Program Schedule

9:00 – 9:30 am  Student Check-in for Session 1

9:30 – 11:00 am  Session 1 Opening Remarks by Dr. Semarhy Quinones-Soto
Director, Student Research Center

9:30 – 11:00 am  Session 1 Poster Presentations

11:00 – 11:30 am  Session 1 poster removals
Student Check-in for Session 2

11:00 – 11:15 am  SRC Student Research Ambassadors Program &
Introduction to the 2019 Spring Symposium Event Changes

11:20 – 11:50 am  Communicate your Research through Storytelling
By: Theron Sowers, SRC Research Ambassador, Geology

noon – 12:05 pm  Session 2 Opening Remarks by Dr. Yinfa Ma
Associate Dean, Natural Sciences & Mathematics

noon – 1:30 pm  Session 2 Poster Presentations

1:35 – 2:00 pm  Session 2 poster removals

2:00 pm  Event Ends
Welcome students, faculty, family and friends!

On behalf of the Student Research Center, the Office of Research, Innovation, and Economic Development, and Academic Affairs, we welcome you to the 5th annual Student Research and Creative Activity Fall Forum. This campus-wide event highlights and celebrates the research, scholarship, and creative activities of our students and their faculty mentors. The Fall Forum provides a vibrant public environment for the dissemination of their work and an exciting experience for all.

This campus-wide event highlights and celebrates the research and creative activities of our students and their faculty mentors. There are 82 posters being presented at this event, with 105 individuals contributing as presenters, and 42 research mentors. Student researchers represent 20 departments and programs across five colleges.

This event also allows students to practice their presentations skills in preparation for the campus-wide Student Research & Creative Activity Spring Symposium on Monday, March 4th, 2019. Top student oral presentations will be awarded the Provost’s Award for Research Excellence, and move on to represent Sacramento State at the systemwide Annual CSU Student Research Competition on April 26-27, 2019. Awardees’ Faculty Mentors will be granted professional development funds.

Thank you for joining us today for this special event. It gives us great pride to present these emerging scholars and their work to you, and we encourage you to share your enthusiasm and appreciation with them throughout the day.

With warm regards,

Dr. Semarhy Quinones-Soto
Interim Director, Student Research Center
Session 1, 9:30 am – 11:00 am

**Zimmerman, William, Geology**
Hurricane Harvey Rainout

**Hughes, Christine, Geology**
Implications of Land Use Practices on Coastal Ecosystems as Determined via Geochemical Properties in Corals of Salt River Bay, St. Croix, USVI

**McDonald, Devin, Geology**
Folsom Lake Isotopic Model

**Davidson, Elizabeth, Geology**
Reconstructing Temperature and Carbonate Ion Concentration in the Santa Barbara Basin Using Planktic Foraminifera

**Difuntorum, Shyla & Herrmann, Jennifer, Biological Sciences**
Enrichment of Precursor Cells of Gene Amplification Mutants Prior to Selective Pressure in *Acinetobacter baylyi*

**Ghobashy, Rola & Awwad, Habeeba, Biological Sciences**
Iron-Limitation and Siderophore Formation Increase cat Gene Amplification Mutant Frequencies in *Acinetobacter baylyi*

**Vega, Mariela, Biological Sciences**
Additional Sup35 Reduces DMSO Mediated Curing in Weak [PSI+]

**Daud, Parwana & Tong, Michael, First-Year Experience**
The First Year Experience Space: Contributing to Academic Success

**De Jerez, Alyssabeth, Psychology**
Ethnicity and Its Association with Family Respect and University Belonging

**Braafladt, Joshua & Eid, Georges, Chemistry**
Organic Synthesis of Lorneic Acid

**Mudrenko, Pavel, Biological Sciences**
Synthesis of Bicyclic Derivatives of 3-Amino-1,2,4-triazole: Standard vs. Microwave Approaches
Session 1, 9:30 am – 11:00 am

Bonham, Jessica & Heltzel, John, Civil Engineering
Communicating with Maps: Using Maps in Water Quality Engineering

Lagunas Guerrero, Yozantli, History
Mexican-American Education Project, 1968-1973

