
CELEBRATING 21 YEARS OF RESEARCH AT THE 21ST
STUDENT RESEARCH DAY
FRIDAY, 04/17 | 10am - 1pm
Duncan Hall
Breezeway
FEATURING 100 RESEARCH POSTERS
This event is wheelchair accessible.

A Welcome Message from Dean Michael Kaufman

Welcome to the 21st SJSU College of Science Student Research Day. This event highlights the incredible original research that hundreds of our students engage in with faculty mentors, across a wide range of disciplines. At today's event, you'll find work on the effects of microplastics on plants, virus detection in wastewater, microbe survival in Mars-like conditions, chemistry education and physics education pedagogy, AI-based malware detection, using LIDAR to explore Bay Area faults, performance of basketball players as they age, the history of rainfall in California, unique optical techniques for studying semiconductors, and a wide range of projects - from chemistry, to computer science, to applied math, physics, and geology - that use applied computing techniques like AI and machine learning to approach research challenges. I know you will be as impressed as I am with the quality and scope of work being done by our amazing students.

Michael Kaufman
Dean, College of Science
San José State University

Student Research Day 21 (SRD21) Program

Posters are listed by Department and a Number

DEPARTMENT OF BIOLOGICAL SCIENCES

1	IMPLEMENTATION AND OPTIMIZATION OF CRISPR-Cas9 GENE EDITING IN METHYLOBACTERIUM EXTORQUENS AM1 Student authors: Vihari Kotipalli, Ruth Casab, Joy Kim, Nadiya Vysotska Faculty: Elizabeth Skovran
2	ASSESSING COMPETITION AMONG AMERICAN PIKAS AND OTHER TALUS-ASSOCIATED MAMMALS USING DNA METABARCODING TO CHARACTERIZE SUMMER DIET Student Authors: Sarah Borja-Gomez; Alyne Duong; Kaitlyn Lynch Faculty: Jessica Castillo Vardaro
3	IMPAIRED MUSCLE PROPRIOCEPTOR FUNCTION BUT PRESERVED MUSCLE CONTRACTILE FUNCTION IN AN ANGELMAN SYNDROME MOUSE MODEL Student Authors: Malik Moncrief; Diana Flores; David Martinez Mejia Faculty: Amanda Guevara; Katherine A. Wilkinson
4	COMPARISON OF PERFORMANCE ON MOTOR TASKS BETWEEN MICE MODELING ANGELMAN SYNDROME AND CONTROLS Student Authors: Jeremiah Metry, Adamaris Torres Franco Faculty: Amanda Guevara, Katherine A. Wilkinson
5	THE ROLE OF TWO VOLTAGE GATED SODIUM CHANNEL SUBTYPES IN MUSCLE PROPRIOCEPTOR FUNCTION Student Authors: Mariam Malik; Monique Ngo; Juan Osorio; Zoe Tsai Faculty: Amanda Guevara; Katherine A. Wilkinson Collaborators: Cyrrus Espino; Theanne N. Griffith (UC Davis)
6	EVALUATION OF ANTIBIOTIC-RESISTANT E. COLI PRESENT IN DAIRY WASTE SYSTEMS Student authors: Sophia Fernando, Farial Nabi, Umaira Salim Faculty: Leila Khatib
7	A COMPARATIVE STUDY OF THREE APPROACHES FOR DETECTING ESCHERICHIA COLI BACTERIOPHAGE MS2 Student author: Marelyn Negrete Faculty: Leila Khatib
8	QUANTIFYING CARBAPENEM RESISTANCE IN EHEC IN DAIRY WASTE POST SB27 Students: Max Rogers, Anh Pham, Samantha Leung, Katie Song Faculty: Leila Khatib
9	MATERNAL STRESS DOES NOT ALTER WHITE BLOOD CELL COUNTS IN WESTERN FENCE LIZARD OFFSPRING Student Authors: Nathan Tsai, Emma Wen, Kate Gutierrez Faculty: David Ensminger

