

ASDRP 2020 Research Expo & Symposium Presenter Schedule

Time	Room	Department	Project Title	Description	Advisor	Authors
1:30-1:45	4	Chemistry, Biochemistry & Physics	Chemical synthesis, structure-activity relationship, and photobiological activity of Berberine and related Analogs	Berberine is a natural product alkaloid whose analogs have been reported to have a wide variety of medicinal properties. We synthesized various novel Berberine analogs and test their antimicrobial efficacy. Additionally, we conducted a computational analysis of these compounds to determine the viability of such analogs prior to screening.	Njoo	Sarah Su, Aashi Shah*, Karthikha Sri Indran*, Sarada Rajamanickam, Andrew Wang, Meher Jain, David Iglesias, Kara Tran, Ava Fu, Sohie Pal
1:45-2:00	4	Computer Science & Engineering	Quantum Computing Title: Quantum Computing and the Stock Market	The stock market has developed into a sensitive, complex and chaotic system. We use a multifaceted system of chaos theory, statistical analysis, and refinement methods to predict stock market movement.	McMahan	Adarsh Bulusu, Adithya Palle, Mridul Saraf, Krrish Kainth, Showmen Talukder, George Austin
2:00-2:15	4	Biological, Human, and Life Sciences	Isolation and inhibition of psychrotrophic fungi from dairy products	dairy products and control their growth using essential oils	Mikhail	Leela Mouli, Ashley Cheng, Isha Medikonduru, Akshaya Ramakrishnan
2:15-2:30	4	Computer Science & Engineering	Unemployment rate prediction	Predict unemployment rate based on characteristics of a location	Subramaniam	AndrewCheng AathithyaSelvam PranavDamal AyushSaha
2:45-3:00	4	Computer Science & Engineering	Analysis of feature importances of COVID-19 cases and deaths	Our research focuses on developing a Regressor to link COVID cases and COVID deaths with common population factors to see what factors make certain populations or groups more susceptible to the spread of COVID and its more severe symptoms. We then postulate which groups are more susceptible to the spread of COVID and which groups are more susceptible to death via COVID.	Fendell	AnishPalvai SteffiMathew CaraBurgess DishitaJhavar JamieTan ArulVerma
3:00-3:15	4	Chemistry, Biochemistry & Physics	De novo design and chemical synthesis of dehydroalanine-based inhibitors of L-cathepsin as SARS-CoV-2 therapeutics	SARS-CoV-2, commonly known as the coronavirus, is currently one of the most widespread viruses and has caused a global pandemic, making the need for therapeutics highly significant. Our group aimed to synthesize and screen dehydroalanine-based compounds with various nucleophile substitutions as inhibitors of L-cathepsin, an important lysosomal endopeptidase enzyme involved in the infection of the SARS-CoV-2 into cells.	Njoo	Krithikaa Premnath, Ayeeshi Poosarla, Sarah Su, Jeslyn Wu, Karthikha Sri Indran, Aishi Rao, Aishwarya Yuvaraj, Ishani Ashok, Ava Fu, Emma Le, Heidi Wang, Meher Jain, Sanika Sharma, Sarah Wang-Zhou, Shreya Anand, Saanvi Pemmaraju
3:15-3:30	4	Computer Science & Engineering	Mortgage rate prediction	Mortgage rate prediction depending on demographics of a city	Subramaniam	SakshiNikte VigneshRangarajan TiffanyZhang
3:30-3:45	4	Chemistry, Biochemistry & Physics	Reactivity-guided molecular design and high throughput virtual screening of a library of potential covalent inhibitors of the main protease of SARS-CoV-2	Virtual high-throughput screening of various Michael acceptors to identify new drug leads that target the COVID-19 virus main protease.	Brah	Karankumar Mageswaran*, Ritvik Penchala*, Joshua Shi*, Shruti Shah, Zuhair Hussain, Krish Patel