Creative Activities & Research Symposium

August 17th, 2016
University Library
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For our online program and more check out [www.cpp.edu/~our-cpp](http://www.cpp.edu/~our-cpp)
The 2nd Annual Creative Activities and Research Symposium

Oral Session Schedule

- **Life Sciences**
  - Room 1828, 1st Floor
  - 9:00 AM to 10:30 AM
- **Engineering**
  - Room 2907, 2nd Floor
  - 9:00 AM to 11:00 AM
- **Math and Physical Sciences**
  - Room 2913, 2nd Floor
  - 9:30 AM to 10:30 AM
- **Social Sciences, Humanities, and Business**
  - Special Collections, 4th Floor
  - 9:00 AM to 11:00 AM
- **UCCONNECT**
  - Special Events, 4th Floor
  - 8:30 AM to 3:40 PM

The 3rd Floor Grand Reading Room

- **Demo Day**
  - 9:00 AM to 11:30 AM
- **Lunch and Keynote**
  - 11:30 AM to 1:30 PM
- **Poetry**
  - 1:30 PM to 3:00 PM
- **Dance**
  - 3:15 PM to 3:45 PM

The 4th Floor Grand Reading Room

- **Post Presentations**
  - 10:30 AM to 11:30 AM
Welcome to the 2nd Annual Creative Activities and Research Symposium
Located in the University Library

Welcome to the 2nd Annual Creative Activities and Research Symposium. The CPP Office of Undergraduate Research is proud to highlight the extracurricular projects students are engaged in. These projects deepen and broaden student knowledge and prepare them to be lifelong learners. Sharing the results of their hard-work with the broader community is the culmination of their research experience.

Today, for your pleasure, we have included not only research that takes place on campus, but creative activities as well. While research, STEM, and the social sciences provide us with the understanding of how our world works, creative activities and the humanities provide us with the understanding of how we interpret and understand the world around us.

It is our privilege and pleasure to host and present the 2nd Annual Creative Activities and Research Symposium to the Cal Poly Pomona community, and we look forward to this and the many symposiums that are to come.

Sincerely

Winny Dong
Director, Office of Undergraduate Research
Dr. Sadiq Shah, a university administrator with long ties to research in academia and industry, has been named the Associate Vice President for Research, Innovation and Economic Development at Cal Poly Pomona. Dr. Shah was the Vice Provost for Research and Sponsored Projects at the University of Texas, Pan American, in Edinburg starting in 2012. In addition to that role, he served as the interim vice president for research at the University of Texas, Brownsville.

“Cal Poly Pomona as a polytechnic university has a unique mission to engage students in hands-on research, scholarship and creative activities. This experiential learning platform has earned a distinction and recognition for Cal Poly Pomona,” Shah says. “In the life of the institution, I believe that Cal Poly Pomona is at a unique juncture to take the teacher-scholar model and use the teaching platforms that will take the institution to the next level of distinction, with an opportunity to serve as a national model for other higher education Institutions.”

“Dr. Shah’s extensive experience in research and his ability to manage and lead institutional change initiatives will greatly benefit Cal Poly Pomona,” says Provost Sylvia Alva.

Excerpts from Polycentric
UCCONNECT’s Keynote Address
Assistant Director, UCCONNECT and Chief Analytics Office, VIA Analytics
Dr. Juan Argote-Cabanero

Juan is UCCONNECT's assistant director. He holds a PhD in Civil and Environmental Engineering. His dissertation explored the theory and application of dynamic holding control strategies to improve bus operations. Juan's research also focuses on other elements concerning public transit operations and intelligent transportation systems, with an emphasis on the Connected Vehicle technology. Juan has published in numerous journals including Transportation Research Part B. He is also a co-founder of VIA Analytics, a start-up focused on providing technological solutions for the public transportation industry.

UCConnect (University of California Center for Economic Competitiveness in Transportation) is a collaboration between the Cal Poly Pomona Civil Engineering Program and the newly established Region 9 University Transportation Center (UC Berkeley, UCLA, UC Irvine, UC Santa Barbara, and UC Riverside). Twenty undergraduate students (ten from CPP) have been recruited with interests in transportation research from underserved and underrepresented demographics (e.g. African-American, Latino, Native Americans and Pacific Islanders). These students have worked in Region 9 University Centers over the past ten weeks and will be presenting their final projects at the symposium.
The 2nd Annual Creative Activities and Research Symposium

Reception: 3rd Floor Grand Reading Room
11:30 AM to 1:30 PM

Introduction 12:00 PM
Dr. Winny Dong, Office of Undergraduate Research

Keynote Address 12:02 PM
Dr. Sadiq Shah, Office of Research
“Research, Innovation and Entrepreneurship Nexus”