10	IDENTIFYING DIAGNOSTIC DELAYS AND TIME TO FINAL DIAGNOSIS IN CANCER OF UNKNOWN PRIMARY Student Author: Safura Zainab Faculty: David Ensminger Collaborator: Eliyaz Ahamed (Clatterbridge Cancer Centre)
11	SUPPRESSOR MUTATIONS IN A DUAL SENSOR REGULATOR ALLOW METABOLIC REWIRING OF LANTHANIDE ACQUISITION IN METHYLOBACTERIUM EXTORQUENS AM1 Student Authors: Michel Y. Echeverria Briceno, Ruth Casab, Ethan Cox, Simran Basi, Daphne Le, Sandra Gong Faculty: Elizabeth Skovran
12	IMPACTS OF PHOSPHATE AND CITRATE ON LANTHANIDE BIOAVAILABILITY IN METHYLOBACTERIUM EXTORQUENS AM1 Student authors: Tiffany Nguyen, Elene Ebralidze, Aisha Elmeligi, Sajede Rasouli Faculty: Elizabeth Skovran
13	SPECIES-SPECIFIC SENSITIVITY TO MICROPLASTIC EXPOSURE IN CALIFORNIA PLANT SPECIES Student authors: Emily Young, Veronica Eichhorn, Michelle Ho Faculty: Susan Lambrecht
14	MORPHOLOGY OF MUTUALISM: MORPHOMETRICS OF MEALYBUG ANT MANDIBLES Student Authors: Akira Nishikawa; Jorges Torres Faculty: Fredrick J. Larabee
15	TOXIN-DEPENDENT DAMAGE TO LUNG EPITHELIAL CELLS DURING BACTERIAL INFECTION Student Authors: Nicole Homez, Dounya Moukhlis, Ryan Yee, Abdelrahman Mohaisen, Bryan Delgado, Kenneth Darla, Alexia Suciu, Emily Du, Carrie Chang, Melissa D'Agostino, Wint Mon Mon Kyaw, Lizzy Davis, Janessa Caroza, Fatima Rizvi, and Devons Mo. Faculty: Walter Adams. Collaborators: Shuying Xu, Rod Tween, and John Leong.
16	DIET REGULATES MUSCLE STEM CELL POOL AND MUSCLE GROWTH IN DROSOPHILA Student Authors: Lucia Lopez Ortega, Jalen Nguyen, Ayushi Bhadra, Abigail Sowers Faculty: Kumar Vishal
17	NUCLEAR ENVELOPE PROTEINS REGULATE MYONUCLEAR POSITIONING IN DROSOPHILA Student Authors: Ayushi Bhadra, Ethan Bielawski, Ethan Horio, Abigail Sowers Faculty: Kumar Vishal Collaborators: Maya Capelson
18	A COMPARISON OF THE JAW MORPHOLOGY FROM THREE SEA URCHIN SPECIES Student Author: Nhi Ly Faculty: Maya deVries
19	WINGLESS SIGNALING REGULATES DE-DIFFERENTIATION OF LARVAL MUSCLE TO CONTROL ADULT FIBER NUMBER IN DROSOPHILA

