Recognizing the Pursuit of Research, Scholarship and Creative Activities by Our Students

Monday | March 7, 2022

University Union, 9:00 am – 1:30 pm

Presented by: Academic Affairs, the Student Research Center, and the Offices of Research, Innovation, and Economic Development
Event Schedule

*Jurors and student presenters, please check in at the Redwood Room on the 1st floor before heading to your session. Light refreshments will be served from 8:00 am to noon.

9:00 am – 10:40 am  Session 1: Arts & Letters  
(Cottonwood Suite III, 2nd floor)

11:20 am – 1:00 pm  Session 2: Arts & Letters  
(Cottonwood Suite III, 2nd floor)

9:00 am – noon  Session 3: Biological Sciences  
(Walnut Room, 2nd floor)

9:00 am – noon  Session 4: Biological Sciences  
(Oak Room, 2nd floor)

9:00 am – noon  Session 5: Engineering, Science & Math  
(Cottonwood Suite I, 2nd floor)

9:00 am – 11:40 am  Session 6: Engineering, Science & Math  
(Cottonwood Suite II, 2nd floor)

9:00 am – 11:40 am  Session 7: Social Sciences & Interdisciplinary Studies  
(Auburn Room, 3rd floor)

11:40 am – 1:40 pm  Session 8: Social Sciences & Interdisciplinary Studies  
(Folsom Room, 3rd floor)

9:00 am – 11:00 am  Session 9: Education  
(Maidu Room, 3rd floor)

9:00 am – 11:00 am  Session 10: Health & Human Services  
(Miwok Room, 3rd floor)
Welcome students, faculty, family, and friends!

On behalf of the Student Research Center and the Offices of Research, Innovation, and Economic Development (ORIED), we welcome you to the 2022 Sacramento State Student Research & Creative Activity Spring Symposium. This campus-wide event highlights and celebrates the research, scholarship, and creative activities of our students and their faculty mentors. The Spring Symposium provides a public forum for their work as well as an exciting experience for all. In addition, Spring Symposium awardees are selected to represent Sacramento State at the 36th CSU Student Research Competition.

At this year’s event, approximately 90 students are presenting 68 original scholarly works. The top presentations will be awarded the Provost’s Award for Research Excellence in recognition of their outstanding achievement in original scholarship. In addition, faculty mentors of student awardees will receive professional development awards in recognition of their contributions to these emerging scholars. We will also select up to 10 presentations to represent Sacramento State at the 36th CSU Student Research Competition, which will be held at San Francisco State University on April 29 and 30, 2022.

Thank you to all student presenters for sharing their work and to faculty, staff, family, and friends of our presenters for joining us today for this special event. It gives us great pride to celebrate these emerging scholars and their work.

With warm regards,

Dr. Ron Coleman,
Interim Director
Student Research Center
Session 1: Arts & Letters

9:00 am – 10:40 am
Cottonwood Suite III, 2nd floor

9:05 am  The Art of Death: A Look into the Lost Seventeenth-Century Baroque Polish Art of the Portret Trumienny – Coffin Portraits
Anastasia Thompson
Undergraduate, Art History
Mentor: Rachel Miller, Ph.D.

9:25 am  Who’s to Blame For This? Free Will Skepticism and the Error of Punitive Justice
Ethan Hekker
Undergraduate, Philosophy
Mentors: John Park, Ph.D. and Garret Merriam, Ph.D.

9:45 am  The Supremacy of the Humanities: A Symbolurgical Manifesto
Eric Winslow
Graduate, Humanities and Religious Studies
Mentor: Harvey Stark, Ph.D.

10:05 am  #CommunicationSoWhite
Elizabeth Ruyak, Sage Beamon, Brittney Grotz, Lucas Kaisas-Wilson, and Christine Shelby
Graduates, Communication Studies
Mentor: Andrea Terry, Ph.D.

10:25 am  Assault on Women in Transit
Megan Ugarte
Graduate, Communication Studies
Mentor: Sonya Castorena, Ph.D.

End of session
Session 2: Arts & Letters

11:20 am – 1:00 pm
Cottonwood Suite III, 2nd floor

11:25 am  UX - Civilian Climate Corps project
Samantha Friend
Undergraduate, Graphic Design
Mentor: Lauren Kelly, Ph.D.