Program Address 12:32 PM
Dr. Juan Argote-Cabanero, UCCONNECT
Dr. Olukemi Sawyerr, Student Innovation Idea Lab

Closing 12:50 PM
Dr. Winny Dong, Office of Undergraduate Research
Faculty Moderator: Dr. Gabriel Davidov-Pardo

9:00 AM  Danielle Ruais
Faculty Mentor: Dr. Anna Soper
Project Title: The Effects of a Nutrient-Rich Diet on the Parasitic Wasp Tamarixia radiata (Waterston) (Hymenoptera: Eulophidae)

9:15 AM  Michelle Ecarma, Lauren Chuman, and Rafael Martin Del Campo
Faculty Mentor: Dr. Gabriel Davidov-Pardo
Project Title: Preliminary Study on the Optimization of the Conditions to Form Tea-infused Alginate Spheres for Flavor Control Release

9:30 AM  Hector Alarcon
Faculty Mentor: Dr. S. Chantal Stieber
Project Title: Vanadium Carbene Catalysts for Ethylene Polymerization

Break at 9:45 AM

10:00 AM  Khashayar Hakamian
Faculty Mentor: Dr. Reza Baghaei Lakeh
Project Title: Designing A Solid-Based Thermal Energy Storage Unit for a High Temperature Hybrid Compressed Air Energy Storage System

10:15 AM  Benjamin Soto
Faculty Mentor: Dr. Nancy Buckley
Project Title: Analysis of the cell-line dependent effect of garlic on the production of cytokines by macrophages

CARS 2 Abstracts & Other Research Available in Bronco Scholar
Visit: Broncoscholar.library.cpp.edu
Engineering Oral Presentations
Room 2907, 2nd Floor
9 AM to 11 AM

Faculty Moderator: Dr. Omar Mora and Dr. Winny Dong

9:00 AM   Withanage Mahanthanthila and Josiah Pekary
Faculty Mentor: Dr. Maryam Shafahi
Project Title: Fruit harvesting robots

9:15 AM   Brandon Lace, Corbin Doi, Jacob Sabraw, Jesse Potter, Aaron Thormodsen, and Anthony Nguyen
Faculty Mentor: Dr. Maryam Shafahi
Project Title: Aquaponics

9:30 AM   Erik Gutierrez, Sharoon Samuel, and Jae Ohm
Faculty Mentor: Dr. Maryam Shafahi
Project Title: Experimental Analysis of a Cylindrical Heat Pipe Thermal Performance

9:45 AM   Melissa Guardado and Ariana Villafuerte
Faculty Mentor: Dr. Omar Mora
Project Title: Landslide Detection Using GIS and Remote Sensing Data

Break at 10:00 AM

10:15 AM  Felix Monge, Jeimy Portillo, Danyal Cave, Yadira Guevara-Carmona, and Santiago Mateus
Faculty Mentor: Dr. Ali Sharbat
Project Title: Solar Assisted Water Purification Pilot System

10:30 AM  Dean Coco
Faculty Mentor: Dr. Anand Sarwate
Project Title: Allocating Privacy Risk Across Multiple Stages of a Machine Learning Pipeline

10:45 AM  Nayeli Guzman, Vincent Chen, and Taajza Singleton
Faculty Mentor: Dr. Ronald Yeung
Project Title: Rotational Rock Slope Failures
Math and Physical Sciences Oral Presentations
Room 2913, 2nd Floor
9:30 AM to 10:30 AM

Faculty Moderator: Dr. Anna Soper

9:30 AM  Tharindu Jayasinghe and Jose Velasco
Faculty Mentor: Dr. Matthew Povich
Project Title: The Milky Way Project: A Galactic Bubble and Bow Shock Hunt

9:45 AM  Phan Phu
Faculty Mentor: Dr. Chantal Stieber
Project Title: Developing X-ray Emission Spectroscopy for Characterizing Pollutants

10:00 AM  Hsien-Te Kao
Faculty Mentor: Dr. Jennifer Switkes
Project Title: Mathematical Modeling of Human Radicalization

10:15 AM  Carlos Mora
Faculty Mentor: Dr. Bohdan Schatschneider
Project Title: Unlocking the Electronic Genome of Halogenobenzenes

“I encourage you to use this modern and beautiful facility fully. Treat it as your study, your office, your sitting or living room. We believe the Library should be your home away from home.”

