

The Eleventh Annual SJSU College of Science
Student Research Day
May 1, 2015
10:00am to 1:00pm
Duncan Hall

PROGRAM

SPECIAL POSTER

*College of Science students matriculating to Graduate or Professional Schools
in Spring 2015 and students working in off-site summer programs.*

Presenting students are underlined.

RESEARCH POSTERS

Department of Biological Sciences

- 1. Effects of Low-Dose, Long-Duration Lipopolysaccharide-Induced Inflammation on Ovarian Structural Integrity and Follicle Parameters in Mice.**
Krista Wirth, Anastasia Pozdnyakova
Faculty: Shelley Cargill
Collaborator: Katherine Wilkinson, SJSU
- 2. Effects of Inflammation on Muscle Sensory Afferent Firing Behavior in the Murine Extensor Digitorum Longus.**
Dasha Zaytseva, Peter Nguyen, Anusha Allawala
Faculty: Katherine Wilkinson
- 3. Effects of Diet Induced Obesity on Muscle Contractile and Passive Properties.**
Anthony Kwon, Shreejit Padmanabhan
Faculty: Katherine Wilkinson
- 4. The Effect of Obesity on Muscle Stretch Receptor Function.**
Krystle Shamai, Dasha Zaytseva
Faculty: Katherine Wilkinson
- 5. Molecular and Genetic Screens Identify Genes Required for Developmental Ethanol Response in *Drosophila Melanogaster*.**
Chih Ching Wu, Janet Lafler, Payam Khodabakshi
Faculty: Rachael French

Department of Biological Sciences

6. **Developmental Ethanol Exposure Disrupts Wingless/Wnt Signal Transduction in *Drosophila Melanogaster*.**
Sabrina Lopez, Emily Crocker
Faculty: Rachael French
7. **Deep Sequencing Of A Recently Discovered Bacteria In The Human Oral Cavity.**
Farsheed Ghadiri, Haley Cross
Faculty: Cleber Ouverney
8. **Identification and Expression of Genes Involved in Iron Homeostasis in *Methylobacterium extorquens* AM1.**
Mayra Resnik, Jennifer Doherty, Richa Shah
Faculty: Elizabeth Skovran
9. **Elucidating a Pathway that Mediates Axon Outgrowth Termination in *C. elegans*.**
Anthony Thomas, Johann Zaroli, William Wung, Vanessa Jimenez, Christopher Vargas, Doris Coto Villa, Thuylinh Duong, Zanett Kieu, Joori Park, Kelli Benedetti, Minh Pham, Nathan Cook, Jessica Jarecki
Faculty: Miri VanHoven
10. **An Investigation into the Affect of Neuronal Activity on Proper Neural Connectivity in *C. elegans*.**
Kristine Andersen*, Benjamin Barsi-Rhyne*, Jacqueline Pyle, Kristine Miller, Christopher Vargas, Aruna Varshney, Bryan Tsujimoto, Alan Tran, Alex Duong, Joy Li, Khristina Magallanes, Joori Park, Emma Holdrich
Faculty: Miri VanHoven
11. **A Novel Mechanism that Directs Neural Circuit Formation.**
Katie Watters, Aruna Varshney, Kelly Benedetti, Raakhee Shankar, Yunus Koroglu
Faculty: Miri VanHoven
12. **Plamacytoid Dendritic Cell-Derived IFNa Modulates Th17 Differentiation During Whooping Cough Infection.**
Andrew A. Smith, Vicky Wu, Ryan Ferguson, Andrew Nguyen, Marlene Taylor, Hana You
Faculty: Tzvia Abramson
13. **The Involvement of Innate Lymphoid Cells in *Bordetella pertussis* Infection.**
Stella Park
Faculty: Tzvia Abramson
14. **T-cell Plasticity Enables a New Subset of Suppressive Regulatory T Cells to Arise During *Bordetella pertussis* Infection.**
Sonia Ghandi, Hana You
Faculty: Tzvia Abramson
15. **Assessment of antifouling paint (copper) tolerance in organisms: copper pollution hotspots versus other sites**
Andrew Phan, Parham Tabar, Leeann McDougall, Pardip Chahal, Kent Susick
Faculty: Josh Mackie
16. **Using molecular markers to dissect invasion dynamics - does spatial variation in temperature predict spread of a fouling organism?**
Kent Susick, Parham Tabar
Faculty: Josh Mackie