11:45 am  Examining the Impact of a Class Hierarchy in America
Caitlyn Le
Undergraduate, English
Mentor: Hellen Lee, Ph.D.

12:05 pm  Revolutionary Recluse: The Politics of Wanderer Above a Sea of Mist
Elizabeth Hall
Alumna, Fine Arts
Mentor: Mya Dosh, Ph.D.

12:25 pm  The Token Trope: Turning a Blind Eye to Documented Reality
Mariam Abbas
Graduate, Communication Studies
Mentor: Michele Foss-Snowden, Ph.D.

12:45 pm  Structuralism in Literary Studies and the Role That It Plays in 2022
Mikaela Huang
Graduate, English
Mentor: Jonas Cope, Ph.D.

End of session

Session 3: Biological Sciences

9:00 am – noon
Walnut Room, 2nd floor

9:05 am  The Effect of Egg Size and Female Parent Body Size on Fecundity in Substrate Spawning Cichlids in the Wild
Olivia Sinclair
Graduate, Biological Sciences
Mentor: Ronald Coleman, Ph.D.
9:25 am  Optimizing Methods to Quantify Metal Transporter Gene Expression in Clostridioides difficile
Amanda Ilang-Ilang
Undergraduate, Biological Sciences
Mentors: Chris Lopez, Ph.D.

9:45 am  Egg Size Determines Fry Size in Cichlid Fishes
Jessica Hopper
Undergraduate, Biological Sciences
Mentor: Ronald Coleman, Ph.D.

10:05 am  Investigating the Transcriptomic Responses to Heat Stress and Starvation in the Economically Important Red Abalone Haliotis rufescens
Hanna Franklin
Undergraduate, Biological Sciences
Mentor: Lani Gleason, Ph.D.

10:20 – 10:40 am  BREAK

10:45 am  Investigating the Relationship between Aggression and Longevity in Fruit Flies
Abigail McInnes
Undergraduate, Biological Sciences
Mentor: Johannes Bauer, Ph.D.

11:05 am  Kismet Affects the Gut-Brain Axis in Drosophila melanogaster
Salma Elliessy
Undergraduate, Biological Sciences
Mentor: Kimberly Mulligan, Ph.D.

11:25 am  Survey of Breeding Locations of Intertidal Fish
Bear Waymire
Undergraduate, Biological Sciences
Mentor: Ronald Coleman, Ph.D.

11:45 am  Assessing Contemporary & Future Implications of Gametophyte ecogeographic Divergence between Polyploid Ferns and Their Progenitors
Serena Blais
Undergraduate, Biological Sciences
Mentor: Clayton Visger, Ph.D.

End of session
Session 4: Biological Sciences

9:00 am – noon
Oak Room, 2nd floor

9:05 am  Measuring Gene Amplification Frequencies and Investigating the Role of Starvation Stress Using the Model Organism Acinetobacter baylyi
Nancy Villanueva
Undergraduate, Biological Sciences
Mentor: Andrew Reams, Ph.D.

9:25 am  Sources of E. coli and Mitigation of E. coli in the American River
Broderick Whitford
Alumnus, Environmental Science
Mentors: Erik Porse, Ph.D.

9:45 am  The Optimization of Mutant Collecting in Acinetobacter baylyi for Amplification Mutation Analysis
Heidi Solis
Undergraduate, Biological Sciences
Mentors: Andrew Reams, Ph.D.

10:05 am  Elucidating the Role of Selective Stress on Gene Amplifications in Acinetobacter baylyi
Agata Koprowska
Alumna, Biological Sciences
Mentor: Andrew Reams, Ph.D. and Semarhy Quinones-Soto, Ph.D.

10:20 am – 10:40 am  BREAK

10:45 am  Isolation and Screening of Soil Bacteria for their Antimicrobial Potential Against Relevant Pathogens
Melanie Dibbell, Maria Benavides Uribe, and Robert Montoya
Undergraduates, Biological Sciences
Mentor: Enid Gonzalez-Orta, Ph.D.