- Dr. Ray Wang, Dean of the University Library
Social Sciences, Humanities, and Business Oral Presentations
Special Collections, 4th Floor
9 AM to 10:45 AM

Faculty Moderator: Dr. Jose Aguilar-Hernández

9:00 AM Kristin Kawecki
Faculty Mentor: Dr. Susannah Drissi
Project Title: The Beat That Has Gone On

9:15 AM Kimberly Alvarez
Faculty Mentor: Dr. Jose Aguilar-Hernandez
Project Title: Development of a Latina Epistemology: Consciousness By Way of Ganas

9:30 AM Berenice Monarrez
Faculty Mentor: Dr. Jack Fong
Project Title: An Integrative Outlook on Burn Survivors and Post-traumatic Growth

9:45 AM Vivianne Mitri
Faculty Mentor: Dr. Glenn Kageyama
Project Title: New approach to Alzheimer's Research

Break at 10:00 AM

10:15 AM María Reyes Olmedo, Lorena Marquez, Tristan Warner and Luis David García Puente
Faculty Mentor: Dr. S. Terri Gomez
Project Title: PolyTransfer: Building a Transfer Receptive Culture Through High Impact Practices

10:30 AM María Reyes Olmedo
Faculty Mentor: Dr. Jose Aguilar-Hernández
Project Title: "Existimos porque resistimos": Lyrics of Revolution and Resistance in Latin America
UCCONNECT Oral Presentations
Special Events Room, 4th Floor
8:30 AM to 3:30 PM

Faculty Moderators: Dr. Wen Cheng and Dr. Xudong Jia

8:30 AM  Opening Remarks from Dr. Wen Cheng and Dr. Xudong Jia

8:35 AM  Sahar Ahmed
Faculty Mentor: Dr. Ali Sharbat
Project Title: *geosynthetics And design of pavements*

8:50 AM  Kevin Balam
Faculty Mentor: Dr. Jinsung Cho
Project Title: *Efficiency of BIM Design for Reinforced-Concrete Design in Roadways*

9:05 AM  Niyati Bichu
Faculty Mentor: Dr. Anand Panangadan
Project Title: *Analyzing Social Media Communications for predicting variation in Vehicle Miles Traveled*

9:20 AM  Sawanpreet Singh Dhaliwal
Faculty Mentor: Dr. Xinkai Wu
Project Title: *Impact of Rain on Traffic Parameters in Southern California*

9:35 AM  Kristine Estrada
Faculty Mentor: Dr. Rosa Vasconez
Project Title: *Analytical Investigation on Pavement Performance in California*

9:50 AM  Vian Ghazi
Faculty Mentor: Dr. Yongping Zhang
Project Title: *Streamlining the Transit Level of Service Data Collection Process for SCAG's RTP*

Break at 10:05 AM
UCCONNECT Oral Presentations  
Special Events Room, 4th Floor  
8:30 AM to 3:30 PM

10:15 AM  Gurdiljot Singh Gill  
Faculty Mentor: Dr. Wen Cheng  
Project Title: Comparison of temporal crash prediction models

10:30 AM  Ziman Jia  
Faculty Mentor: Dr. Wen Cheng  
Project Title: Comparison of influential factors during right turn violation on green

10:45 AM  Yongye Jin  
Faculty Mentor: Dr. Anand Panangadan  
Project Title: Peer-to-peer Shared Ride Services for Healthcare Delivery

11:00 AM  Fangping Lei  
Faculty Mentor: Dr. Yongping Zhang  
Project Title: Off-street parking cost forecasting model for Southern California

11:15 AM  Tin Lieu  
Faculty Mentor: Dr. Omar Mora  
Project Title: Landslide Detection Along Transportation Networks Using Spatial Data

Break for Symposium Reception from 11:30 AM to 12:50 PM

1:00 PM  Cecilio Navarro  
Faculty Mentor: Dr. Giuseppe Lomiento  
Project Title: Architectured Materials for Seismic Resilient Infrastructure

1:15 PM  Byron Phung  
Faculty Mentor: Dr. Zhen Yu  
Project Title: Traffic Signal Status Mobile App
UCCONNECT Oral Presentations
Special Events Room, 4th Floor
8:30 AM to 3:30 PM

1:30 PM  Pritesh Pimpale  
Faculty Mentor: Dr. Lourdes Abellera  
Project Title: Gamification to Promote Sustainable Transportation

1:45 PM  Felix Ramos  
Faculty Mentor: Dr. Xinkai Wu  
Project Title: Analyzing Driving Behaviour Using Driving Simulator and Virtual Reality with Continuous Flow Intersection

2:00 PM  Jonathan Rinella  
Faculty Mentor: Dr. Ali Sharbat  
Project Title: Heavy Metals and the Santa Ana River Watershed

