

ASPIRE ASDRP

Aspiring Scholars Directed Research Program

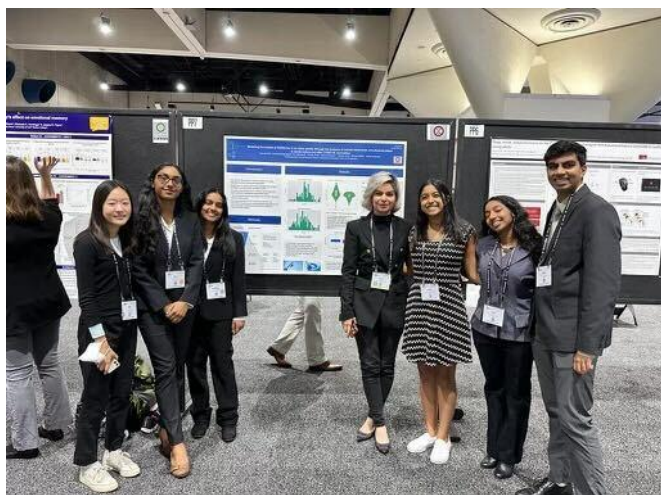
A researcher newsletter of the Aspiring Scholars Directed Research Program

November 21, 2022

Volume, 2 Issue #5

November Conference Highlights

Society for Neuroscience



Congratulations to Anika Mantripragada, Avi Uppalapati, Shreya Abhijit, Ananya Ravi, and Heejee Yoon from the Jahanikia Lab for presenting their project at the Society for Neuroscience Conference in San Diego.



Southern California Conference for Undergraduate Research Saturday November 19, 2022 at Pepperdine University



Congratulations to the over 90 researchers who attended the Southern California Conference for Undergraduate Research!

Researchers

Alyssa Kim
Shelley Li
Bridget Liu
Vivian Long
Amber Lu
Kavya Pandrangi
Anushka Peer
Anjali Prabhu
Aashi Shah
Pratyush Singh
Claire Song
Nathaniel Thomas
Srishti Venkatesan
Lorelei Xia
Harrison Xu
Sofia Penttila
AlfiyaRaja
Avirral Agarwal

Lexi Xu
Grace Yu
Aditi Adapala
Kalpita Balu
Morgan Chan
Sirivennela Gade
Anushka Kirpekar
Siri Manthapuri
Niyati Ravi
Dhruv Sastry
Mahathi Shankarram
Amrita Guha
Armaan Sharma
Shiven Patel
Atman Shah
Xina Wang
Erika Yu
Madison Dee

