

STUDENT POSTER SHOWCASE

December 4, 2025

California State University SAN MARCOS

OFFICE OF GRADUATE STUDIES AND RESEARCH

Anthropology

1A. Kendra Mercado
“Rediscovering the Lost Kingdom of Punt: How Modern Technology is Changing Archaeology”

Biochemistry

1B. Sergio Guadarrama-Ramos
“Expression, Purification and Characterization of the Carbohydrate-Degrading Enzyme CJD5-110"

2A. Zainab Al-Jasim, Mia de Jesus, Jase Bacho-Salas & Belinda Lievanos
“Exploring the Role of Extracellular Vesicles and Salivary Biomarkers in Cancer Detection and Risk Factors”

2B. Alexia Porter, Valerie Fajardo, Rheanne Quiambao & Ajani Wilson
“SOL: The Technology Advancement to Improve Quality of Life”

3A. Camila Vasquez, Anthony Jenks & Samara Wade
“Cultivating Community”

3B. Rianna Valenzuela
“Thriving Beyond Foster Care: A Program for Lifelong Success”

4A. Camile Angel Sevilla
“Investigating the Redox Behavior of Mixed-Valence Copper Centers”

4B. Natalie Nosco
“Non-Invasive Detection of Plant Stress Biomarkers: Using Reverse Iontophoresis for Peroxide Measurement”

5B. Rachel Monroe, Manni Nguyen, Annie Bizzigotti & Staci Vongphakdy
“Sustainable Techniques and Practices Throughout the Fashion Process."

31A. Jessica Chavez & Aaleah Fimbres
“How to Improve the Air Quality in LA County"

Biological Sciences

5A. Hunter Alan
“Investigating the Role of the Ranavirus Ambystoma1 Methyltransferase Gene in Viral Replication”

6A. Miguel Kinyon & Nicholas Mendez
“Investigating the Lifecycle of Calcidiscus leptoporus, a Marine Haptophyte”

6B. Jhasmine Valencia
“Pulse-Amplitude Modulated (PAM) Fluorometry Analysis of Bryozoan Membranipora membranacea Colonization on Kelp Macrocystis pyrifera”

7. Samantha Arreguin
“Exploring the Impact of Alumni Scientist Spotlights in an Introductory Biology Course”

8A. Antonio Perez
“Integrating Grafting, Thermal Tolerance, and Transcriptomics to Assess the Resilience of Montipora Digitata Under Rising Ocean Temperatures”

8B. Sarah Brady
“Evaluating the Effect of Mutations Found in Uterine Cancer Patients on Msh3 Protein Levels”

9A. Marisa Mendoza
“Taxonomic Profiles of Nearshore Microbial Communities associated with Plastic and Natural Marine Substrates”

9B. Camila Valderrama-Martínez
“Comparing Viral Sequences & Virulence Factor Profiles of Nearshore Microbial Community Metagenomes between Exogenous Plastic Marine Substrates and Water Column”

10A. Mattie Hernandez
“Evolution of Starvation Responses in Ciliates”

10B. Luiza Borges
“The Homolog of Human CD9 in Allomyces Macrogynus Shows Evidence of Self-Interaction.”

11A. Melissa Chico & Alexis Rios
“Soil and Plant Health Responses to Traditional Milpa”

Biological Sciences cont.

11B. Quetzalli Johnson
“The Physiological Responses to Chronic High-Sugar Diets in Drosophila Melanogaster”

12A. Mikaela Speets-Drake
“Exploring Microbial Community Spatiotemporal Patterns Across Mission Bay, CA”

12B. Oscar Loyola Torres
“Utilizing Fluorescence Imaging to Analyze MCF-7 Breast Cancer Cell Protrusions in Transwells”

Biotechnology

13A. Joshua Liberato, Phillip Trakhman, Destiny Lopez & Evelin Ramos-Reyes
“Successful cloning and overexpression of His-tagged cellulase enzyme CJD9-ME8 in a BL-21 E. coli strain in a biotechnology laboratory"

