2019
SACRAMENTO STATE
STUDENT RESEARCH
& CREATIVE ACTIVITY
SPRING SYMPOSIUM
Recognizing the Pursuit of Research, Scholarship & Creative Activities by Our Students
Monday, March 4, 2019
University Union, Sacramento State
9:00 am – 2:00 pm
PRESENTED BY: STUDENT RESEARCH CENTER, ACADEMIC AFFAIRS, and
the OFFICE of RESEARCH, INNOVATION, and ECONOMIC DEVELOPMENT
Program Schedule

8:00 am – 9:00 am  Check In  
(Redwood Room, 1st Floor)

Presentation Sessions

9:00 am – 11:40 am  Session 1: Engineering, Science & Math  
(Maidu Room, 3rd Floor)  
9:00 am – noon  Session 2: Arts & Letters  
(Folsom Room, 3rd Floor)  
9:00 am - 10:00 am  Session 3: Health & Human Services Interdisciplinary Studies  
(Sequoia Room, 1st Floor)  
10:00 am - noon  
9:00 am – 11:40 am  Session 4: Education, Social Sciences & Interdisciplinary Studies  
(Miwok Room, 3rd Floor)  
9:00 am – 11:20 am  Session 5: Biological Sciences  
(Hinde Auditorium, 1st Floor)  
9:00 am – 11:20 am  Session 6: Biological Sciences  
(Cypress Room, 1st Floor)  
9:00 am – 10:00 am  Session 7: Biological Sciences  
(Capital Room, 3rd Floor)  

Luncheon & Awards Ceremony

Noon –1:30 pm  Luncheon & Keynote Address  
(Redwood Room)  
12:30 pm – 1:30 pm  Provost’s Awards for Research Excellence & Announcement of 33rd CSU Student Research Competition Participants
Welcome students, faculty, family and friends!

On behalf of the Student Research Center (SRC), Academic Affairs, and the Office of Research, Innovation, and Economic Development (ORIED), we welcome you to the 2019 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 winners are selected to represent Sacramento State at the 33rd CSU Student Research Competition.

This year, 59 students (35 undergraduates and 24 graduates) are presenting their original scholarly works. The top two undergraduate and graduate oral presentations in each category will be awarded the Provost’s Award for Research Excellence in recognition of their outstanding achievement in original scholarship. In addition, their faculty mentors will receive professional development awards in recognition of their contributions to these emerging scholars. We will also select up to 10 students to represent Sacramento State at the 33rd CSU Student Research Competition, which will be held at California State University, Fullerton on April 26-27, 2019.

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,

Yvonne Harris, PhD
Associate Vice President for Research, Innovation, and Economic Development
Session 1: Engineering, Science & Math

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

9:00 am  CROSSBASE - An Open Source Database Data Migrator
Myalapalli, Vamsi Krishna
Graduate, Computer Science
Mentors: Jingwei Yang, PhD and Bill Mitchell, PhD

9:20 am  TEXT NORMALIZATION FOR SPEECH RECOGNITION USING DEEP LEARNING
Wani, Gaurav Dilip
Graduate, Computer Science
Mentor: Hauquan Chen, PhD

9:40 am  Carbon Sequestration in a Microalgae Photobioreactor
Hagen, Timothy
Graduate, Mechanical Engineering
Mentor: Farshid Zabihian, PhD

10:00 am  Exergy Analysis of Power Plant
Shafique, Omar with Priyanka Bhujbal
Graduate, Mechanical Engineering
Mentor: Farshid Zabihian, PhD

10:20 am  Emergency Services Interoperability
Diehl, Cory
Undergraduate, Electrical and Electronic Engineering
Mentor: Russ Tatro, PhD
10:40 am  **Coloring the Integers: Pseudo Progressions and Ramsey Theory**  
Throckmorton, Morgan  
Undergraduate, Mathematics  
Mentor: Jay Cummings, PhD

11:00 am  **Power Generation From Unexpected Places**  
Diehl, Cory  
Undergraduate, Electrical and Electronic Engineering  
Mentor: Atousa Yazdani, PhD