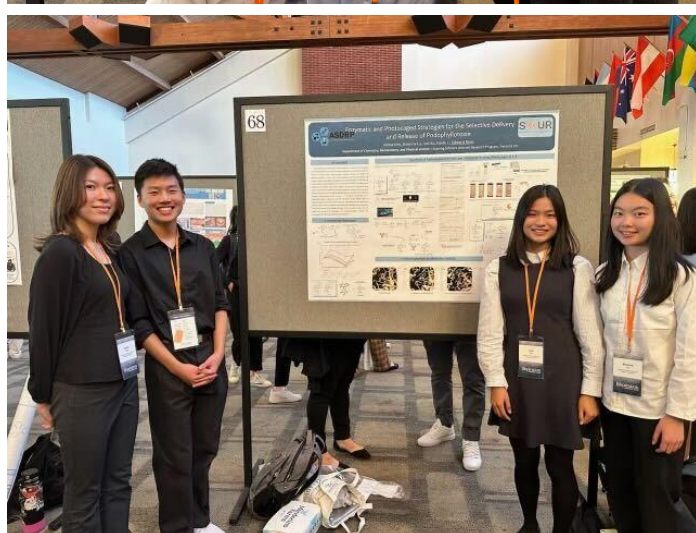
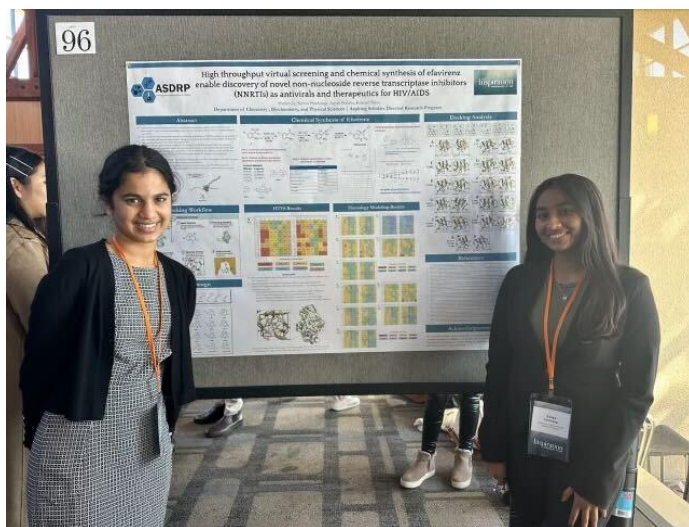
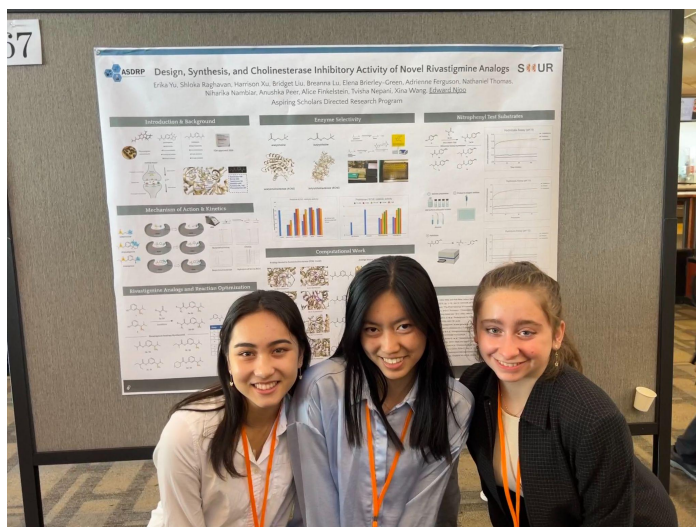
Tvisha Nepani
Aditi Putrevu
Aksithi Eswaran
Edwin Li
Aadit Singh
Keira Chatwin
Breanna Lu
Elena Brierley-Green
Adrienne Ferguson
Niharika Nambiar
Shloka Raghavan
Spencer Ye
Ishan Patel
Avni Sachdev
Alan Zhong
Carina Zhou
Ishita Baghel
Gavin Li



Manav Bhargava
Sweekrit Bhatnagar
Alexander Lau
Christopher Lau
Samarth Prajapati
Chinmay Ramamurthy
Sanjay Ravishankar
Harsha Samavedam
Niranjana Sankar
Jeonghyun An
Mounami Kayitha
Ayaan Khan
Aryan Kondapalli

Ojasvi Mudda
Maryam Solaiman
Joseph Thomas
Aadrij Upadya
Nishad Wajge
Qi Wang
Sneha Ahuja
Shrijani Buruganahalli
RosieChen
Tyler Dee
Yilin Fang
Alice Finkelstein
Meera Iyer

Rittika Saha
Julia Wind
Aamod Gandhi
Aditi Ghosh
Shikhar Gupta
Anushree Marimuthu
Theodore Mui
Hiresh Poosarla
Vineet Rao
Varun Rao
Aayaan Sahu
Savir Sharma
Pranav Singh



Faculty Spotlight: *Chemistry, Biochemistry and Physics*

Edward Njoo

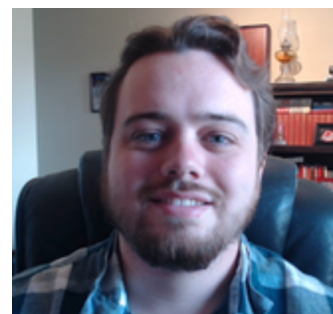
Edward is an experienced organic chemist, educator, scientist, and Ph.D. candidate at Stanford University. He is also co-author on multiple peer-reviewed papers in biochemistry, chemical biology, and organic synthesis.