Sulaiman, Noor, Biological Sciences
Intra and Inter tissue Somatic Instability in Fragile - X Syndrome

Wani, Gaurav Dilip, Computer Science
Text to Speech Normalization Using Deep Learning

Albert, Diane, Speech Pathology & Audiology
NF1, NF2, Schwannomatosis, and Dysphagia: A Systematic Review of the Literature

Chapman, Alannah & Molinari, Alma, Anthropology
Age Estimation of Ursus americanus through Epiphyseal Fusion

Norton, Jason, Anthropology
Differential Fragmentation at Kathy's Rockshelter

de Anda, Elisa, Chemistry
Exchange of Bridging Ligands and Synthesis of Rhodium Trimer Clusters

Curtis, Samuel, Biological Sciences
Preliminary Assessment of Host Age Factors in Host Choice by the Pupal Parasitoid Spalangia cameroni

Maiquez, Vincent, Biological Sciences
Insecticide Resistance Development in the Filth Fly Pupal Parasitoid, Spalangia cameroni (Hymenoptera: Pteromalidae), Using Laboratory Selections

Navarro, Jessica, Biological Sciences
Assessing the Effects of Commercially-available Adult House Fly (Diptera: Muscidae) Baits on Larval Development Under Laboratory Conditions
_session 1, 9:30 am – 11:00 am_

Almazan, Michael & Mihalas, Angela, Biological Sciences
Adult House Fly (Diptera: Muscidae) Insecticide Resistance Development Using Larval Population Selections with Commercially-available Bait Formulations

Martinez, Christian, Chemistry
Design and Synthesis of New Macrocycles for Host-guest Interactions

Jacobs, Michaela, Chemistry
Searching for New Chemical Reactions to Cleave DNA

Heltzel, John & Shinneman, Joel, Civil Engineering
Modeling Low Impact Development (LID) in an Urban Retrofit Scenario: A Case Study at Davis Manor

Shinneman, Joel & Heltzel, John, Civil Engineering
Hydraulic Testing of Friable Media

Mishchenko, Michael, Chemistry
Employing Light to Activate Anti-Cancer Pro-Drugs

Rodriguez, Cristina, Biological Sciences
Designing a Motion-capture System Used for Quantifying Glide Trajectories of Humboldt Flying Squirrels (Glaucomys oregonensis)

Garnier, Christopher, Physics and Astronomy
A Search for Emerging Jet Signatures with the ATLAS Detector at CERN

Nestler, Danielle & Krebs, Allison, Biological Sciences Assessing Phenotypic Effects of Heat Stress and Starvation in the Economically Important Red Abalone, Haliotis rufescens

Medina, Kenia, Physics and Astronomy Data Quality Monitoring Display for the FLIC Board in the ATLAS FAST TracKer Trigger at CERN

Adame, Mayra & Fuentes, Cecilia, Sociology
Parental Perspective: Afterschool Program’s Impact on Under-resourced Parents and Children
Session 1, 9:30 am – 11:00 am

Stein, Jacqueline & Murphy, Lillian, Chemistry
Investigating Neural Stem Cell Proliferation in *Drosophila* to Determine the Potential Neurodevelopmental Impacts of Bisphenol-A Exposure

Tinsley, Brendan & Palacios, Yomira, Biological Sciences
Developmental Exposure to Bisphenol-A Causes Axon Outgrowth Defects in *Drosophila melanogaster*

Nguyen, Uyen & Sen, Yen, Biological Sciences
Analyzing *Drosophila* Courtship Behavior to Determine the Potential Neurodevelopmental Impacts of Bisphenol-A Exposure

Tupikova, Angelina, Biological Sciences
Examining How Bisphenol-A Affects Synapse Formation in a *Drosophila* Model of Autism

Welch, Chloe, Biological Sciences
The Autism-associated Chromatin Modifier, Chromodomain Helicase DNA Binding Protein 8, Affects Axon Guidance and Behavioral Phenotypes in *Drosophila*

Kern, Afton, Anthropology
Animals Past and Present

Lacey, Savauna & Bryeans, Shelby, Psychology
A Comparison of Preprinted and Write on Response Cards in a College Classroom