11:20 am  **Data Quality Monitoring Display for the FLIC Board in the ATLAS Fast Tracker Trigger at CERN**  
Medina, Kenia  
Undergraduate, Physics and Astronomy  
Mentor: Joshua Moss, PhD
Session 2: Arts & Letters

9:00 am – noon
Folsom Room, 3rd Floor

9:00 am
"Wow, Are You Married? Communicative Practices of Married International Students in the United States"
Umer, Rida
Graduate, Communication Studies
Mentor: Shawna Malvini Redden, PhD

9:20 am
Survival of Armenian Identity: As told by the St. James Armenian Apostolic Church
Stepanyan, Anaida
 Graduate, Communication Studies
Mentor: Gerri Smith, PhD

9:40 am
Rewriting Experiences of Trauma: Narrative Fragmentation and the Imagined Nation in Kamila Shamsie’s Kartography
Thomas, Ashley
Graduate, English
Mentor: Torsa Ghosal, PhD

10:00 am
The Creation of an Impreza: The Symbolic Link Between Lorenzo de' Medici and the Florentine Giraffe
Roseberry, Merrill
Undergraduate, Art
Mentor: Rachel Miller, PhD

10:20 am
Mehmed II’s Italianate Portrait Medals As Westernized Propaganda
Rucker, Talia
Undergraduate, History
Mentors: Rachel Miller, PhD and Elaine O'Brien, PhD
10:40 am  
*Kunstkammer: Knowledge, Power, and Self*  
Kiley, Hunter  
Undergraduate, History  
Mentor: Rachel Miller, PhD  

11:00 am  
*Spolia from the Templo Mayor and the Processes of Spanish Colonialism*  
Casey, Belinda  
Undergraduate, Art History  
Mentor: Rachel Miller, PhD  

11:20 am  
*Transfer Students Perception of Group Belonging*  
Humphreys, Tony  
Undergraduate, Communication Studies  
Mentor: Kikuko Omori, PhD  

11:40 am  
*Imaging the Transition: The New Woman as an Expression of the Duality of Modernity*  
Lopez, Janina  
Undergraduate, History  
Mentor: Elaine O’Brien, PhD
Session 3: Health & Human Services and Interdisciplinary Studies

9:00 am – noon
Sequoia Room, 1st Floor

9:00 am
Misheard or Misremembered: Distinguishing Between Hearing and Memory Errors
Thomas, Megan with Rita Flores
Graduate, Psychology
Mentors: Alexandra B. Morrison, PhD and Laura Gaeta, PhD

9:20 am
THERAPEUTIC INTERVENTION FOR A 3-YEAR-OLD GIRL WITH CASK GENETIC DISORDER
McCandless, Cathryn
Graduate, Physical Therapy
Mentor: Katrin Mattern-Baxter, PhD

9:40 am
Senate Bill 1322: The interconnection of law and society
Kauer, Timothy
Graduate, Criminal Justice
Mentor: Xin Ren, PhD

10:00 am
Hunting Rabbits on a Graph
Humburg, Benjamin
Undergraduate, Mathematics
Mentor: Jay Cummings, PhD

10:20 am
Hinton, Kenneth
Graduate, English
Mentor: Nancy Sweet, PhD
10:40 am  Energy Audit of Museum Building  
Bhujbal, Priyanka  
Graduate, Mechanical Engineering  
Mentor: Farshid Zabihian, PhD

11:00 am  Population and life stage-specific responses to heat stress in the intertidal snail *Chlorostoma funebralis*  
Calisa, Lourdes Anne  
Undergraduate, Biological Sciences  
Mentor: Lani Gleason, PhD

Al Habibi, Haider  
Graduate, Mechanical Engineering  
Mentor: Farshid Zabihian, PhD

11:40 am  Divine Threat : Analyzing The Mystical Experiences of Women in Various Religions  
Czar, Roshelle with Layla Alburati  
Undergraduate, Women's Studies
Session 4: Education, Social Sciences, & Interdisciplinary Studies

9:00 am – 11:40 am
Miwok Room, 3rd Floor

9:00 am
Characteristics of the Uninsured "Young Invincibles in California"
Dorsey, Patrick
Graduate, Public Policy and Administration
Mentor: Rob Wassmer, PhD