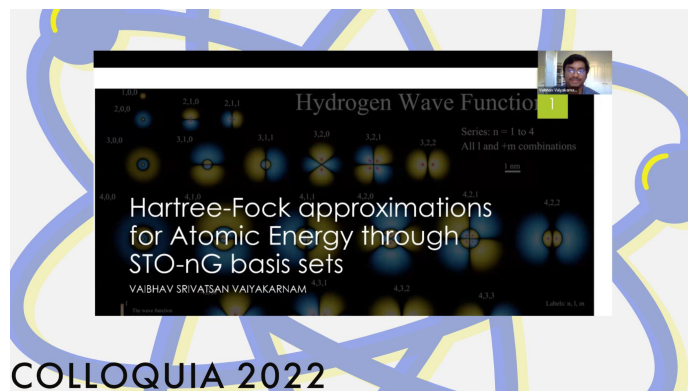
Faculty Spotlight: *Biological and Life Sciences*

Connor Adams

Connor is a graduate of U.C. Santa Cruz with an M.S. in ocean science and a B.S. in environmental science. His research experience includes fisheries management of Belize's spiny lobster (*Panulirus argus*), and aggression/fecundity in mangrove rivulus fish (*Kryptolebias marmoratus*).



Subscribe to our [YouTube channel](#) for the latest at ASDRP!



2022 ASDRP Journal of Emerging Investigators Publications

[Taft linear free-energy relationships in the biocatalytic hydrolysis of sterically hindered nitrophenyl ester substrates](#)

Selin Kocalar, Leigh High School (1) and Edward Njoo (2)

[Homology modeling of clinically-relevant rilpivirine-resistant HIV-RT variants identifies novel rilpivirine analogs with retained binding affinity against NNRTI-resistant HIV mutations](#)

Charissa Luk (1), Jeslyn Wu (2), Edward Njoo (3)

[Reactivity-informed design, synthesis, and Michael addition kinetics of C-ring andrographolide analogs](#)

Alice Zhou (1), Warren Chang (2), Tiffany Wang (3), Jeslyn Wu (2), Selin Kocalar (4), Lakshman Swaminathan (5), Aishi Rao (2), Samyukta Athreya (6), Priya Chanda (7), Edward Njoo (8)

[Modular mimics of neuroactive alkaloids - design, synthesis, and cholinesterase inhibitory activity of rivastigmine analogs](#)

Erika Yu (1), Shloka Raghavan (1), Shreya Anand (2), Harrison Xu (3), Tvisha Nepani (4), Niharika Nambiar (5), Julia Vu (6), Alivia Zhang (7), Suhani Babu (5), Elena Brierley-Green (8), Anushka Peer (9), Alice Finkelstein (10), Adrienne Ferguson (11), Udbhav Avadhani (12), Sanhita Nittala (13), Edward Njoo (14)

[In silico modeling of emodin's interactions with serine/threonine kinases and chitosan derivatives](#)

Rohit Suresh (1), Srinitya Sriram (2), Vivek Garg (3), Yash Kamdar (4), Sahana Kuchibhotla (5), Gayathri Renganathan (6)

[Predicting the Instance of Breast Cancer within Patients using a Convolutional Neural Network](#)

Sanjay Adhikesaven (1), Aradhya Kapoor (1), Ali Shadab Khowaja (1), Vivian Li (1), Karthik Sabhanayakam (1), Larry McMahan (1)

GOING AWAY FOR THE HOLIDAYS?



Be sure you're communicating with your advisor about your plans! Don't wait—let them know!