	Student Authors: Jalen Nguyen, Lucia Lopez Ortega, Quyen Do, Lalaine Delacruz Faculty: Kumar Vishal Collaborator: Richard Cripps
20	INFLUENCE OF SPECIFIC MUTATIONS ON VIRAL THERMOSTABILITY IN BACTERIOPHAGE PHI-6 UNDER HEAT STRESS Student Authors: Erika Ebreo, Ryan Mun Faculty: Sonia Singhal
21	SURVIVAL OF PHI-6 GENOTYPES IN ADVERSE ENVIRONMENTS Student authors: Vicki Nguyen, Madeleine Taber-Iguain, Shahum Khalid, Beth Wyatt Faculty: Sonia Singhal
22	DYNAMICS OF PHAGE INFECTION AND BACTERIAL GROWTH IN GLUCOSE VS MANNOSE MEDIA Student authors: Jessica O'Sullivan, Sumyeha Afzal, Carson Bath, Ares Casas, Baruc Stover Faculty: Sonia Singhal
23	Chemosensory activity and sleep regulate sensory synaptogenesis during development in C. elegans Hazel Guillen, Vanessa Garcia, Emma Odisho, Martina Bremer, Noelle L'Etoile Faculty: Miri VanHoven
24	Post-training sleep and olfactory synapses are impacted in aged C. elegans with declining long-term memory Emma Odisho, Kateryna Tokalenko, Hazel Guillen, Vanessa Garcia, Anni Huynh, Annabel Nguyen, Price Pettit, Aziza Asangarieva, Gabriel Hertel, Celine Gee, Maleiyah Harris, Khushi Bhatia, Martina Bremer, Noelle L'Etoile Faculty: Miri VanHoven
25	PROBING AUTOPHAGY ACTIVITY IN RAS AND MYC INDUCED TUMORS 27Student Authors: Luz Arvizu, Danino Corsis, Aaliyah Molina, Yadanar Khin, Kruthi Kumar Faculty: Bree Grillo-Hill
26	PHE29NOTYPIC ANALYSIS OF MYC TRUNCATION MUTANTS IN DROSOPHILA PUPAL EYES Student Authors: Tiana Tameta-Arenas, Kiana Torres, Carillo, Sienna Lo, Samantha Nervarez, Alonzo Bradford Faculty: Bree Grillo-Hill
27	INVESTIGATING GENETIC INTERACTIONS BETWEEN MYC AND BETA-CATENIN THAT REGULATE AUTOPHAGIC CELL DEATH Student Authors: Hoang Minh Hung Nguyen, Joel Vinod, Israel Palomino Faculty: Bree Grillo-Hill
28	THE ROLE OF COUP-TFII AND ETS IN MODULATING PCV IDENTITY Student Authors: Luis Alvarez, Naman Ghumman, Nisitha Kakulapati, Yi-Lun Lee, Rhea Shaik, Thaneesha Singh , Hnin Nwe (Jenna) Win, Sheng Xu, Lwin H. Zaw Faculty: Thanh Theresa Dinh Collaborators: Yuhan Bi, Eugene C. Butcher, Junliang Pan, Yu Zhu (Stanford University)
29	ASSESSING THE ROLE OF COUP AND ETS IN PCV IDENTITY Student Authors: Audrey Combs; Devashree Hemant Agarwal; Sheng Xu; Lwin Zaw, Noah McKenna, Luis Alvarez, Ananya Gupta, Thaneesha Singh, Rachel Feldman, Jenna

	Win, Nisitha Kakupalati, Rhea Shaik, Naman Ghumman, Senem Yilmaz, Kanan Patel, Jocelyn Cabrera, Hannah Carolino, Echo Lee Faculty: Dr. Thanh Theresa Dinh Collaborators: Drs. Yu Zhu, Junliang Pan, and Eugene Butcher
30	INVESTIGATION OF A HEALTHY HUMAN ORAL MICROBIOME IN A CURE CLASS SETTING USING DNA NEXT GENERATION SEQUENCING Student Authors: Kaycee Aviles, Megan J Badrak, Neida Benitez, Leana E Cazorla, Justin Chang, Jeffrey Chen, Julian N Cortez, Carly Hilvert, Zachary M Joe, Daphne Le, Sharon Mathys, Yaminah Moh-Hasim, Vibhitha Nandakumar, Joseph Nguyen, Andrew Tran, Sophia Yao, Xiaojun Zheng Faculty: Cleber Ouverney Collaborator: Trisha Chong

