ASDRP Research Exposition & Symosium Proceedings & Schedule

Time	Room	Department	Project Title	Description	Advisor	Authors
1:30-1:45	9	Chemistry, Biochemistry & Physics	Synthesis and Structure-Activity Relationship of 2-substituted Benzimidazole KRas inhibitors	Kirsten rat sarcoma viral oncogene homolog (KRAS) is a protein involved in cell differentiation and apoptosis; when mutated, it contributed to cancerous growth. Herein, we designed, synthesized, and tested two-substituted benzimidazole KRAS inhibitors .	Clark/Brah	Prachi Heda*, Khushi Kethana*, Himaja Kodi*, Mathavan Murali*, Pratyush Singh*, Alivia Zhang*, Lakshman Swaminathan, Siddhartha Javvaji, Aarush Agrawal, Radha Srinivasan, Sareen Choyi, Srinivasa Akhilesh Nidamanuri, Raghav Goil, Srilakshmi Varma
1:45-2:00	9	Biological, Human, and Life Sciences	Influence of Environmental and Internal Factors on the Perception of Intelligence Amongst High School Students	This exploratory study examines the effect of environmental factors on the perception of intelligence according to Gardner' s theory of multiple intelligences. High school students completed a survey that assessed various environmental factors and had students rate their perception of intelligence through scenarios that described the different types of intelligence.	Hakinson	Hridini Dave, Rishitha Kona, Shreya Musini, Anwika Palle
2:00-2:15	9	Chemistry, Biochemistry & Physics	Examining Yogurt Bacterial Strains for Horizontal Gene Transfer	Horizontal gene transfer (HGT) allows microbes to adapt to various environments. We sought to identify if HGT occurs within the strains of bacteria present in yogurt.	Tallapaka	Austin Gou, Anika Edara, Shivani Rajavaram
2:15-2:30	9	Chemistry, Biochemistry & Physics	Efforts towards optimization of the Biginelli cyclocondensation reaction and anti-proliferative activity of 2,4-dihydropyrimidines as small molecule mitosis regulators	Monastrol is a small molecule anti-mitotic inhibitor of the human motor protein kinesin Eg5, and we have focused our work on developing structurally similar dihydropyrimidine (DHPM) analogs through the Biginelli cyclocondensation reaction. In addition to the analogs of monastrol, we also have worked on the synthesis of beta keto esters, nickel-catalyzed Heck coupling reactions, and *in silico* studies of our DHPM analogs.	Njoo/Tallapaka	Krithikaa Premnath*, Aishi Rao*, Ria Kolala, Selin Kocalar, Emma Le, Aishwarya Yuvaraj, Lara Panda, Tanya Jain, Shloka Raghavan, Diya Suresh, Amelyn Phang, Muheema Husain, Trishla Mehta, Rhea Ray, Chandraki Chatterjee, Aarush Maddela, Garv Mehdiratta
2:45-3:00	9	Biological, Human, and Life Sciences	The presence of Coccidioides immitis, the causative agent of valley fever, in Contra Costa County	It is hypothesized that valley fever is expanding in California and beyond due to climate change. The aim of this study is therefore to investigate if C. immitis is present in soils from Contra Costa County of California, a traditionally non-endemic area of the pathogen. In addition, we propose to identify members within the Ascomycetes species that might be present in the soils of North California, among them other potential pathogens to humans, animals, or plants (e.g. Aspergillus fumigatus).	Kaur	Vikram Karmarkar, Claire Ma, Natasha Koneru, Preeshia, Sundraj, Bhavya Yanamandra
3:00-3:15	9	Biological, Human, and Life Sciences	Isolation and Characterization of Probiotic Bacteria in Greek Yogurt and Kimchi	The composition of an individual's gut microbiome is linked to numerous health benefits such as reduced inflammation, increased immune system function, and improved digestion. In this study, we evaluated the *in vitro* probiotic properties of various bacteria isolated from greek yogurt and fermented kimchi.	Le	Andrea Li*, Aishwarya Manga*, Sanjana Narayanan*, Anshika Ojha*, Manjari Talasila*, Cameron Tran*
3:15-3:30	9	Computer Science & Engineering	Exoplanets	Using machine learning to analyze NASA-provided daatasets for planetary objects that may be capable of supporting life as we know it.	Downing	Allen C.*, Hrithik P.*, Aaryan R.*, Rishab P., Aditya I., Akhil D., Aaryan D., Stanley L., Aaron L., Aarav S.
3:30-3:45	9	Computer Science & Engineering	A simplified approach to account for conformational isomerism in biologically relevant small molecules	Our research has provided a platform to introduce relevant conformer generation in molecular docking and high throughput virtual screening following the principles of conformational isomerism. Cheminformatics packages for the programming language Python such as RDKit have eased the manipulation of chemical compounds in silico. Our group has developed scripts to identify conformational isomers of compounds by the identification and manipulation of specific organic moieties common in small-molecule drug discovery.	Njoo / Downing	Bhavesh Ashok, Ayush Bajaj, Yash Jain, Anvi Surapaneni, Kushal Chattopadhyay, Atri Surapaneni, Divyanshu Bhadoria, Divyanshi Singh, Arjun Chandra, Allen Chen