13B. Yaneli Bazan, Ryan Pilar, Sebastian Perez & Leonardo Valadez
"Moo-ving towards reusable energy: Cloning and functional characterizations of a Cow Rumen Cellulase Gene (CJD5-080) in E. coli to Convert Plant Biomass into Bioethanol"

14A. Sherrie Guirguis, Jocelyn Quintero, Jocelyne Montez & Zareth Guzman
“Moo-lecular Biotechnology: Novel Cellulase CJD5-142 Gene from Cow Rumen over Expression in BL21 E. coli"

14B. Adam Hludzinksi, Maximus Kibbons, Shahd Eissa & Sierra Vail
“Holy Cow! How Microbiomes Turn Grass into Sweet Gas"

15A. Brianne Holmes, Erlinda Tercero, Taylin Jimenez & Vale Cota-Carrillo
“A Pink Pipeline to Bio-Fooel: Isolating CJD48-230 From Cow Rumen DNA"

15B. Mayce Kinney, Noralhuda Farji, Jasmin Jaurgeui & Daniel O’Sullivan
“Functional Analysis of a Novel Cow Rumen-Derived Cellulase Gene, CJD5-110"

Biotechnology cont.

16A. Monica Ambrocio
"Fluorescence Imaging of Actin in MCF7-shMLH1 Cells: Unraveling Actins Role in Breast Cancer Progression"

16B. Alan Mascaerno, Lesie Zapot, Aleksandra Troester & Jelysse Arevelo
"Recombinant Cloning and Functional Analysis of the CJD9-320 Cellulase Originating from the Cow Rumen Microbiome for Potential Biofuel Applications"

17A. Edgar Rodriguez, Jordyn Brooks, Jorge Sanchez & Spencer Trussell
"110 - Strain E. coli Cells"

17B. Wasef Sufan, Ethyn Diaz, Omar Perez & Yingcong Zhuang
"Characterizing CDJ5-080, a Novel Cellulase Enzyme from the Cow Rumen Microbiome for Plant Biomass Processing"

18A. Samantha Marroquin, Tanmay Rohatgi, Dregyn Bennet & Jacob Rosenthal
"Functional Analysis of CJD5-142 Cellulase Enzyme from Cow Rumen Microbes for Biofuel Applications"

18B. Dregyn Bennet
"Staging the Pathogenesis of Alopecia Areata in Mice"

19A. Jasmine Guzman, Jade Bateman, Lesliee Ramirez Yanez & David Lazaro
"Characterization of CJD-ME8 Function in Modulating Cellulase-Mediated Cellulose Conversion into Potential Biofuel"

19B. Rebeka Seng Gutierrez, Caitlyn Ramirez, Karissa Benjamin & Mitchell Crosby
"Expression, Purification and Characterization of the Carbohydrate-Degrading Enzyme CJD5-230"

20B. Faheema Vawoo Abdullah Sahib
"Decoding the Tumor Ecosystem: Spatial Omics of Triple-Negative Breast Cancer Cells Using Holographic Microscopy"

Chemistry

20A. Ivan Ayala & Priscilla Pena
"Perfume Analysis Using GC–MS "

21A. Francis Dowgiert, Dafne Huerta, Sarah Goodman & David True
"Can Enzyme-Based Therapies be Used to Increase Allergy Medication Longevity?"

21B. Dakota Heisel
"Exploring Chemical, Structural, and Fuctional Correlations in Porous Materials"

22A. Priscilla Pena & Haley Ryan
"Fruit Aging"

Computer Science

22B. Andres Hinojosa
"Edge Computing Network Intrusion Detection System in IoT Using Deep Learning"

23B. Aidan Rodriguez & Cherishma Jalaparti
"Selenoproteins Prevalent in Most Haptophyte Genomes"

Environmental Studies

23A. Jacob Smith & Odalys Najera
"Evaluating the Use of Aquaponics for Propagation of Coastal Sage Scrub Plants in Southern California"

24B. Sarah Wiese, Camryn Nelson & Felicity Taubken
"Effect of Outdoor Lighting on Nocturnal Insects Visiting Coastal Sage Scrub Plants in San Diego County"

Human Development

24A. Emily Amini & Harmony Martinez
"First-Generation Challenges: The Effect of Career Outcome Expectations"