DEPARTMENT OF CHEMISTRY

32	MICROBIAL SURVIVABILITY IN COLD, DRY HABITATS: IMPLICATIONS FOR LIFE ON MARS Student Authors: Cesar Mesa Faculty: Andro Rios Collaborators: Alfonso Davila (NASA Ames), Richard Everroad (NASA)
33	CHEMICAL SYNTHESIS AND ANALYSIS OF PROTOMETABOLIC REACTIONS ON THE EARLY EARTH Student Authors: Sophia Crudo, Tanya Santos Landa, David Trinh, Daren Tram, Dylan Yabe, Karla Ruiz, Louis Samara, Vicky Ta Faculty: Andro C. Rios
34	FINDING THE ORIGIN OF LIFE ON EARTH THROUGH EXTRATERRESTRIAL ANALYSIS Student Authors: Jazmin Ayala Navarro, Stephen Ball, Alexander Herrera, Irfan Jarkas, Arshpreet Kaur Faaris Mian Faculty: Andro C. Rios
35	BENCHMARKING CATALYSIS FOR REPRODUCIBILITY AND INNOVATION Student Authors: Jalak Parekh, Mattijs van Maaren, Calvin Hoang, and Shelby Rose Schuberg Faculty: Madalyn R. Radlauer
36	STRUCTURED POLYMER SUPPORTS FOR TRANSITION METAL CATALYSTS Student Authors: Malia Spence; Ha Le; Alex Catalin Grigoroiu Faculty: Madalyn R. Radlauer
37	SMALL MOLECULE AND STAR POLYMER-SUPPORTED IRON COMPLEXES FOR ELECTROCATALYTIC NITRATE AND NITRITE REDUCTION Student Authors: Alexander "AJ" Lykins; Dennis Lin; Rachel Chiang Faculty: Madalyn R. Radlauer Collaborators: Nick A. Snyder; William A. Tarpeh (Stanford University)
38	OPTIMIZING SEQUENCE-BASED DESCRIPTORS PREDICTING SWITCH REGIONS FROM EXHAUSTIVE SET OF PROTEIN DOMAINS Student Authors: Shwethal Trikannad; Patrick Mincher; Bardia Golbad Faculty: Brooke Lustig

39	INVESTIGATING THE EFFECT OF DISEASE-ASSOCIATED MUTATIONS ON GLUTAMINE SYNTHETASE STABILITY Student Authors: Katherine Martinez, Regina Leyva, Nathaniel Bazan Faculty: Emma Carroll Collaborators: Markus Tecson (SFSU student), Cyrina Geluz (SFSU student), Eric Greene (SFSU Faculty)
40	DEVELOPING TOOLS TO DETECT UBIQUITIN-INDUCED DESTABILIZATION, UBIQUITIN-MODIFIED AMYLOIDS, AND DIVERSE UBIQUITIN PROTEOFORMS Student Authors: Jeslyn Hopham, Emiliano Lopez Ruiz, Amie Trinh, Johan Villalpando, Angelika Caraballo, Jasmin Ho, Natalie Dinh, Denis Galushko Faculty: Emma Carroll
41	DISCOVERING CHEMICAL MODULATORS OF STABILITY, FUNCTION, AND AMYLOID FORMATION FOR TUMOR SUPPRESSOR PROTEINS P53 AND PTEN Student Authors: Jasmine Trinh, Trang Pham, Anushree Bhattacharya, Sarah Haddad, Arhan Ravi, Nha-Quyen Nguyen, Kashish Airen, Katherine Hoang Faculty: Emma Carroll Collaborators: Sophia Crudo (SJSU Student), Vicky Ta (SJSU alumnus), Andro Rios (SJSU Faculty)
42	CRISPRi KNOCKDOWN OF J-DOMAIN PROTEINS IN PSEUDOMONAS PUTIDA Student Authors: Gwen Libozada; Melanie Martinez; Jared Raab; Sanjana Ramesh; Misty Ramos; Teera Sirisak Faculty: Taylor Arhar
43	CHARACTERIZING THE SEQUENCE DETERMINANTS OF A NOVEL INTERACTION BETWEEN THE E. COLI MOLECULAR CHAPERONES DNAK AND CBPA Student Authors: Andrea Mateo; Samantha Chin; Vinh Chau; Tam Nguyen; Justin Lisungan; Jaiden Ford; Nhu Nguyen Faculty: Taylor Arhar
44	GRADING, LEARNING, REALITY: EXPLORING ORGANIC CHEMISTRY INSTRUCTORS' CONCEPTIONS OF ASSESSMENT AND REFLECTIVE PRACTICES IN THE CLASSROOM Student Author: Joanna Tran Faculty: Resa Kelly
45	MOLECULAR CLONING AND PH STABILITY OF Φ6 BACTERIOPHAGE P5 LYSIS PROTEIN Student Authors: Andrew Le, Beth Wyatt Faculty: Ningkun Wang
46	INVESTIGATING THE EFFECT OF THE REMOVAL OF EXON E2 ON SIRT1 ACTIVITY Student Authors: Anya Awan, Isabel Sanchez, Litzy Hernandez, Emily Quach Faculty: Ningkun Wang
47	DEFINING THE BINDING INTERFACE BETWEEN MOTIF A AND THE REST OF SIRT1 Student Authors: Quang Luu, Chloe Tannous, Kel Alarcon-Cruz, Ben Butler, Sophia Bennett Faculty: Ningkun Wang Collaboartors: Carrie Partch, Emery Usher (UC Santa Cruz)

