persuasive Tactics and Values on Abortion Tweet Popularity

Adam Chen, Clarissa Shieh, and Truanne Chen

Genetic Variation in *C. Elegans* Affects Social Bordering Behavior

Max Manning, Nihal Nadipally, and Rohan Saravanan

Unmasking CBS: The Influence of Programming Philosophy on Foreign Media Coverage

Anya Modi , Pragati Mettu, and Timothy Leung

Human Activity Recognition Using Deep Learning

Aditi Shukla, Kaavya Mahendran, and Ray Wang

The Politics of Propaganda: A Comparison between World War II and the Russo-Ukrainian War

Alexis Minvielle, Letong Sun, and Wende Wang

Measuring the Ingestion of Microplastics in the Filtering Species *Mytilus californianus*

Abby Burlison, Alexander Morales Gonzalez, and Ryan Doh

An Evaluation of the Overturn of Roe v. Wade on the Anxiety Moderated Perceptions of Healthcare Access in Adolescents

Katie Xu, Savitha Senthilkumar, and Yuvika Bhalla

BarnaClam: Hybrid Bio-Inspired Microplastic Filtration Soft Robot for Coral Reefs

Abhijay Salvi, Alberto Olvera, and Nandini Khandelwal

The Coloniality of Feminism: How Western Feminists Contribute to Imperialism and Perpetuate Eurocentrism

Alli Benthien, Sihan Ma, and Yuxin Huang

Investigating How Respiration and Photosynthetic Processes Affect Ocean Acidification and Heating in Tidal Pools

Andrew Bui, Ethan Hsiung, and Jasmin Díaz Muñoz

Exploring Adolescent Health-Seeking Behaviors: The Relationship Between Socioeconomic Status and Social Media

Audrey Hu, Jessica Zhang, and Scarlett De Alba

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Pediatric Pneumatic Neck Wearable for Secondary Spinal Protection in Motor Vehicles

Ivan Yefan Zhang, Jada Hembrador, and Shawn Cogan

Public Health Crisis & Reform: Examining Systemic Injustice in a Polarized Political Climate

Kesenia Goldstein, Lizbeth Lopez Flores, and Salma Metwally

The Impact of Human Disturbance on Seabird Biodiversity in the Santa Barbara Region

Ashley Seow, Matthew Bian, and Ruxin Dai

The Effects of Parental Pressure on Self-Efficacy, Self-Esteem, and Academic Success in High-Achieving Adolescents

Bilva Vedamurthy, Esther Park, and Kate Chier

2022 Capstone Seminar

List of talks

Friday, July 22

The Detrimental Impact of Social Expectations: Examining the Effect of Instagram Feed On Adolescent Self-Esteem

Fiona Donohue, Maya Chan, and Vanessa D. Li

Hydraulic Self-Actuating Shoe Soles for Foot Pressure Redistribution and Gait Correction

George Fan, Lana Thyen, and Vincent Wu

The History and Impact of Environmental Racism Regarding Air Pollution and a Review of Long-Term Solutions

Paul Morrison, Sivani Ryali, and Sofia Carolina Sanchez Rodriguez

Using Machine Learning Models with Non-intrusive Medical Data to Identify Individuals at Risk of Coronary Artery Disease

Andrew Mao, Lyndon Yang, and Viswanath L. Missula

What You Say Is What You Think: An Analysis of Intellectual Humility in Online Discussion Forums

Ally Roy, Manya Sriram, and Zeyneb Kaya

Upper Extremity Soft Exoskeleton Suit for Children with Motor Dysfunction

Andrea I. Aponte Febres, Ma. Cristabelle Calisay, and Ziheng Tang

Politics of Lying: How Crisis-Induced Presidential Rhetoric Impacts Public Perceptions

Diya Desai, Jenny (Jiaqi) Wang, and Joleen Pan

Assessing Convolutional Neural Network Architectures for Traffic Sign Classification

Anish Katta, Kaz Tam, and Leo Melton

Political Persuasion on Twitter: How Lexicon Sentiment Analysis Expounds Election Results

Arjun Arora, Aryan Baldua, and Milo Lamas

Soft Robotic Posture Corrector for Upper Back Orthosis

Jovana D. Mireles, Nithya Appannagaari, and Shragvi Sunil

Assessing the Impact of the COVID-19 Pandemic on ADHD Symptomatology and Mental Health in Adolescents and Adults with ADHD

