

# CCS Notes

## 2019 Newsletter

### Inside:

- Faculty-Student Partnership
- Student-Alumni Collaboration
- Year in Highlights

College of Creative Studies



UC SANTA BARBARA

College of Creative Studies

# Message from the Interim Dean



Interim Dean Bruce H. Tiffney

after almost 7 years of countless hours of service to CCS students.

Student creativity thrives as ever—37 students received Summer Undergraduate Fellowships in 2019. Summer fellowships, open to all eight majors at the College, are supported by The Create Fund and are entirely donor-funded. Donor funds also supported 16 students during the 2018-19 academic year to travel across the country and internationally to present their work at conferences, attend workshops, and partake in residency programs or other educational opportunities. This included such disparate venues as the Vienna Summer Music Festival, the 22nd International Workshop on Kaposi Sarcoma Herpesvirus, and the annual Association of Writers and Writing Programs Conference.

As ever, the creation of knowledge is not enough—it needs to be shared, to be communicated, to become real. Our third annual Research and Creative Activities Conference (RACA-Con) on November 2, 2019 was a huge success, and allowed students from across the majors to do just that with their peers, the CCS faculty, and with mentors from across campus as well as friends and family.

The support from alumni, parents, faculty, staff, and friends makes all of this possible—from enabling summer fellowships, to travel grants, to bringing faculty to teach at the College. To all whose generosity made this possible, my deepest thanks, and with the appreciation of our students, staff, and faculty.

Bruce

It is a pleasure to reflect upon the passing months and realize, yet again, how vibrant and energizing CCS is. A sense of possibility permeates the walls and the classrooms, and is pushed forward by new students (over 100 in Fall 2019), even as we bid good luck to 82 this past year at Commencement on June 9, 2019 (see page 44).

Speaking of new, we welcomed Dr. Sarah Gibson as a teaching professor in Music Composition in Fall 2019, and Ms. Iman Djouini as a Teaching Professor in Book Arts who starts in July 2020. The inauguration of Marine Science, our 9th major, starts in Fall 2021 as we continue the search for a teaching professor to be at the core of this program. In the shorter term, Professor Subhash Suri of the UCSB Department of Computer Science is offering a focused course (Algorithms and Human Decisions) in CCS Computing in Winter 2020, supported by the CCS Faculty Excellence Fund launched in 2018 and 100% donor-funded.

With appreciation for their years of dedication, we bid our best to retiring faculty Jeremy Haldyna from Music Composition and Caroline Allen from Writing & Literature. Both will be remembered for their impact on CCS students over the years as they move to new endeavors. In a separate bittersweet change, Senior Student Advisor Sara Sterphone has joined the UCSB Office of the Registrar



## Contents

### Student Experience

- 4 Faculty-Student Partnership**  
Faculty mentorship powers students to develop their passions and expand their horizons at CCS
- 11 Understanding Human Learning Through AI**  
CCS computing student Prince Zizhuang Wang studies natural language processing and fairness in AI
- 14 Exploring New Fields**  
Yiluo Li (CCS Physics '21) recounts her early involvement with CCS through astronomy and quantum computing
- 17 By the Numbers**
- 18 CCS Student Awards**
- 20 Straight From Them**

### Alumni Features

- 24 Meet Marlene Zuk**  
Marlene Zuk, Regents Professor at the University of Minnesota, reflects on her path to becoming a scientist
- 27 Parasitic Collaboration**  
CCS Biology alumna and CCS 2nd Year Biologist receive a 2019 Worster Award