Upcoming Events



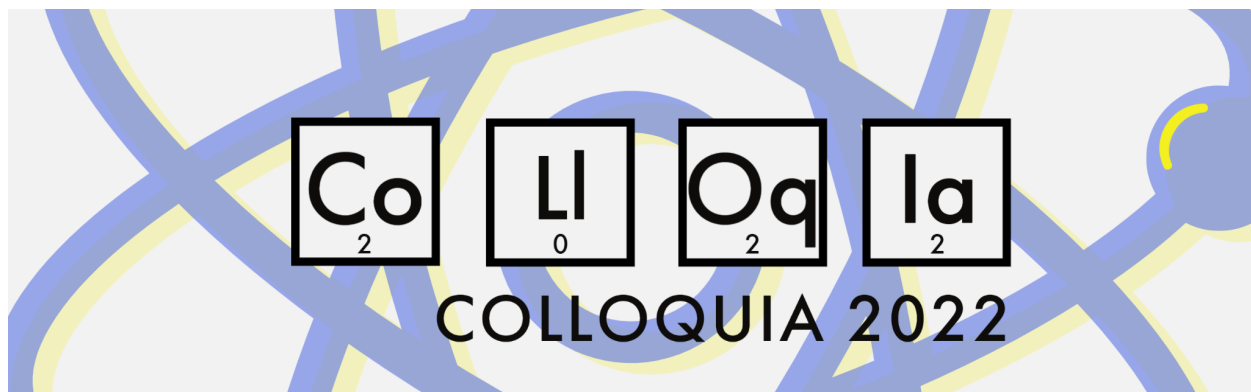
The ASDRP Researcher Interview Series is back again for Fall 2022!

Throughout the fall, we will be conducting interviews with researchers to capture what their experience has been like at ASDRP. They will be short and focus on broad topics like getting to know them, what they have been researching, and what it means to be a researcher. The interviews will be via Zoom and posted to YouTube.

Researchers can begin to sign up [here](#). **(New times have been added!)**



Researchers— that's right it's the researchers' turn— for the 60 Second Lectures. They'll be held during the November 29th Colloquia! Keep an eye out for an email with further instructions.



Colloquia tomorrow Nov 22, 2022 from 7:00-8:30 PM (PST)
Check the colloquia [webpage](#) for the upcoming research presentations

Department of Biological, Human, and Life Sciences

The in-silico and in-vitro characterization of epigenetic drugs (BET Pathway Targets) on a colorectal cancer cell line

Bromodomain and extra-terminal domain (BET) proteins have been linked to increases in oncogene expression and tumor progression in a wide array of cancers (Shorstova et al., 2021). Previous research on BET proteins has demonstrated that BET inhibitors (BETi) and other drugs in combination can moderately reduce cancer cell proliferation in colorectal cancer (Wu et al., 2022). Limited treatments exist for colorectal cancer due to its malignant nature and existing treatments are often costly or ineffective (Centers for Disease Control and Prevention, 2021). Our research centers around determining potential BETi in colorectal cancer through in-silico research and testing identified drug candidates in an in-vitro setting. While previous research has been conducted on BETi, few studies examine the effects of BETi in colorectal cancer. So far, we have created a list of one hundred possible BETi drugs that we will continue to narrow down. We are also working on identifying additional targets in HCT116 cells that are related to the BET protein pathway to expand our research. Once the targets have been identified, the drugs will be ordered/synthesized and tested on HCT116 colorectal cancer cells. They will be tested through MTT Assays (Freimoser et al., 1999), Western Blot (Mahmood et al., 2012) and the prize(Kralik et al., 2016) and the ones with the most BETi properties as well as the least harmful side effects will be selected. With the increase in BETi, we hope to increase cancer treatment for patients.

Researchers: Madison D., Dougherty Vlley High School '24; Sofia P., Notre Dame High School '24; Sanjana S., California High School '24

Advisor: Cunha, Bioinformatics and Cancer Biology

Reminder: Colloquia attendance is required for all researchers. It's an integral part of your research skills and knowledge development and support of the entire ASDRP research community.

11:00AM - NOON

Saturday

Sept 17

Oct 15

Nov 19

Dec 17

Saturday Seminars

ASDRP in Action!



Don't forget to mark your calendars!
The next Saturday Seminar is on
December 17, 2022, at 11:00 am.

For Our Parents

ASDRP is seeking parents who have expertise in research and development to be a guest speaker and share their expertise and career path. Please email asdrp.admin@asdp.org if you are interested!

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