48	LOCALIZED OR DELOCALIZED? UNUSUAL ELECTRONIC STRUCTURES IN TRANSITION METAL-RADICAL COORDINATION COMPOUNDS Student Authors: Shouq Almultairi, Bryan Bagarino, Dimarco Casillas, Danh Hoang, Geneifer Sales Faculty: David J. R. Brook Collaborators: Sebastian Stoian, University of Idaho
49	BUILDING RADICAL LIGANDS TO COORDINATE ACTINIDES Student Authors: Anna Buryachenko, Jesus Tamayo Faculty: David J. R. Brook
50	NEW STABLE FREE RADICALS FOR ORGANIC ELECTRONIC MATERIALS Yvonne Pham, Emily Hoang Faculty: David J. R. Brook
51	CHARACTERIZING THE STIMULATION OF DNAK ATPASE ACTIVITY BY CBPA: INSIGHTS INTO CBPA'S INTERACTION WITH DNAK IN E. COLI Student Authors: Donna Quach; Quynh Nguyen; Stephanie Virgen Ordaz; Samantha Ramirez; Brooke Bellinghausen; Ivan Krassiev; Thao Nguyen Faculty: Taylor Arhar
52	SYNTHESIS OF ANTIBIOTIC ADJUVANTS Student Authors: Stephanie Austin, Brandon Rodriguez, Dino Saucedo Yol, Ashley Sullivan Faculty: Laura Miller Conrad
53	ANTIMICROBIAL ACTIVITY OF ANTIBIOTIC AND ADJUVANT COMBINATION THERAPY Student Authors: Christopher Drew, Katie Huynh, Aiden Jiang, Yewon Kim Faculty: Laura Miller Conrad
54	EVALUATING ADJUVANT EFFICACY IN PSEUDOMONAS AERUGINOSA BIOFILMS Student Authors: Ramya Rajesh Faculty: Laura Miller Conrad
55	STRUCTURAL STUDIES OF A NOVEL NATURAL PRODUCT FROM Emmenanthe penduliflora Student Authors: Skyler Burgess, Jiexi Chen, William Pham, Seiji Takeshita Faculty: Roy K Okuda
56	ADVANCES IN NETWORK HAMILTONIAN MODELS OF AMYLOID FIBRIL FORMATION OPTIMIZED WITH A GENETIC ALGORITHM Student Authors: Huy Dang, Barry Wong, Joel Vinod, David Andreasyan, Stephen Ball Faculty: Gianmarc Grazioli
57	FROM DOUBLE PENDULUMS TO ACETALDEHYDE PHOTODISSOCIATION: EXPLORING CHAOTIC DYNAMICS WITH MACHINE LEARNING Alan Wong, Dhairya H. Vyas, Jack D. Spitzer, Huy Dang, Jason Kim, Minh Hoang Huynh Faculty: Gianmarc Grazioli
58	LARGE-SCALE EXPLICIT SOLVENT MOLECULAR DYNAMICS SIMULATIONS OF AMYLOID FIBRIL BREAKAGE MECHANICS FOR COMPARISON WITH AFM EXPERIMENTS Student Authors: Joshua Gadingan, Adam Ingwerson

