

## ASDRP 2020 Research Expo & Symposium Presenter Schedule

Time	Room	Department	Project Title	Description	Advisor	Authors
1:30-1:45	3	Chemistry, Biochemistry & Physics	Docking Softwares Analysis	Eight distinct docking softwares were evaluated against ten functionally diverse protein-ligand crystal structures with known binding affinities.	Brah	Docking: Veda Kamaraju*, Tanusree Banerjee*, Shreya Sundar, Aditi Karthik
1:45-2:00	3	Chemistry, Biochemistry & Physics	Novel $\alpha$ -Hederin-Loaded PLGA Nanoparticles as a Treatment for Hepatocellular Carcinoma and Glioblastoma	Alpha-hederin, a triterpenoid saponin with potent anti-cancer activity, was loaded into PLGA nanoparticles through nanoprecipitation. The entrapment efficiency and release profile were quantified with spectroscopic methods. Furthermore, we performed an MTT assay to determine the cytotoxicity of our nanoparticles in <i>C. elegans</i> model. Simultaneously, docking was performed to model alpha-hederin's possible in-vivo pathways.	Renganathan	Vivek Garg, Bryant Wong, Angelina Kalathoti, Rohit Suresh
2:00-2:15	3	Computer Science & Engineering	3D Printed Fiber Polarization Controllers	We design and 3D print a fiber polarization controller at a tenth of the cost of commercial alternatives.	Leung	
2:15-2:30	3	Chemistry, Biochemistry & Physics	Screening of Natural Polyphenol Library for Inhibition of Amyloid Beta Aggregation	In this project, we have examined the ability of a specific few natural product polyphenols in inhibiting the aggregation of amyloid-beta, a protein known to cause Alzheimer's when mutated. Computational docking and in vitro assays were conducted to determine the viability of polyphenols. We have also recounted various failed attempts at in vivo experimentation with the nematode <i>C. elegans</i> .	Renganathan	Kavya Patel*, Thomas Lee, Kavya Anand*, Tanish Satish*, Tvisha Nepani*
2:45-3:00	3	Chemistry, Biochemistry & Physics	Activity of Functionalized Graphene Quantum Dots for Dye Sensitized Solar Cells	Graphene Quantum Dots are a low cost nanomaterial that exhibit great activity within DSSC's. Functionalization of Graphene Quantum Dots allows for enhanced voltage and current output when tweaked to absorb near infrared wavelengths of lights.	Patel	JonathanEmmons EshaGoru JacksonTabish MasroorUddin NikhilJagota ShivaniManivasagan AdrianKao
3:00-3:15	3	Computer Science & Engineering	COVID-19 risk assessment	Predict the Coronavirus risk rating for a location	Subramaniam	ArnavGulani EmberLu YojitaSharma KalyaniBinu Sindhu
3:15-3:30	3	Chemistry, Biochemistry & Physics	Isolating Thiosulfates, an Organosulfur Compound, and Testing Their Efficacy in Inhibiting L-Cathepsin Activity.	Coronavirus enters the endosome and acidifies the cellular environment which allows for its RNA to seep into the cytosol. During the acidification process, L-cathepsin (cysteine protease) proteolytically cleaves the viral RNA and allows it to presume replication of proteins such as spike glycoprotein and M protein. Thiosulfates, an organosulfur compound, is known to inhibit L-Cathepsin activity. Here we will extract thiosulfates from Alliums and test its efficacy in inhibiting L-Cathepsin activity.	Gandhi	AadyaPonangi VarshaBeldona AnushkaWagle SrutikNagamalla HimaniAshok BikramBains LucasTran AyeshaMukherjee AnushaBhatnagar PrachiTawari SriyaZeng AniketRehman ShriyaJandhyala
3:30-3:45	3	Computer Science & Engineering	A study of influences on US Police Fatal Shooting		Mui	Nathan Lintu Anaiy Somalwar Rishab Shah Chinmay Bansal