9:20 am
Research by Dietetic Interns Identifies Food Stores with the Best Value for Sacramento State Students
Custer, Elizabeth with Irene Ventura Curiel
Graduate, Family and Consumer Sciences
Mentor: Nadine Braunstein, PhD, RD, FAND

9:40 am
Oh, The Places You'll Go!: Power and Public Restrooms
Bruffett, Deborah
Graduate, Anthropology
Mentor: Michael Walker, PhD

10:00 am
Solving Disorientation Problem in Large Online Learning Conversations: A Design Science Research Study
Sandhu, Avneet with Oliver Solórzano
Undergraduate, Business Administration
Mentor: Evren Eryilmaz, PhD

10:20 am
A Longitudinal Investigation of Personality as a Predictor of Vigorous Exercise Using a Two-Part Mixed-Effects Model
Sanchez, Vanessa with Meghan Snipes
Undergraduate, Psychology
Mentor: Melissa McTernan, PhD
10:40 am  
Companion planting as an understory restoration strategy along the American River  
Mir, Moiz  
Undergraduate, Environmental Studies  
Mentor: Michelle Stevens, PhD

11:00 am  
Gender Role Attitudes and Self-Esteem  
Waters, Samantha  
Undergraduate, Psychology  
Mentor: Melissa McTernan, PhD

11:20 am  
When and How to Use Math Based Card Tricks in the Classroom  
Mitchell, Morgan  
Undergraduate, Mathematics  
Mentor: Jay Cummings, PhD
Session 5: Biological Sciences

9:00 am
Determining if Bisphenol A Confers Risk of Autism using Drosophila melanogaster as a Model
Tinsley, Brendan
Graduate, Biological Sciences
Mentor: Kimberly Mulligan, PhD

9:20 am
CGG trinucleotide instability in Fragile X syndrome and associated disorders
Sulaiman, Noor
Undergraduate, Biological Sciences
Mentor: Flora Tassone, PhD

9:40 am
Investigating the Ecological Response to Polyploidization in Clarkia
Pisias, Michael with Laura Daw
Undergraduate, Biological Sciences
Mentor: Clayton Visger, PhD

10:00 am
It's not the heat, it's the humidity: burrow microhabitats created by a boring crustacean ameliorate stressful conditions in the intertidal
Roberts, Ethan
Undergraduate, Biological Sciences
Mentor: Timothy Davidson, PhD

10:20 am
Egg Size Determines Fry Size in Substrate-Spawning Cichlid Fishes
Sanders, Leigh with Saeed Latifi
Undergraduate, Biological Sciences
Mentor: Ron Coleman, PhD
10:40 am  The Autism-Associated Chromatin Modifier, Chromodomain Helicase DNA Binding Protein 8/kismet, Affects Axon Guidance and Behavioral Phenotypes in Drosophila melanogaster
Welch, Chloe
Undergraduate, Biological Sciences
Mentor: Kimberly Mulligan, PhD

11:00 am  Exposure to the Environmental Neurotoxicant Polychlorinated Biphenyl-95 Phenocopies a Common Autism Risk Gene in Drosophila melanogaster
Murphy, Lillian
Undergraduate, Biological Sciences
Mentor: Kimberly Mulligan, PhD
Session 6: Biological Sciences

9:00 am – 11:20 am
Cypress Room, 1st Floor

9:00 am
Insecticide Resistance Evolution in the Filth Fly Pupal Parasitoid, Spalangia cameroni (Hymenoptera: Pteromalidae), Using Laboratory Selections
Maiquez, Vincent
Graduate, Biological Sciences
Mentor: Jimmy Pitzer, PhD

9:20 am
Differential Effects of Short and Long Chain Fatty Acid on Growth and Biofilm for Bacterial Skin Commensals and Pathogens Species of Skin-Associated Bacteria and Yeast
Nguyen, Gloria
Graduate, Biological Sciences
Mentor: Robert Crawford, PhD

9:40 am
Analysis of Pre-Sequencing Methodologies for Determining Bacterial Species and Relative Abundance in Gut and Skin Microbiome Communities
Truong, Catalina
Graduate, Biological Sciences
Mentor: Robert Crawford, PhD