Eid, Georges, Chemistry
Synthesis of Lorneic Acid

Taylor, Danielle, Physics and Astronomy
Data Quality Monitoring for the Input Mezzanine Board on the Fast Tracker Trigger in the ATLAS Detector at CERN
Session 2, noon – 1:30 pm

Fabricante, Gino, Physics and Astronomy
Simulating the Pulsars of our Galaxy

Hu, Kai Siang, Physics and Astronomy
Installation and Testing of the gFEX board for the ATLAS Calorimeter Trigger Upgrade

Bedolla, Amanda & Ayala-Valdez, Lizvette, Biological Sciences
Developing Tissue Sampling and RNA Extraction Methods to Study Genetic Mechanisms of Thermal Tolerance in the Marine Snail Chlorostoma funebralis

Rabi, Mohammad, Electrical and Electronic Engineering
Optimized Bidding in a Mix-Energy Power Plant Consisted of Gas, Solar and Storage Units

Chavez, Bernardo & Bautista, Erik, Chemistry
Isolation of Cytotoxic Compounds from Oshála (Ligusticum grayi) Root

Sanders, Nicholas, Physics and Astronomy
Modeling Cells with Giant Vesicles Encapsulating Actin Networks

Durbin, Dakota, Anthropology
Relationship Between Behavior and Craniofacial Morphology: A Look at Domestication

Visueta, Victoria, Ethnic Studies
Understanding Language Loss and Its Relationship to Language Acquisition and Power in Multilingual Settings: A Case Study on How Identity Formation is Muted in Our Classrooms

Estebanez, Andres & Telles, Eric, Computer Engineering
SParkSys: The Smart Parking System

Peterson, Stephanie, Biological Sciences
Optimization of DNA Extraction Methods for Analysis of Gut Microbiota in a Drosophila Model of Autism
Session 2, noon – 1:30 pm

Cummings, Ryan, Biological Sciences
Characterization of Competitive and Cooperative Bacterial Ecology Mediated by Metabolite Sharing

Hua, Thy, Biological Sciences
Optimization of Growth for Prominent Skin-Associated Yeast Species

Tran, Jennifer, Biological Sciences
Antimicrobial Co-treatment of Fluoxetine and Probiotic *Lactobacillus plantarum* for Improved Wound Healing

Valdez, Nico, Biological Sciences
Optimization of Fluorescence *In Situ* Hybridization for Characterizing Biogeography of the Skin Microbiota

Nguyen, Gloria, Biological Sciences
Free Fatty Acid Interactions with Skin Microbes

Buccola, Madison, Public Policy and Administration
Effect of Foreclosure and Short sale on Home Price

Shachar, Sonny, Physics and Astronomy
Gamma-Ray Bursts: Unveiling the Mystery of the Gamma-Ray Emission

DeRobertis, Summer & Stilleke, Andrew, Biological Sciences
Egg Size Determines Fry Size in Cichlid Fishes

Hirano, Chad, Biological Sciences
Sacramento Pikeminnow Predation of Juvenile Salmonids in the Sacramento River and Tributaries

Delascagigas, Ayelet, Biological Sciences
Using a Novel Optical Instrument to Characterize Algal Blooms and Determine Their Effects on Sacramento-San Joaquin Delta Smelt
Session 2, noon – 1:30 pm

Moore, Colleen, Biological Sciences
Influence of Predatory-pair Size Asymmetry on Parental Investment Dynamics in a Biparental Cichlid Fish, the Convict Cichlid (Amatitlania nigrofasciata)

Watkins, Alexandra, Biological Sciences
Genetic Diversity and Population Structure of the Central American Cichlid, Amatitlania septemfasciata

Benitez, Breann, Biological Sciences
The Evolution of Mouthbrooding: Are Mouthbrooder Eggs Different?