11:05 am  Bisphenol A Differentially Impacts Neurodevelopment in Drosophila melanogaster from Distinct Genetic Backgrounds
Joseph Yull
Graduate, Biological Sciences
Mentor: Kimberly Mulligan, Ph.D.
11:25 am  Identifying Population-Specific DNA Methylation Patterns in the Marine Snail Tegula funebralis to Examine Thermal Tolerance
Jazmine Harvey and Arianna Alamshahi
Undergraduates, Biological Sciences
Mentor: Lani Gleason, Ph.D.

11:45 am  Analyzing the Early and Subsequent Events of Gene Amplification Mutation Formation Using a Model System in Acinetobacter baylyi
Staci Rocco
Undergraduate, Biological Sciences
Mentor: Andrew Reams, Ph.D.

End of session

Session 5: Engineering, Science & Math
9:00 am – noon
Cottonwood Suite I, 2nd floor

9:05 am  Calculating the Gamma-Ray Luminosity from Neutron Star Mergers’ Jets
Haley Steuber
Undergraduate, Physics and Astronomy
Mentor: Rodolfo Barniol Duran, Ph.D.

9:25 am  Off Axis Jet Model in C++
Joseph Ceccarelli
Undergraduate, Physics and Astronomy
Mentor: Rodolfo Barniol Duran, Ph.D.

9:45 am  Engineering Taxadiene Synthase for Improved Product Specificity to Enable a Microbial Host for Taxol Production
Adam Clapp
Undergraduate, Chemistry
Mentor: Mary McCarthy-Hintz, Ph.D.

10:05 am  Injection Stratigraphy in the West Area of the Cat Canyon Oil Field, California
Alexander Ryan
Undergraduate, Geology
Mentor: David Shimabukuro, Ph.D. and Theron Sowers, MS

10:20 am – 10:40 am  BREAK
10:45 am  Depth and Volume of Oil Production and Water Injection into the Subsurface of the Lost Hills Oil Field
Jacqueline Betancourt
Undergraduate, Geology
Mentor: David Shimabukuro, Ph.D.

11:05 am  Measurement of Endocrine Disrupting Chemicals in Invertebrates
Elizah Hernandez
Undergraduate, Chemistry
Mentor: Justin Miller-Schulze, Ph.D.

11:25 am  The First Total Syntheses of Lorneic Acid J and An Alternative Total Synthesis of Lorneic Acid A
Jay Patel, Brandon Sarrels, and Kyle Peterson
Alumni, Chemistry
Mentor: Claudia Lucero, Ph.D.

11:45 am  Chemometric Based Machine Learning to Characterize Self-Heating Polyunsaturated Fatty Acids in Fire Debris for Forensic Identification
Smith Purdum
Graduate, Chemistry
Mentor: Justin Miller-Schulze, Ph.D.

End of session

Session 6: Engineering, Science & Math
9:00 am – 11:40 am
Cottonwood Suite II, 2nd floor

9:05 am  Determining Flow Resistance and Shear Stress based on Measurements on the Flow, Hydraulic Radius, and Fall Between Two Cross Sections
Nelya Shevelenko
Undergraduate, Civil Engineering
Mentor: Cristina Poindexter, Ph.D.

9:25 am  3-D Modeling of Stratigraphy and Injection in the Cat Canyon Oil Field, California
Laura Glaser
Undergraduate, Geology
Mentor: David Shimabukuro, Ph.D. and Theron Sowers, MS
9:45 am  Analyzing the Effects of Pluton Size and Composition on Schlieren-Bound Magmatic Structures in the Sierra Nevada, California.
Ethan Dreger
Undergraduate, Geology
Mentor: Katie Ardill, Ph.D.

10:05 am  Depth and Distribution of Shallow Offshore Oil and Gas Activity in the Wilmington Oil Field, Southern California
Kailah Jenkins
Undergraduate, Geology
Mentor: David Shimabukuro, Ph.D. and Theron Sowers, MS

10:20 am – 10:40 am  BREAK

10:45 am  How the American River Levee Upgrades Ease Erosion and Shear Stress
Jack Graham, Mason Rozumowicz, Alexys Vancil, and Johnny Fletcher
Undergraduates, Civil Engineering
Mentor: Cristina Poindexter, Ph.D.