25A. Briana Luna
"Parental Work Socialization Messages and Career Identity Among First-Generation College Students"

Kinesiology

25B. Lauren Meredith & Amy Schirmer
"Effects of Submaximal Exercise on Pulse Pressure Amplification in Females"

26A. Natalya Tasevski
"Exploring Cardiovascular Risk Factors in Menopausal Women"

26B. Brandon Bullert, Madison Mower, Justin Carreon & Juan Levya
"Generalized Motor Program Theory and Poly-Dexterity During Rapid Line-Drawing Test"

27A. Juan Leyva
"The Effects of Booties on Foot Skin Temperature During Surfing"

27B. Ryan Pinter, CJ Gotcher & Tatiana Pinho
"Postural Sway Differences During a Single Leg Balance Test in Four Conditions"

28A. Nicole Marquez, Aris Sanchez-Martinez, Brian Hoxey & Sydnee Basin
"Investigating Calf Muscle Activation Using EMG"

28B. Sydnee Basin, Nicole Marquez, Aris Sanchez-Martinez & Brian Hoxey
"Platform Shoe-wear Increasing the Center of Mass Impacting Single-Leg Balance"

Kinesiology cont.

29A. Aris Sanchez-Martinez, Nicole Marquez, Sydnee Basin & Brian Hoxey
"The Generalized Motor Program Hand vs. Foot Handwriting Accuracy"

29B. Elise Ortiz, Brent Reed, Joseph Fogelman & James Taylor
"Power in Motion: How Muscle Activations and Strength Shape Hook and Cross Punch Performance"

30. Cormac Delaney, Madison Hall, Sopdu Robison & Whitney Rosales
"Assessing Quadricep Fatigue in Injured and Non Injured"

31B. Madison Hall, Sopdu Robison, Cormac Delaney & Whitney Rosales
"Postural Sway in Relation to Star Excursion Balance Test"

Psychological Sciences

32A. Aileen Gonzalez & Jasmyn Sorapuru
"NACHO Mitigates Nicotine-Induced Reward: Insights into Nicotine Addiction"

32B. Bianca Delia
"From Molecule to Motivation: Optimizing an Immunofluorescence Protocol to Map Nicotine-Driven Neuronal Activity in Wildtype vs NACHO KO Mice"

33A. Cassandra Stillman
"Neurobiological Foundations of Creative Arts Therapies: A Literary Review of Resilience and Recovery in Traumatized youth"

33B. TJ Jones, Alex Depinto Avilez, Skylabelle Jiminez, Mohammad Alkhawaja & Jake Stewart
"Fake News: Children's Moral Evaluations of Sharing Information Online"

34A. Juan Ibarra & Merielle Dauz
"Qualitative Analysis of Leader-Proposed Adaptations to a Leadership-Based Implementation Strategy for Autism Evidence-Based Interventions"

34B. Brittney Abundis, Rachel Soliven, Merielle Dauz, Mary Fuerte & Amanda Flores
"Judge or Evaluate? A Pilot Study on How Typically Developing and Autistic Children Navigate Trust"

35A. Justin Seber, Elijah Mathews, Halli Hogan & Regina Medina
"False Knowledge: Perceptions of Those Who Claim to Know Things They Cannot"

Psychological Sciences cont.

35B. Cory Jordan, Kayne O'Reilly Collins Jossilyn Bachman & Courtney Huggins
"Cool but Cruel? Children Infer Coolness and Prosociality from Peer Descriptions"

36A. Sage Yosick & Claudine Lim Oliva
"Relationship Type and Cohabitation Status Influence Subjective Informant Reports of Daily Functioning in Aging Asian American Adults"

36B. Jennifer Lozano, Demi Disepio & Alison Kreisler
"Assessing the Impact of Chronic Artificial Sweetener Intake on Memory and Depressive-Like Behavior in Female Rats"

Congratulations

To our outstanding students and dedicated faculty mentors for their exceptional contributions.

This event is made possible through the support of:

- The Office of Graduate Studies and Research
- The Committee for Undergraduate Research (CUGR)



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