### Faculty Highlights

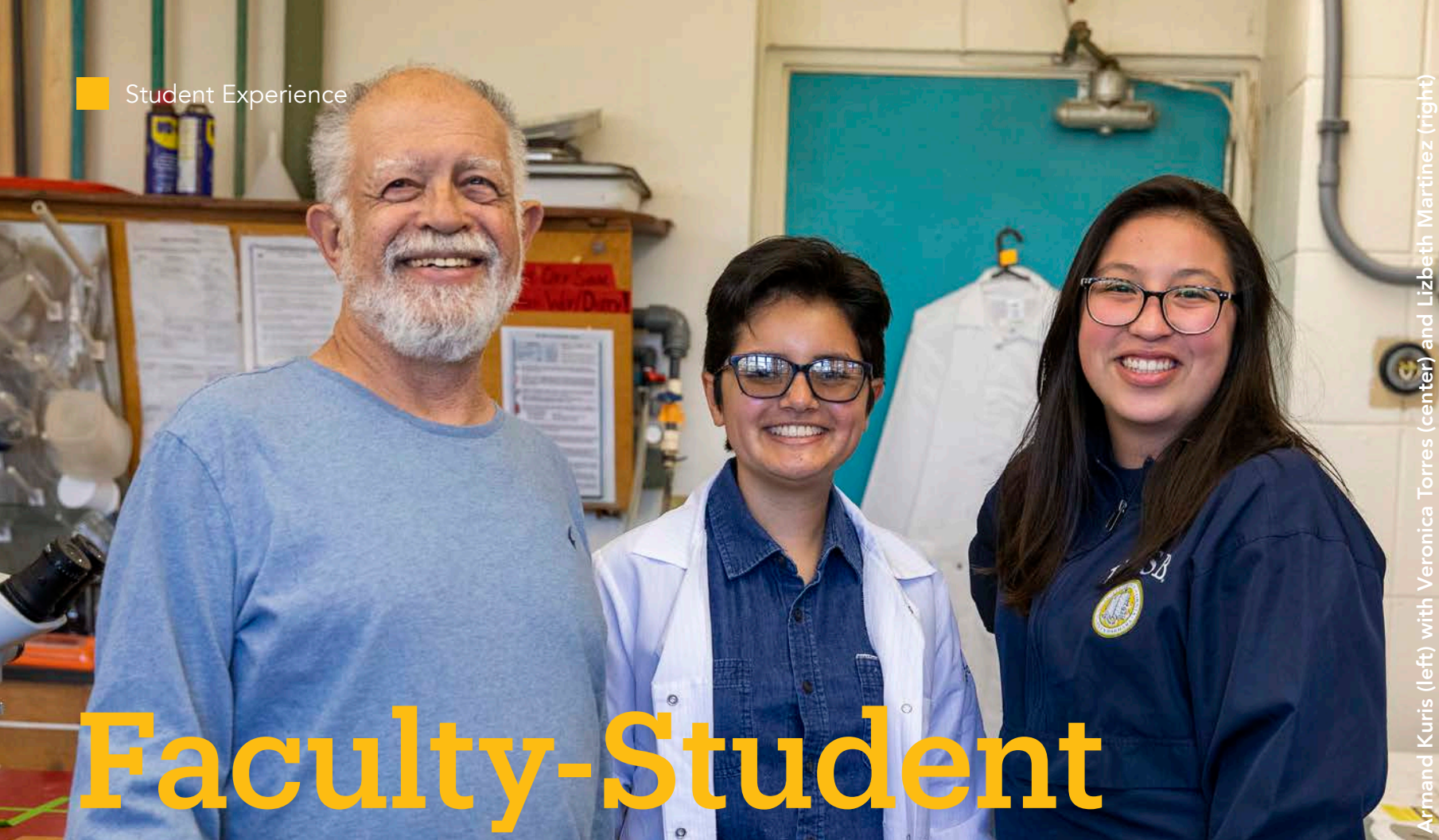
- 30 Meet Maria Isabel Bueno Cachadina**  
CCS mathematics faculty answers questions about her journey from Spain to CCS and her experiences with mentoring students at the College
- 33 Welcome Dr. Sarah Gibson**  
Composer and pianist Sarah Gibson joins Department of Music and CCS
- 35 Enjoying Retirement**  
After many years of dedicated service, two beloved CCS faculty members retire

### Around the Halls

- 37 Year in Highlights**
- 39 CCS Writing Competitions**
- 40 CCS Spotlights**
- 45 Send-Off for Sara**  
CCS thanks Senior Student Advisor Sara Sterphone for seven years of dedicated service
- 46 Linking Disciplines**  
Students present research and creative activities at the 3rd annual CCS RACA-CON
- 48 'A Moment of Triumph'**  
2019 CCS Commencement

### Have Impact

- 50 Fundraising Highlights**
- 51 CCS Donor Honor Roll**



Armand Kuris (left) with Veronica Torres (center) and Lizbeth Martinez (right)

# Faculty-Student Partnership

## Faculty mentorship powers students to develop their passions and expand their horizons at CCS

Since its inception in 1967, the College of Creative Studies' mission has been to provide radically curious and passionate undergraduate students with the resources to transform from consumers of knowledge to creative colleagues in the arts and sciences. The core resources this small community depends upon are the faculty mentors and advisors who encourage students to take risks, explore, and develop their passion. These mentors are found not only within the halls of CCS but throughout UCSB.

### Leading by example: first generation students

At the outset of their CCS journey, each student is placed with a Faculty Advisor whose role it is to encourage students to explore

their passions and develop programs to match each individual student's interests. At CCS, one such advisor is **Professor Armand Kuris of the Biology faculty in CCS and Professor of Zoology in the Department of Ecology, Evolution & Marine Biology (EEMB). Lizbeth Martinez (CCS Biology '20) and Veronica Torres (CCS Biology '20)** are two of Kuris' advisees.