	Faculty: Gianmarc Grazioli
59	FORMATION OF CARBONYL-DERIVED ORGANIC FILMS ON SULFATE-RICH AEROSOLS UNDER UPPER TROPOSPHERIC/LOWER STRATOSPHERIC (UT/LS) CONDITIONS. Student Authors: Aishwarya Deepak, Kaitlyn Nguyen, Sean Colina, Madhan Elango, Owen Lozano, Sneha Wadhwa, Treena Bui, Ashton Derazizyan, Aiden Nguyen Faculty: Annalise Van Wyngarden
60	SULFUR POLYMER-MOF COMPOSITES AND COIN CELL ENGINEERING FOR LITHIUM-SULFUR BATTERIES Student Authors: Daryl Miranda Faculty: Philip T. Dirlam
61	SYNTHESIS AND ELECTROCATALYTIC ACTIVITY OF METAL-ORGANIC FRAMEWORKS FOR LITHIUM-SULFUR BATTERIES Student Authors: Lisette Garcia Martinez, Lamija Kovacevic, Tosif Aliyev, Kyle Patawaran Faculty: Philip T. Dirlam
62	SIMULATING PHOTONUCLEAR REACTIONS Student Authors: Emily Foreman Faculty: Nicholas E. Esker Collaborators: Jerry Nolen, Walter Henning (Argonne National Laboratory)

DEPARTMENT OF COMPUTER SCIENCE

63	HYPERGRAP BASED RECOMMENDATION SYSTEM WITH KNOWLEDGE GRAPH EMBEDDINGS Student Author: Sahil Atul Mhatre Faculty: Katerina Potika
64	A COMPARATIVE ANALYSIS OF MALWARE IMAGE TRANSFORMATIONS USING GRAD-CAM AND HYBRID MACHINE LEARNING MODELS Student Author: Vibha Bhavikatti Faculty: Mark Stamp
65	EXPLORING THE ROBUSTNESS OF LEARNING MODELS VIA BIT-LEVEL PARAMETER PERTURBATIONS Student Author: Akanksha Raghapur Faculty: Mark Stamp
66	CONCEPT DRIFT DETECTION IN EVOLVED MALWARE Student Author: Karan Jain Faculty: Mark Stamp
67	SHIFT-AWARE OPERATOR SELECTION FOR LABEL-FREE TEST-TIME CALIBRATION IN CROSS-DOMAIN DATASET Student Authors: Manasa Deshagouni Faculty: Sayma Akther
68	HUMAN ACTIVITY RECOGNITION USING SMART GLASSES Student Authors: Dheeraj Kumar Alla Faculty: Sayma Akther

69	MULTI-SCALE ALCOHOL CONSUMPTION BEHAVIOR DETECTION FROM WEARABLE MOTION SENSORS Student Authors: Ananya Penuballi Faculty: Sayma Akther
70	DETECTION AND CHARACTERIZATION OF CANCER USING CELL-FREE DNA FRAGMENTOMES Student Author: Guneet Bhogal Faculty: Wendy Lee
71	THE ROLE OF AHR IN CIGARETTE SMOKE INDUCED GENE EXPRESSION CHANGES IN MOUSE LUNG TISSUE Student Authors: Justin Wong Faculty: Wendy Lee Collaborators: Menglan Xiang, Eugene Butcher (Stanford)
72	RETRIEVAL-AUGMENTED GENERATION FOR GENOMIC DISCOVERY: A COMPREHENSIVE EVALUATION OF DESIGN CHOICES FOR SEMANTIC SEARCH ON NCBI SEQUENCE READ ARCHIVE Student Authors: Thang Nguyen, Aditee Kulkarni Faculty: Wendy Lee
73	LEARNING MACHINE LEARNING WITH PRIOR PROGRAMMING KNOWLEDGE: STUDENT CHALLENGES, ATTITUDES, AND EARLY SUCCESSES Student Authors: Leqaa Deeb, Duy Do, Sunny Doan, Shishir Dongre, Yusuf Gadelrab, Thien Khang Kieu, Ayush Mahajan, Tyler Moquin, Ania Niedzialek, Kiana Sarkis, Harshitha Venkateswaran Faculty: Ethel Tshukudu
74	DESIGNING AN INTRODUCTORY MACHINE LEARNING WORKSHOP THROUGH ANALOGIES: AN EXPERIENCE REPORT Student Authors: Ayush Mahajan, Shishir Dongre, Duy Do, Thien Khang Kieu, Harshitha Venkateswaran, Leqaa Deeb Faculty: Ethel Tshukudu Faculty: Ethel Tshukudu
75	DATASET AND METHODOLOGY TO EVALUATE THE QUALITY OF LLM REPLIES ON TIMELY QUESTIONS Student Authors: Aishwarya Krupashankar, Aswitha Jegadheesh, Aye Nyein Kyaw Faculty: William B Andreopoulos
76	WORD EMBEDDINGS WITH BLOOM FILTER DETECTION Student Authors: Gokul Anand ; Sriram Loganathan ; Aung Bo Bo Faculty: William B. Andreopoulos
77	A COMPUTER VISION PIPELINE FOR ARCHAEOLOGICAL ARTIFACT DETECTION USING FAST R-CNN Student Authors: Mithi Pandey (Dept. of Computer Science), Alex Apffel (Dept. Of Anthropology, San Jose State University) Faculty: Nada Attar (Dept. of Computer Science) Collaborators: Vuthea Chheang (Dept. of Computer Science), Takoua Bejaoui (Dept. of Computer Science) Collaborators: Marco Meniketti (Dept. Of Anthropology, San Jose State University)