Department of Chemistry

17. **Developing New Treatments to Combat *P. aeruginosa*.**
Vu N. Bach, Anthony Balistreri, Husna Bassal, Lauren Blankenship, Andrew D. Chen, Alexander Jiu, Thu Nguyen
Faculty: Laura Miller Conrad
18. **Recombinant Expression and Purification of Midgut Chymotrypsin AaCHYMO from the *Aedes aegypti* Mosquito.**
Olive Burata, Rachael Lucero
Faculty: Alberto A. Rascón, Jr.
19. **Mutagenic Recombinant Protein Expression of AaET from the Virus Vector *Aedes Aegypti* Mosquito.**
Jamie M. Gallimore
Faculty: Alberto A. Rascón, Jr.
20. **Bacterial Recombinant Protein Expression of AaSPVI Protease Gene From the Female Virus Vector *Aedes aegypti* mosquito.**
Tejpal S. Kang, Eliza Vien
Faculty: Alberto A. Rascón, Jr.
21. **Stabilization of Protein Folding Due to Desolvation Energy Effect.**
Marc R. Gancayco
Faculty: Daryl Eggers
22. **Detection of Benzo[a]pyrene in Liquid Smoke by High Performance Liquid Chromatography.**
Monita Sieng, Brent Modereger
Faculty: Joseph J. Pesek, Maria T. Matyska-Pesek
23. **Characterization of Cogent UDA Column by Associating Retention Times of Various Compounds with Zeta Potential Measurements.**
Joshua Topete, Michael Lim
Faculty: Joseph J. Pesek and Maria T. Matyska-Pesek
Collaborator: Prof. Milton Hearn, Monash University, Melbourne, Australia
24. **Detection and Separation of Capsaicinoids in Hot Sauces by HPLC – part 2.**
Monita Sieng, Linda Doan
Faculty: Joseph J. Pesek, Maria T. Matyska-Pesek
25. **Analysis of Mometasone Furoate Extract After Basic and Acidic Hydrolysis.**
Sunny Jarman, Vincent Bui and Charlie Ly
Faculty: Joseph J. Pesek, Maria T. Matyska-Pesek
26. **Intense Surface Enhanced Raman Spectroscopy and Aggregation in Au@Ag.**
Priya Bhatia, Joseph Consiglio, John Diniz, Jia E. Lu, Chris Hoff, Shelby Ritz-Schubert
Faculty: Roger Terrill
27. **Single Walled Carbon Nanotube Field Effect Transistors and Chemical Sensors.**
Shreeyukta Singh, Carlos Ortuno, Audrey Cheng
Faculty: Roger Terrill
28. **Speciation, Photophysical, and Chiroptical Properties of Europium(III)-Tetracycline Species.**
Angelenia S. Huy, Adrian J. Riives, Bryan G. Vo, Mrudula Vemuri, Kirandeep K. Deol
Faculty: Gilles Muller

Department of Chemistry

29. **Study of the Chiroptical and Photophysical Properties of *N,N*-Bis-(1-phenylpropyl)-2, 6-pyridinedicarboxamide complexes with Eu(III), and Tb(III) Lanthanide Metals.**
Roberto Tovar, Victoria Chang, Karin Calvino, Aurorae Tran, Daniel Bi
Faculty: Gilles Muller
Collaborator: Daniel Straus, SJSU Department of Chemistry
30. **Tertiary Contact Propensity as a Logistic Regression Predictor for Solvent Accessible Residues.**
Guneet Bhogal, Gerald Omicini, Jonathan Oribello
Faculty: Andrea Gottlieb, Brooke Lustig
Collaborator: Thejas Kamath (UCSD)
31. **Light-driven P450 Biocatalysts.**
Quan Lam, Alexander Colbert, Meghana Bhandarkar
Faculty: Lionel Cheruzel
32. **Characterization of the Next Generation of Light-driven P450 Enzymes.**
Thanh Truc, Thao Tran
Faculty: Lionel Cheruzel
33. **Synthesis and Properties of Water Soluble Verdazyl Radicals.**
Thanh-Ngoc Le, Diego Avellenado, Victor Changcoco, Harjot Grewal, Vinhly Truong, Tony Pan, Alejandro Herrera, Minh Quan Do
Faculty: David Brook
34. **Verdazyls for New Electronic and Magnetic Materials.**
Dorothy Chung, Ervin Tuazon, Tim Hom, Ben Ploof, Connor Fleming, Thanh-Ngoc Le, Nia Deot, John Li, Justin Chou, Mimi Tran
Faculty: David Brook
35. **The Screening of Marine Natural Products using the Brine Shrimp Lethality Test.**
Darrell Erese, Javier Perez, Derrick Chin, Nancy Dao, Tam Nguyen, Emile Tayag, Thuha Tran, Kim Truong
Faculty: Roy K. Okuda
36. **UV-Visible Absorption Properties of Colored Species Formed by Organics in Sulfuric Acid Solutions at Upper Troposphere/Lower Stratosphere Aerosol Acidities.**
Sai Somepalle, Adrian Sandoval, Migel Clemente, Anh Duong, Kieu Ha
Faculty: Annalise Van Wyngarden
37. **Speciation and Kinetics of Glyoxal and Methylglyoxal Hydrates and Polymers in Aqueous Solution by High-Resolution Mass Spectrometry.**
Weston Schweitzer, Khaled Khaled, Jeffrey Berry
Faculty: Annalise Van Wyngarden
38. **Evidence for Aldol Condensation Products and Acetals in Organic Films Formed on Sulfuric Acid Solutions at Upper Troposphere/Lower Stratosphere (UT/LS) Aerosol Acidities.**
Julie Bui, Saul Pérez-Montaña, Eric Li, Thomas Nelson, Kieu Ha, Linda Leong
Faculty: Annalise Van Wyngarden
Collaborator: Laura T. Iraci, NASA Ames Research Center