Then Letters and Science student, Lizbeth Martinez set up a meeting with Kuris in her second year at UCSB. "During this meeting, we talked about my future goals and how I felt that my curiosity was not being satisfied through my coursework," said Lizbeth. "We also talked about my experience as a first-generation

Latina student and how Armand had many similar experiences as me, navigating a higher education institution." Shortly after their meeting, Lizbeth transferred to CCS from the College of Letters and Science. Once in CCS, Lizbeth "dove headfirst into research."

In contrast to Lizbeth, Veronica Torres started her UCSB experience at CCS. Initially, Veronica was interested in studying marine ecology. However, after attending a seminar where Kuris presented his lab's research, Veronica quickly switched her focus to studying disease. In her second quarter at UCSB, she took Kuris' upper-

division Parasitology course (EEMB 111) and began assisting graduate students in his lab.

Students join his lab with fresh, unencumbered minds and while he teaches the students skills to succeed in research, they bring in creativity and new ideas. "I've got dogma in my head," explained Kuris. "They may be able to think more creatively because they don't know what everyone is thinking." For him, mentoring students is a "genuine partnership."

## Lizbeth Martinez, CCS Biology '20



Lizbeth Martinez in Mexico Courtesy Photo

"Armand's mentoring allowed me to gain confidence in my abilities and to take on many projects that I thought were too unattainable." Lizbeth Martinez said. "My overall CCS experience has promoted individual thinking and creativity that has allowed me to satisfy my own curiosity. Through what I have learned at CCS and my own research experiences, I am determined to pursue a Ph.D. where my interest in tropical diseases, its social aspects and parasitology will be fused into one."

As part of her UCEAP Field Research experience in the Mexican state of Yucatán, Lizbeth joined the Aquatic Pathology Lab at the Center for Research and Advanced Studies of the National Polytechnic Institute in the city of Mérida. Working with the lab's principal investigator, Dr. Víctor Manuel Vidal Martínez, Professor Juan Jose Jimenez Osornio, and her CCS advisor, Professor Armand Kuris, Lizbeth studied Chagas disease. "Chagas disease is a tropical parasitic disease caused by *Trypanosoma cruzi* in southern Mexico, Central and South America," explained Lizbeth. "Most of the time, the disease is asymptomatic, so it is difficult to diagnose due to the lack of resources and information available to the individuals who are most at risk."

After the initial infection, individuals may have no symptoms, or mild symptoms easily confused with those of other diseases, such as fever, fatigue, and vomiting. Though most individuals will not be further affected, others can develop life threatening conditions

including cardiac or gastrointestinal problems decades after the initial infection. An enlarged heart can lead to heart failure, or an enlarged esophagus or colon can lead to compromised digestive health.

Lizbeth, who is pursuing a minor in the History of Art and Architecture in addition to her bachelor's degree in Biology at CCS, is specifically interested in combining scientific aspects of the disease with social research. "While working with Chagas disease, I was able to see that the scientific community lacks inclusion of other disciplines, such as anthropology and sociology, in their work," Lizbeth said. "Although there [have] been recent pushes for an interdisciplinary approach, more can be done."

“My overall CCS experience has promoted individual thinking and creativity that has allowed me to satisfy my own curiosity.”

Lizbeth's project, titled "Percepción sobre la enfermedad de Chagas en Noc Ac, Yucatán y análisis espacio-temporal de la distribución del vector en Mérida, Yucatán" (Perception of Chagas' disease in Noc Ac, Yucatan and a spatial-temporal analysis of the distribution of the vector in Merida, Yucatan), took an interdisciplinary look at studying Chagas disease. "[My project] intertwined social and scientific aspects of the disease and contributed new findings to the scientific field in the region," Lizbeth said. "This interdisciplinary approach inspires me to continue to conduct research in the field of tropical diseases and continue to fight for those individuals who do not have a voice in the scientific community."

Lizbeth is currently working with her mentors on a manuscript to publish her research as well as preparing for presenting her research at conferences.

# Veronica Torres, CCS Biology '20

Since joining Professor Armand Kuris's lab, Veronica Torres has worked on a variety of projects. She started off assisting graduate students and thereby gained experience and independence. Now, she leads her own research projects and travels to other labs. "It has been incredibly valuable to have a mentor who understands how one's background affects their experience in academia," said Veronica. "Armand's mentorship has helped me succeed as a person of color in STEM, which has led me to pursue a career where I can mentor students from marginalized communities."