LeFevre, Jamie M., Biological Sciences
Mapping the Distribution of a Fog Lichen in Northern California

Schulte, Kristyn, Biological Sciences
Comparative Landscape Genetics of Two North American Mesocarnivores

Rederer, Hali, Biological Sciences
Comparisons of Tidepool Fish Assemblages at Isla Natividad, Baja California Sur (BCS): Effects of Tidal Height, Geomorphology, and Other Tidepool Characteristics

Pacheco Enamorado, Yajenny, Mathematics and Statistics
Pre-service Teachers’ Conceptions of Area of a Rectangle

Bartley, Trevor & Crandall, Adam R., Psychology
Assessing the Function of the Perirhinal Cortex: Affective Stimulus Processing Across Modalities

Sparling, Stephen & Vang, Nou, Psychology
Assessing the Function of the Perirhinal Cortex: Developing a Perceptual Visual Task

Immekeer, Amanda & Camacho, Tiffany, Design
CSUS Tiny Houses: The Nest
Session 2, noon – 1:30 pm

**Nunes, Seth, Chemistry**
Determining Solid State Diffusion Coefficient Kinetics of Metal Cations in Zeolites

**Soehn, Ryan, Chemistry**
Dealumination and Metal Atom Planting of Natural Zeolite Mordenite for Catalytic Applications

**Tran, Steven, Chemistry**
Photocatalytic Decomposition of Chlorinated Compounds with Zeolite Titanium Silicalite

**Quezada, Alejandra & Mejia, Brian C., Biological Science**
Detecting Enzymes Involved with the Production of Catecholamines in Diabetic Chronic Wounds

**Ziba, Anthony, Biological Sciences**
Pattern of Herbivory & Predation by Crabs in a Florida Mangrove

**Albright, Sarah, Biological Sciences**
Impacts of Water Movement on Fragmentation of Algae in San Francisco Bay

**Johnson, Kathrine, Psychology**
The Impact of Atypical Development and Trauma History on Brain Structure in First Episode Psychosis

**Diehl, Cory & Miller, Aaron, Electrical and Electronic Engineering**
Piezoelectric Power Generation

**Kumar, Sheelta & Truong, Catalina, Biological Sciences**
Analysis of Pre-Sequencing Methodologies for Determining Bacterial Species and Relative Abundance in Gut and Skin Microbiome Communities

**Czar, Roshelle, Women Studies**
Religion: Survival of the Fittest
Session 2, noon – 1:30 pm

Ornouski, Erika, Geography
Identifying Stable Isotopic Signatures of Atmospheric River Storms Along a Transect of the Sacramento Valley

Pino, Christina, Physics and Astronomy
Improving the Data Formatter’s Data Quality Monitoring Display for the Fast Tracker Trigger at CERN
Acknowledgments

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

Faculty Mentors

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<tr>
<th>Amy Wagner</th>
<th>Mary McCarthy-Hintz</th>
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<tbody>
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<td>Andrew Reams</td>
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<td>Bridget Parsh</td>
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Student Research Center (SRC) Staff

Hanh Tran (SRC Program Coordinator)
Alyssabeth de Jerez (Graduate Student Assistant & Lead Student Research Ambassador)
Bernardo Chavez (Student Research Ambassador & CSU-LSAMP/SEE Liaison)
Michael Pisias (Student Research Ambassador)
Joel Rogers (Student Research Ambassador)
SACRAMENTO STATE
STUDENT RESEARCH & CREATIVE ACTIVITIES

SPRING SYMPOSIUM

The annual Spring Symposium is a campus-wide event to celebrate and recognize the outstanding scholarly accomplishments of Sacramento State students.

- Monday, March 4th, 2019 at the University Union
- Open to all students in all disciplines
- Monetary awards for top student participants and their faculty mentors
- Oral presentations only (no poster presentations)
- Up to ten oral presentations will be selected to represent Sacramento State at the 33rd annual CSU Student Research Competition (April 26-27, 2019 | CSU Fullerton)

For More Information, visit the 2019 Spring Symposium website.

Important Dates

January 31st, 2019
Registration Opens for the Spring Symposium

February 8th, 2019
Registration Deadline for the Spring Symposium

March 4th, 2019
Sacramento State Student Research Symposium at the University Union

April 26-27th, 2019
33rd Annual CSU Student Research Competition at CSU Fullerton