Break at 2:15 PM

2:25 PM  Danyang Tian  
Faculty Mentor: Dr. Guoyuan Wu  
Project Title: Connectivity Based Optimal Lane Selection Assistance System

2:40 PM  Luis Torres  
Faculty Mentor: Dr. Ghada Gad  
Project Title: CAUSES OF DISPUTES IN PUBLIC TRANSPORTATION PROJECTS USING DIFFERENT ALTERNATIVE CONTRACTING METHODS

2:55 PM  Sara Mathews  
Faculty Mentor: Dr. Xudong Jia  
Project Title: Characteristics of Transfer Passenger Flows Within an Urban Transit System

3:10 PM  Roya Falahati  
Faculty Mentor: Dr. Xudong Jia  
Project Title: Innovative Perspective to Signal Synchronization Analysis
The Student Innovation Idea Lab (iLab) was established by Cal Poly Pomona to stimulate innovation, technology development, and creativity, in addition to fostering the transfer and commercialization of student and faculty projects. In its inaugural year, the iLab has encouraged the development and growth of an entrepreneurial ecosystem at CPP through the creation of multiple resources and programming to support student entrepreneurs.

One such resource is a Summer Accelerator, which is an 8-week program for CPP Startup teams. This year, 6 student startup teams were accepted into the Accelerator, with the goal of further developing their ideas, performing customer discovery, pivoting, and deciding to continue developing their idea or exiting. The students participate in sessions presented by experts in various topics such as Intellectual Property, customer discovery, Business Model Canvas, business formation, venture financing and crowd funding. The students are mentored by industry professionals, SCORE mentors, SBDC consultants, Cal Poly Pomona faculty and staff, and each other.

Demo Day is the culmination of the startup teams' work and provides a platform for them to showcase their fledging ventures, pitch their developing ideas, and receive constructive feedback from a panel of experts. Each team is given 5 minutes to pitch followed by a 10 minute Q&A from the panelists.
Student Innovation Idea Lab Demo Day
The Grand Reading Room, 3rd Floor
9 AM to 11:30 AM

Faculty Moderator: Dr. Olukemi Sawyerr

9:00 AM  Kyle Bartholomew and Stephen Skilbred  
Faculty Mentor: Dr. Olukemi Sawyerr  
Project Title: Fayble Furniture

9:20 AM  Terrell Bolden and Armando Cordero  
Faculty Mentor: Dr. Olukemi Sawyerr  
Project Title: B2C presents its innovative Scooter

9:40 AM  James Chee and Roger Sengphanith  
Faculty Mentor: Dr. Olukemi Sawyerr  
Project Title: JPIInnotech Innovating Hospitality

Break at 10:00 AM

10:10 AM  Jennifer Nunez  
Faculty Mentor: Dr. Olukemi Sawyerr  
Project Title: 7th Planet Cases

10:30 AM  Eric Liang and Harrison Lee  
Faculty Mentor: Dr. Olukemi Sawyerr  
Project Title: Goal Striver

10:50 AM  Jesse Smith and Theresa Bastian  
Faculty Mentor: Dr. Olukemi Sawyerr  
Project Title: Soundsmith introduces the Sound Cathcher
1. Patricia Galvan  
Faculty Mentor: Dr. Shelton Murinda  
Project Title: *Use of PCR for Detection of Mastitis-Causing Pathogens Isolated from Bovine Quarter Milk Samples*

2. Jasmine Martinez  
Faculty Mentor: Dr. Glenn Kageyama  
Project Title: *The Propagation of Guayule (Parthenium argentatum A. Gray) Through Tissue Culture*

3. Cambria Montiel and Alyxandria Enriquez  
Faculty Mentor: Dr. Andrew Steele  
Project Title: *Diets varying in sucrose concentrations affecting circadian activity*

4. Krista Myles and Stephanie Bowler  
Faculty Mentor: Dr. Bharti Sharma  
Project Title: *Methods examining morphology, evolution, and development of Aquilegia origami*

5. Jonathan Stoffel  
Faculty Mentor: Dr. S. Chantal Stieber  
Project Title: *Cobalt Complexes for Reduction of Nitrogen Oxides*

6. Matthew Gonzalez, Dona Elline Hettiaratchy, and Brandi Wooten  
Faculty Mentor: Dr. Ertan Salik  
Project Title: *Improving the Robustness of Tapered Optical Fibers by Embedding them within Microfluidic Channels.*

7. Edward Coronado III and Laura Razo  
Faculty Mentor: Dr. Karen Russikoff  
Project Title: *Writing Technologies: From Chisel to Pen to Twitter*