Department of Computer Sciences

39. **Cheating Detection in Online Examinations.**
Gaurav Kasliwal
Faculty: Mark Stamp
40. **SocioBot: Twitter for Command and Control of a Botnet.**
Ismeet Kaur Makkar
Faculty: Mark Stamp
41. **Cryptanalysis of Classic Ciphers Using Hidden Markov Models.**
Rohit Vobbilisetty
Faculty: Mark Stamp
42. **Simple Substitution-Column Transposition Score for Malware Detection.**
Jaideep Katkar
Faculty: Mark Stamp
43. **Opinion Mining and Causal Relations on Drug Effects from Twitter.**
Liang Wu, Fan Yu
Faculty: Teng Moh
44. **Improving Machine Learning Applications in Daily Life.**
Pingchuan Liu, Vicky Na Zhao, Eve Zheng
Faculty: Teng Moh
45. **Behavioral Biometric System to Authenticate User within Improved E-Campus App.**
Karan Khare.
Faculty: Teng Moh
46. **DBSCAN on Apache Spark.**
Irving Cordova
Faculty: Teng Moh
47. **Collaborative Intrusion-Detection Systems based on Ensemble Learning using Fuzzy Neural Network and Random Forest.**
Poonam Mehetrey, Behrooz Shahriari
Faculty: Melody Moh
48. **Load Balancing in Software Defined Networks Using Ant Colony Optimization Techniques.**
Nayana Durgada Veerappa, Sushma Sathyanarayana
Faculty: Melody Moh
49. **On Energy-Efficient Cloud Computing: Minimum-Delay Virtual Machine Placement Algorithms.**
Swetha Kogatam, Veena Reddy Reguri
Faculty: Melody Moh

Department of Geology

50. **Deformation in and Near the Eocene Leavenworth Fault Zone, North Cascades, Washington.**
Francesca Senes
Faculty: Robert B. Miller

51. **Structural Analysis and Evolution of the Entiat Fault Zone, A Major Eocene Structure of the North Cascades, Washington.**
Jennifer E. Pence
Faculty: Robert B. Miller
- 51A. **The Pennsylvanian Atlas of Ancient Life: A Digital Guide to Fossils.**
Megan McEvers
Faculty: Jonathan Hendricks

Department of Mathematics

- Chem 30. **Tertiary Contact Propensity as a Logistic Regression Predictor for Solvent Accessible Residues.**
Guneet Bhogal, Gerald Omicini, Jonathan Oribello
Faculty: Andrea Gottlieb, Brooke Lustig
Collaborator: Thejas Kamath (UCSD)
*(*This poster is located in the Chemistry Department section- Poster # 30)*

Department of Meteorology and Climate Science

52. **Imaginative Space and Real Identities in School Science: Girls and Positioning in the Context of Climate Action Superheroes.**
Julie McVay Walukiewicz
Faculty: Elizabeth Walsh
53. **Language, Identity, and Engagement in Climate Science: An After-school Co-Design Experience with Youth.**
Kristen Dominguez
Faculty: Elizabeth Walsh
54. **Trajectories of Air Parcel Motions in Mars' Atmosphere Computed Using HYSPLIT.**
David Bruggeman
Faculty: Alison Bridger
55. **The PNA in Simulations of Current and Future Climates.**
Kelly McDonnell
Faculty: Alison Bridger
56. **Simulating and Understanding a Summer Lightning Event in Coastal California .**
Philip Martin
Faculty: Alison Bridger

Department of Physics and Astronomy

57. **Data Mining for the Densest and the Fluffiest Galaxies**
Aaron Deich, Carlos Morante, Michael Sandoval, Vakini Santhanakrishnan
Faculty: Aaron J. Romanowsky
58. **Assessment of Student Preparation for Calculus-Based Mechanics**
Michelle Lagana, Andrew Reid
Faculty: Monika Kress, Cassandra Paul, Michael Kaufman, Olenka Hubickyj

59. **SPOTing Effective Teaching**
Celeste Ma, Stephanie Lorelli
Faculty: Katrina Roseler, Cassandra Paul
60. **RIOT for Education Reform!**
Stephanie Lorelli, Celeste Ma
Faculty: Cassandra Paul, Katrina Roseler
61. **The Effects of Grading by Response Category on Motivation and Cognition**
Annie Chase
Faculty: Cassandra Paul
Collaborator: Katrina Roseler, San Jose State University

Acknowledgements:

Thanks to the College of Science for supporting this event, including Dean Michael Parrish, Stan Vaughn, Lee Veliz, Cher Jones, Marco Parent, Mike Stephens, Steve Boring, and other College Staff. Cathy Kozac, Steve Boring and colleagues in the COS Computer Center printed many of the posters for the SRD.

Congratulations and thanks to all the hard working undergraduate and graduate students and their faculty mentors who presented their work today!