10:00 am
The Evolution of Mouthbrooders: Are mouthbrooders eggs different?
Benitez, Breann
Undergraduate, Biological Sciences
Mentor: Ron Coleman, PhD
10:20 am  
**Isolation of Cytotoxic Compounds from Oshála**  
*(Ligusticum grayi)* **Root**  
Chavez, Bernardo  
Undergraduate, Biochemistry  
Mentor: Mary McCarthy-Hintz, PhD

10:40 am  
Peterson, Stephanie  
Undergraduate, Biological Sciences  
Mentors: Robert Crawford, PhD and Kimberly Mulligan, PhD

11:00 am  
**Gene Amplification Mutants Prior to Selective Pressure in Acinetobacter baylyi**  
Davis, Daniel  
Undergraduate, Biological Sciences  
Mentor: Andrew Reams, PhD
Session 7: Biological Sciences

9:00 am – 10:00 am
Capital Room, 3rd Floor

9:00 am
Influence of Iron Concentration on Gene Amplification Frequencies in *Acinetobacter baylyi*
Winters, Tesa with Katherine Bennett
Graduate, Biological Sciences
Mentor: Andrew Reams, PhD

9:20 am
Optimization of Methods to Characterize the Biogeography of Skin Microbiota Using Fluorescence *in situ* Hybridization
Valdez, Nico
Undergraduate, Biological Sciences
Mentor: Robert Crawford, PhD

9:40 am
"Falling with Style? Comparison of Descent Control Behavior in Terrestrial, Arboreal, and Aerial Squirrels"
Minhas, Roshani with Kevin Mahlman
Undergraduate, Biological Sciences
Mentor: Joseph Bahlman, PhD
Jurors

We thank the following faculty for their service as volunteer jurors:

Amy Wagner
Catheryn Koss
Clint Collins
Corinne Lardy
Gwenaelle Begue
Jamie Kneitel
Jimmy Pitzer
Julia Tomassili
Katherine Cota
Katrin Mattern-Baxter
Kimberly Mulligan
Laura Gaeta

Mark Rodriguez
Matthew Brown
Matthew Krauel
Mona Siegel
Patrick Pieng
Rodolfo Barniol
Duran
Sarah Jouganatos
Serpil Atamaz Topcu
Tonia Davis
Urvashi Mulasi
Farshid Zabihian
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Jimmy Pitzer, PhD  
Joshua Moss, PhD  
Farshid Zabihian, PhD  
Jay Cummings, PhD  
Atousa Yazdani, PhD  
Mary McCarthy-Hintz, PhD  
Gerri Smith, PhD  
Rachel Miller, PhD  
Robert Wassmer, PhD  
Robert Crawford, PhD  
Joseph Bahlman, PhD  
Ron Coleman, PhD  
Elaine O’Brien, PhD  
Torsa Ghosal, PhD  
Kikuko Omori, PhD  
Alexandra B. Morrison, PhD  
Kimberly Mulligan, PhD  
Laura Gaeta, PhD  
Katrin Mattern-Baxter, PhD  
Xin Ren, PhD  
Lani Gleason, PhD  
Evren Eryilmaz, PhD  
Nadine Braunstein, PhD, RD, FAND  
Michael Walker, PhD  
Melissa McTernan, PhD  
Michelle Stevens, PhD  
Timothy Davidson, PhD  
Flora Tassone, PhD  
Clayton Visger, PhD  
Russ Tatro, PhD

**ORIED & SRC Staff**

Shannon Rexin (OIRED)  
Julie McGinty (ORIED)  
Hanh Tran (SRC)  
Megan Heinicke, PhD (SRC)  
Susan Perez, PhD (SRC)  
Ron Coleman, PhD (SRC)  
Alyssabeth de Jerez (SRC Graduate Student Assistant)  
Michael Pisias (SRC Ambassador)  
Joel Rogers (SRC Ambassador)
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University Union

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Important Dates
April 26-27, 2019

33rd CSU Student Research Competition
California State University, Fullerton
For More Information:

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Website: csus.edu/studentresearchcenter