11:05 am  Effect of Sample Alignment on Porosity Development and Mechanical Properties During Selective Laser Melting (SLM)
Harjeet Gill
Alumnus, Mechanical Engineering
Mentor: Alan Meier, Ph.D.

Sirish Prabakar
Graduate, Computer Science
Mentor: Haiquan Chen, Ph.D.

End of session

Session 7: Social Sciences & Interdisciplinary Studies
9:00 am – 11:40 am
Auburn Room, 3rd floor

9:05 am  Perceived Psychological Impacts of Wearing Face Masks
Alex Chan
Undergraduate, Psychology
Mentor: Jianjian Qin, Ph.D.
9:25 am  The Roles Risk Perception, Cooperation, and Information Confidence Play in Confronting an Incurable Infectious Disease: The Case of Huanglongbing in California
Samuel Haynes
Graduate, Economics
Mentor: Jonathan Kaplan, Ph.D. and Ajay Singh, Ph.D.

9:45 am  Mothers’ Gender Role Attitudes Relate to Daughters’ but Not Sons’ Gender Role Attitudes
Samantha Waters
Graduate, Psychology
Mentor: Jianjian Qin, Ph.D.

10:05 am  The Soul’s Legacy: A Wholistic EOL Planning Program Empowering Healthy Older Adults to Prepare for Existential Suffering
Marcia Brim
Graduate, Gerontology
Mentors: Donna Jensen, Ph.D., Catheryn Koss, Ph.D., and David Cook, Ph.D.

10:20 am – 10:40 am  BREAK

10:45 am  Discussing Differences: A Simple Activity to Foster Faculty Collaborations Across Diverse Disciplines and Institutions
Ethan Roberts
Graduate, Biological Sciences
Mentors: Kelly McDonald, Ph.D., Cathy Ishikawa, Ph.D., and Bailey Von der Mehden, Ph.D.

11:05 am  Where to Bring Your Good News: Perceived Responses to Capitalization Attempts Across Close Relationships and Happiness Among Emerging Adults
Hayden Jungling
Undergraduate, Psychology
Mentor: Meliksah Demir, Ph.D.

11:25 am  Demystifying Undergraduate Research Experiences to Increase Access and Equity for Four-Year and Community College Students
Eric Pennino
Graduate, Biological Sciences
Mentor: Kelly McDonald, Ph.D.

End of session
Session 8: Social Sciences & Interdisciplinary Studies

11:40 am – 1:40 pm
Folsom Room, 3rd floor

11:45 am  Examining Faculty Use of Inclusive and Equitable Language Through the Lens of course Syllabi
Shelby Chandar and Ryan Crum
Undergraduates, Kinesiology
Mentors: Sayonita Ghosh Hajra, Ph.D., Cathy Ishikawa, Ph.D., and Kelly McDonald, Ph.D.

12:05 pm  Memories Through Tinted Glass: How Attachment Styles Influence Relationship Memories
Cristian Valencia
Graduate, Psychology
Mentor: Jianjian Qin, Ph.D.

12:25 pm  Impact of Scientist Spotlights in Bio2
Ryan Harris
Graduate, Mathematics and Statistics
Mentor: Joya Mukerji, Ph.D.

12:45 pm  A Regression Analysis Exploring the Causal Factors of Type 2 Diabetes
Alexandria Torres
Graduate, Public Policy and Administration
Mentor: Rob Wassmer, Ph.D.

1:05 pm  Beyond Partisan Identity Polarization: How Politician-Specific Polarization Influences Media Trust
Sebastian Cambrey
Graduate, Political Science
Mentor: Danielle Martin, Ph.D.

1:25 pm  How People with Disabilities Navigate Intimacy and Sexuality During a Global Pandemic
Deborah Bruffett
Graduate, Anthropology
Mentor: Megan Raschig, Ph.D.

End of session
Session 9: Education

9:00 am – 11:40 am
Maidu Room, 3rd floor

9:05 am  Discrepancy Model: Qualifying Students for Special Education Services Under SLDs
Noemi Zavala Lopez
Graduate, Graduate and Professional Studies
Mentor: Eric Claravall, Ph. D

9:25 am  Immigrant Parent Engagement
Prisila Isais
Graduate, Doctorate in Educational Leadership
Mentor: Amber Gonzalez, Ph.D.