Adrian Leon Garcia, Sydney Peña, and Tanisha Mehta

The Effect of the *mor-2* and *olrn-1* Mutant Genes on *C. elegans* Preferences to Butanol

Ela Machiroutu, Mehek Anand, and Rhea Karthik

Leading the Pod: Whales' Impact on Video Game Business Models and the Big Fish Behind the Scenes

Alina Huang, Catherine Gao, and Sylvie Hu

2022 Capstone Seminar

List of talks

Friday, July 22

Impact of Different Foundation Species on Biodiversity Over Time

Kinley Renger, Neha Bhat, and Noah Killeen

What Does God Think? An Analysis of Self-Esteem Levels and Religiosity in LGBTQ+ Adolescents

Chenfei Wang, Joselyn Ivanez, and Marisol R. Rosales

An Analysis of Memory Retention of Tardigrades Over Time

Adele Lee, Diya Pendyala, and Rishabh Mallela

A New Korean Wave: Why K-Pop Needed the Government to Succeed Globally

Maxwell Fielder and Miles Rhoe

Investigating How Petroleum Exposure from Zooplankton Populations' Environments Impact Their Vulnerability

Aadit Golwala, Darren Chiu, and Guangyi Liu

"Fear of Missing Out": The Relationship Between Active/Passive Social Media Use and Social Connections

Aastha Gulati, Clara Mok, and Mayson Yu

Reconstructing Images with EEG Feature Encoding and Generative Adversarial Networks

Hisam Masoom, Jeremy Lu, and Matthew Zhang

America on Guns: Moral Framing in the Gun Control Debate on Instagram

Anna Butler, Ja'Lyn Wright, and Vivien Chen

The Rise of Zoom: Pandemic-Era Platform Strategy in Online Education

Jessica Zhao, Jiani Wan, and Xilin (Lynne) Pan

Examining the Impact of Environmental Factors on the Mental Health of Autistic Individuals

Katherine Kline, Kirsty (Wanlu) Lyu, and Na Yeon Kim

Twitter Bot Detection Through Unsupervised Machine Learning

Eric Teng, Jeremy Wu, and Ziyue Cao

Polarization and Inaction: A Content Analysis of American News Media on Climate Change

Ellen Ronald, Jay Parikh, and Kevin Tran

Streaming Wars: The Evolution of Corporate Strategy in the Wake of Competition

Catherine Rogoff, Evan Zhang, and Sameer Bicha

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Summer Sessions

2022 Capstone Seminar

List of talks

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The Power of Sound: Examining the Relationship Between Music and Depressive Symptoms in High School Students

Isaiah D. Heredia, Mandy Zhi, and Nathan Nguyen Su

A Study to Optimize Machine Learning Approaches for Classifying Celestial Objects

Gia Ancone, Ritwin Narra, and Sascha Manalili

"Alternative Facts": The Origins of Fake News and its Implications

Eli Leal-Schuman, Miller Roberts, and Shreyes Balachandran

Morphing Wing Using McKibben Muscles

Bryson Lan, Jason Wang, and Kaavya Jayaram

Comparative Analysis of Local Algae Species in Their Bioremediation of Seawater with Excess Nutrients Under Varied Temperatures

Janani Acharya and Romil Bhatt

***Drosophila* and Drugs: How Tyrosine and Catecholamines Affect Shibire-Mutated Flies Under Motility-Reducing Conditions**

Diego I. Borges, Prakash Jonnalagadda, and Vivian Chen

A Franchise of Fear: Conservative Media and its Influence on American Politics from the Post-War Era \ to the Present

Citlalli Alaniz, Sophia Arsiwala, and Stephen Xia

Prosthetic Accessory for Balance Correction and Haptic Feedback

Emmie S. Casey, Nathaniel Hadsall, and Poorvi Sangli

How Climate Change Affects the Ecological Interactions between Marine Species

Dhruv Sawhney, Garhyson Gaddy, and Pamela Kim

Ethanol Resistance in Wild Isolate *C. Elegans* as a Model to Study the Genetic Targets of Alcoholism

Adviti Aleti, Neel Rangan, and Sylvia Langer

Deconstructing and Dismantling Triple Jeopardy: The Impact of the Third World Women's Alliance on Women-of-Color Activism

Aashna Patel, Chloe Rhee, and Jacqueline Lopez

Soft Robotic Wearable Belt for Haptic Guidance

Benjamin Man and Rutvi Pota