8. Kristin Kawecki  
Faculty Mentor: Dr. Allison Baker  
Project Title: *Propping Up Folk Tales, Frozen In Time: Analysis of "The Snow Queen" And Frozen With Propp's 31 Narratemes*
Poster Session
The Grand Reading Room, 4th Floor
10:30 AM to 11:30 AM

9. Basel Chahla, Jake Banuelos, Kishan Patel, and Andrew Nipp
Faculty Mentor: Dr. Subodh Bhandari
Project Title: Collision Avoidance System for UAS Using Steroscopic Vision

Faculty Mentor: Dr. Subodh Bhandari
Project Title: 3-D Mapping using LIDAR and Autonomous Unmanned Aerial Vehicle

11. Jose Ramos, Ernie Rivera, and Robert Walter
Faculty Mentor: Dr. Zekeriya Aliyazicioglu and Aliyazicioglu
Project Title: Applications of Autonomous Drone Flying

12. Jose Ramos, Robert Walter, and Ernie Rivera
Faculty Mentor: Dr. Rajan Chandra and Aliyazicioglu
Project Title: Smart Home Automation

In September 2011, Citrus College was awarded a five-year U.S. Department of Education Title V grant, RACE to STEM. The project is part of a coordinated effort to increase the number of underrepresented students attaining AA/AS degrees in STEM and/or ready to transfer to four-year institutions to study in the fields of Science, Technology, Engineering and Mathematics.

STEM fields are many and diverse ranging from biotechnology, engineering, energy and health care to construction and transportation. About 150 different college majors have been identified by the National Science Foundation as STEM majors.
13. Jonathan Saldivar, Aireal Tran, Dylan Gomez, Anthony Nguyen, Antonio Herrera, Patrick Watkins, and Alex Ruiz
Faculty Mentor: Dr. Subodh Bhandari
Project Title: Multicopters for Search and Rescue in Indoor Environments

14. Leilanaz Kasraie
Faculty Mentor: Dr. Ertan Salik
Project Title: Improving the limit of detection of tapered fiber sensors using a semiconductor optical amplifier-based ring laser

15. Nestor Aquino
Faculty Mentor: Dr. Matthew Povich
Project Title: The Stellar Industry: Analysis of star forming regions within the milky way galaxy.

16. Cameron Cook
Faculty Mentor: Dr. Bohdan Schatschneider
Project Title: Valence and Conductance Band Dispersion of Polycyclic Aromatic Hydrocarbons
17. Efren Gonzalez and Rene Gutierrez  
Faculty Mentor: Dr. S. Chantal Stieber  
Project Title: Lanthanide Catecholate Complexes and Their Potential Use in Nuclear Fuel Processing

18. Rene Gutierrez  
Faculty Mentor: Dr. S. Chantal Stieber  
Project Title: Reducing Nuclear Waste through Ligand Design

19. Ruben Hurtado, Carlos Santiago, Angel Burr, and Natalie Hobson  
Faculty Mentor: Dr. Robin Wilson  
Project Title: Combinatorial and Algebraic Properties of the Generalized Crown Graph

20. Brandon Lui  
Faculty Mentor: Dr. Bohdan Schatschneider  
Project Title: Discovering the Optical Gaps of Halogenated Polycyclic Aromatic Hydrocarbons

21. Jose Velasco and Tharindu Jayasinghe  
Faculty Mentor: Dr. Matthew Povich  
Project Title: The Milky Way Project: Checking the Work of Citizen Scientists

22. Ben Wright  
Faculty Mentor: Dr. Bohdan Schatschneider  
Project Title: Exploration of Novel pi-Conjugated Systems for Application in Organic Electronics
Moderator: Amanda Riggle

1:30 PM  Dr. Michael Reibel
         Featured Faculty Poetry

1:45 PM  Dr. Aaron DeRosa
         Featured Faculty Poetry

2:00 PM  Dr. Liam Corley
         Featured Faculty Poetry

2:15 PM  Grant Palmer
         Featured Graduate Poetry

2:30 PM  Michelle Mermilliod
         Faculty Mentor: Dr. Edward Rocklin
         Poetry and Short Story

2:45 PM  Kristin Kawecki
         Faculty Mentor: Dr. Susannah Drissi
         Poetry

3:15 PM  Gabriela Garza-Vazquez and Brenda Reyes-Chavez
         Faculty Mentor: Gayle Fekete
         Project Title: Subfuscous
         Dance
Special Thanks

UCCONNECT
Student Innovation Idea Lab
University Library
Office of Research
Citrus Community College Race to STEM
Kellogg Honors College
McNair Scholars Program