9:45 am  Using Social Justice Poetry to Develop Critical Thinking Skills Among Students with Learning Differences
Patricia Garcia
Graduate, Teaching Credentials
Mentor: Eric Claravall, Ph.D.

10:05 am  Exploring How Preschool Students with Disabilities Engage with Books That Feature Racially Diverse Characters
Erica Walthall
Graduate, Teaching Credentials
Mentor: Eric Claravall, Ph.D.

10:20 am – 10:40 am  BREAK

10:45 am  Examining How Undocumented Student Resource Centers in California Motivate Social Change
Ashtin Olin
Undergraduate, Undergraduate Studies
Mentor: Basia Ellis, Ph.D.

11:05 am  Adolescents’ Relationship with Food During the COVID-19 Pandemic
Pamela Corona
Undergraduate, Undergraduate Studies
Mentor: Alicia Herrera, Ph.D
11:25 am  Visible or Invisible Web Content Analysis of Women’s Resource Centers  
Aisha Engle  
Graduate, Graduate and Professional Studies  
Mentor: Sherrie Carinci, Ph. D.  

End of session

Session 10: Health & Human Services

9:00 am – 11:00 am  
Miwok Room, 3rd floor

9:05 am  Hearing Status and Cognition in Gerontology Journals  
Bella Brown-Quigley  
Graduate, Communication Sciences & Disorders  
Mentor: Laura Gaeta, Ph.D.

9:25 am  Developing a Measure of Spanish Health Literacy in Audiology  
Joseph Arquette  
Graduate, Communication Sciences & Disorders  
Mentor: Laura Gaeta, Ph.D.

9:45 am  Effects of Communication and Language Problems on Anxiety and Depression Symptoms in TBI Patients Post-Injury  
Lauren Achen, Melissa Abramson, Alex Douglass, and Megan Rogers  
Undergraduates, Communication Sciences & Disorders  
Mentor: Tonia Davis, Ph.D.

10:05 am  Project Withdrawn

Samantha Conway  
Graduate, Physical Therapy  
Mentor: Katrin Mattern-Baxter, Ph.D.

10:45 am  Health and Wellness Resource Fair  
Roya Zaki, Makenzie Pierce, and Nina Vu  
Undergraduates, Biological Sciences  
Mentors: Jennifer Lundmark, Ph.D., Julie Fogarty, Ph.D., Robin Altman, Ph.D., and Reva Wittenberg, Ph.D.

End of session
Acknowledgments

This event would not be possible without the guidance and support of our faculty mentors and jurors. We would like to thank the following:

**Faculty Mentors**

Robin Altman
Katie Ardill
Rodolfo Barniol Duran
Johannes Bauer
Sonya Castorena
Haiquan Chen
Eric Claravall
Ronald Coleman
David Cook
Jonas Cope
Tonia Davis
Meliksah Demir
Mya Dosch
Basia Ellis
Julie Fogarty
Michele Foss-Snowden
Laura Gaeta
Sayonita Ghosh Hajra
Lani Gleason

Amber Gonzalez
Enid Gonzalez-Orta
Alicia Herrera
Cathy Ishikawa
Donna Jensen
Jonathan Kaplan
Lauren Kelly
Catheryn Koss
Hellen Lee
Chris Lopez
Claudia Lucero
Jennifer Lundmark
Danielle Martin
Katrin Mattern-Baxter
Mary McCarthy-Hintz
Kelly McDonald
Alan Meier
Garret Merriam
Rachel Miller

Justin Miller-Schulze
Joya Mukerji
Kimberly Mulligan
John Park
Cristina Poindexter
Erik Porse
Jianjian Qin
Megan Raschig
Drew Reams
David Shimabukuro
Ajay Singh
Harvey Stark
Andrea Terry
Lindy Valdez
Clayton Visger
Rob Wassmer
Reva Wittenberg
## Faculty Jurors

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<tr>
<th>Jaime Jackson</th>
<th>Ronald Coleman</th>
<th>Serpil Atamaz-Topcu</th>
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<td>Nikolaos Lazaridis</td>
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<td>Nandini Singh</td>
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Important Dates

April 29 & 30, 2022
36th CSU Student Research Competition
San Francisco State University

For more information, please contact:
Student Research Center
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