DEPARTMENT OF GEOLOGICAL SCIENCES

78	USING LIDAR AND LIDAR SOFTWARE TO VISUALIZE 3D FAULT GEOMETRY IN THE BAY AREA Student Authors: Alex Witney; Nyaika Khadka; Josue Rebollar; Karen Castaneda Faculty: Elizabeth Madden
79	TAKING A DEEP DIVE INTO THE CHEMISTRY OF SPRINGS IN THE DIABLO RANGEStudent Authors: Tunir Bhattacharya, Carla Dumaguit, Logan Noll Faculty: Nate Bogie

DEPARTMENT OF MATHEMATICS AND STATISTICS

80	Rewriting the Calculus 3 Workshop at San José State UniversityStudent Authors: Moorea Lippert Faculty: Edgar A. Bering IV
81	Howe we Relate Foliations of the Plane to Kaplan Diagrams and non-Hausdorff 1-ManifoldsStudent Authors: Monique Howe Faculty: Edgar A. Bering IV
82	Towards a geometric characterization of monoids with context-free word problemStudent Authors: William Hong Faculty: Edgar A. Bering IV
83	TRIMMED POWER FUZZY CLUSTERINGStudent Authors: Veda Sahithhi Bandi; Priyanka Goel Faculty: Cristina Tortora, Antonio Punzo
84	NUMERICAL INVESTIGATION OF THE NONLINEAR POISSON-BOLTZMANN EQUATIONStudent Author: Nawa Dahal Faculty: Daniel Brinkman
85	Modeling aging curves for professional basketball players Student Authors: Shaam Madhvani Faculty: Peter A. Gao
86	Don't stop the count: late swings in vote-by-mail elections Student Authors: Gia Thy Le, Jack Xue Faculty: Peter A. Gao
87	Improved Algorithms for Graph 3-Coloring and 4-Coloring via Spanning Trees with Many Leaves Student Author: Nibhrit Dhandhania Faculty: Sogol Jahanbekam
89	MACHINE LEARNING BASED PREDICTION OF EXTREME FIRE WEATHER RISK Student Author: Harshavardhan Reddy Seethagari Faculty: Tahir Bachar Issa Collaborator: Ismaila Diallo
90	NEW STATE OF THE ARTS ACTIVATION FUNCTIONS FOR TRAINING LLMs Student Author: Siddhant Mohanty Faculty: Tahir Bachar Issa

DEPARTMENT OF METEOROLOGY AND CLIMATE SCIENCE

91	PROJECTIONS OF WILDFIRE WEATHER DANGER ACROSS THE CONTIGUOUS UNITED STATES AND CALIFORNIA Student Author: Marissa Jasper Faculty: Ismaila Diallo
92	MID-TWENTY FIRST CENTURY CHANGES IN DAILY RAINFALL EXTREMES OVER CALIFORNIA Student Author: John Robert Bagarino Faculty: Ismaila Diallo

DEPARTMENT OF PHYSICS AND ASTRONOMY

93	USING THE REAL-TIME INSTRUCTOR OBSERVING TOOL (RIOT) TO INVESTIGATE HOW LEARNING ASSISTANTS AND INSTRUCTORS INTERACT IN CLASS Student Authors: Aarav Ghai; Nithin Keshavamurthy; Owen Knight; Kamalbabu Rupanagudi Faculty: Cassandra Paul; Gina Quan
94	SUPERRESOLUTION SPECTROSCOPY OF ATOMICALLY THIN SEMICONDUCTORS AND MOIRÉ HETEROSTRUCTURES Student Authors: Charity Wei; Logan S. Miller; Korede Isaiah Solagbade; Gabriele Nicula; Stephen Reagin; Eugene V. Lytnev Faculty: Christopher L. Smallwood
95	COHERENCE LENGTHS OF LASER POINTERS Student Authors: Justin L. Oliver; Vaishnavi Rao Namakkal Ranga Rao; Mark D. Sotnikov; Marissa R. Godoy; Ayane Gomi; Mariana Rojas-Montoya; Bo Eickelberg Faculty: Christopher L. Smallwood
96	BENCHMARKING FERMIONIC NEURAL QUANTUM STATES Student Authors: Ella Zeng; Alondra Torres Contreras; Kaveesh Passari Faculty: Ehsan Khatami Collaborators: Eduardo Ibarra Garcia Padilla (HMC); Ejaaz Meralil (SJSU/UCD); Steven Johnston (UTK); Richard Scalettar (UCD)
97	HOW PHYSICS STUDENTS USE AND PERCEIVE THE PROCESS OF REQUESTING AND USING ACCOMODATIONS Student Authors: Mariana Rojas-Montoya Faculty: Brianne Gutmann
98	BAZINGA!: HOW PORTRAYALS OF SCIENTISTS IN MEDIA SHAPE STUDENT PERCEPTIONS OF STEM CULTURE Student Authors: Anusha Damle; Matthew Pearson Faculty: Brianne Gutmann

99	STAR CLUSTERS AROUND LOCAL GROUP DWARF GALAXY NGC 6822 Student Authors: Zachary Coustier Faculty: Aaron Romanowsky Collaborators: Yimeng Tang (UC Santa Cruz); Jean Brodie (Swinburne University)
100	ANALYSIS OF DARK MATTER AND DWARF GALAXIES IN THE VIRGO AND COMA CLUSTERS Student Authors: Bilva Gummadi; Boyao Huang; Sanome Singh Faculty: Aaron Romanowsky
101	STUDIES OF DWARF GALAXIES WITH THE EUCLID SPACE TELESCOPE Student Authors: Sierra Blackhurst; Brittney Shavor Faculty: Aaron Romanowsky
102	Modeling of Trapped Ion Configurations for Quantum Simulations Student Author: Cynthia Weiss Faculty: Curtis Asplund

Acknowledgements

Thanks to all the student researchers and their faculty mentors and collaborators for displaying the results of their hard work in their laboratories This is truly an impressive showcase of the broad range of research activity that takes place within our college.

Preparation for SRD21 involved many colleagues from the College. Rob Pascual, Justin Croly and the College of Science Computer & Network Services staff printed most of the posters that were displayed today. Setup, teardown, and related aspects involved Phil Dirlam and many faculty and student volunteers. Lisa Andreasen of the College of Science Dean's Office coordinated the T-shirts, name tags and refreshments. Robine Van Veen and Sofie Jensen prepared the flyer, website, and name tags.

I would like to thank College of Science Dean Michael Kaufman for his support of SRD! Since serving as Dean, he has overseen the growth of Student Research Day from 62 posters to over 100 today!

Thanks to Dr. Melody Esfandiari and students of the SJSU Chapter of the Student Affiliates of the American Chemical Society (SAACS) / Chemistry Club for providing refreshments and liquid nitrogen ice cream.

Thanks to everyone who participated and assisted with SRD21!

THANK YOU FOR COMING!