This past summer, Veronica worked "on this very interesting consideration of parasites in the context of the social organization of a common coral reef fish, the convict tang," Kuris said. The convict tang, or *Acanthurus triostegus*, is a small surgeonfish usually around four to six inches long, though it can grow up to eight or ten inches. Convict tangs are widespread throughout much of the Indo-Pacific region and eastern Pacific Ocean.



Veronica Torres in lab Courtesy Photo

sociality on parasite burden in convict tang," explained Veronica. "I am interested in the connection between animal behavior and disease ecology."

"[Convict tangs] can form these large schools of a few hundred fish that mob Damselfish territories for the algae that the Damselfish have been gardening," Kuris said. "But there are some that are solitary or in very small groups, two, three, four, five fish." This leads to Veronica's research question: is there a relationship between social organization of convict tang fish and their parasites?

Since finishing the dissection portion of her project over the summer, Veronica and her collaborators are now working on identifying more of the larval parasites that she found in the convict tang fish. This could help them discover if there are potential patterns linked to differences in social behavior that may affect the fish's diet and thus its ability to become infected with trophically transmitted parasites. They are also working on preparing a manuscript for publication about her research.

economics, and pre-med, he found his passion for zoology.

These two zoology professors helped Kuris realize he wanted to become a zoology professor. One was Professor Harold Dundee, who taught an introductory zoology course. "He took a personal interest in me when he saw how well I was doing in the class," Kuris said. Dundee took him out for coffee, which taught Kuris a major lesson, "I realized that he cared about me as a person."

The other mentor who had a profound impact on Kuris was Ichthyology Professor Royal Dallas Suttkus, who brought Kuris on

several field excursions. "He showed me how to behave in the field and was a role model for having a calm, even treatment of people," stated Kuris. "It was very different from my upbringing and I began to change as a person." Working with Suttkus also gave Kuris, "a lifelong love of freshwater fish." Kuris went on to receive a Ph.D. in Zoology from UC Berkeley in 1971, though he would return to Tulane while in graduate school to collect fish in the field with Suttkus and his team. They remained in contact until Suttkus passed in 2009.

"Getting strong mentorship really opens a horizon of possibilities,"

Kuris said. Since mentorship inspired Kuris when he was in college, he enjoys being able to return that mentorship to his students. Expanding their horizons and leading them to understand all the different possibilities open to them, delights him both as an academic advisor and as a research mentor.

### Tailored mentorship for each student

"Mentorship is built into the CCS Music Composition program," said Dr. Leslie Hogan, a Senior Continuing Lecturer in CCS Music Composition who has taught at UCSB for 25 years. In addition to their Faculty Advisor, each Music Composition

# Nicholas Capsimalis CCS Music Composition '20

Last summer, Nick traveled to Vienna to work with the PHACE ensemble, which is one of Austria's most innovative and versatile ensembles for new music. They perform unconventional concerts, musical theater, and other interdisciplinary projects. PHACE also regularly brings in guest musicians and composers for joined performances.

"[PHACE Ensemble] put on two concerts of works by myself and 19 other composers from around the world," Nick said. "I also had the chance to workshop a different piece with world-renowned violinist, Irvine Arditti." Arditti is the first violinist and founder of the Arditti Quartet and has received many awards and recognitions throughout his career, including being made an honorary Fellow of the Royal Academy of Music. The Arditti Quartet was also awarded the prestigious Ernst von Siemens Music Prize.



Nick Capsimalis (center) with members of the PHACE ensemble who performed his compositions in Vienna Courtesy Photo

"The music I write can be quite varied, but the pieces I wrote for Vienna constitute my early attempts at contemporary avant-garde classical works," Nick said. Nick enjoys experimenting with new music and often finds inspiration from other composers. "My creative process can vary wildly, but I often start by finding a piece of music that I like and asking myself 'How would I have written this piece?'"

The experience I gained...and the chance to work with such world-class musicians, was indispensable and helped propel me to where I am now as an artist.

Though Nick considers that the pieces he wrote in Vienna still have issues, he feels he gained a great deal from this opportunity. "The experience I gained in the attempt, and the chance to work with such world-class musicians, was indispensable and helped propel me to where I am now as an artist," he explained.

Hogan says "He came back energized. He was really excited about the composers he'd discovered and about his opportunity to work with really top-level performers."

student also has a faculty mentor who they meet with weekly for personalized lessons. Students can choose to have the same mentor throughout their years in CCS, or change their mentors to get different perspectives and to experiment with different music styles. "As faculty work one-on-one with students, we come to know what each student's strengths and weaknesses are," Hogan said. "We can point them toward good opportunities as those opportunities arise."

In the case of **Nicholas Capsimalis (CCS Music Composition '20)**, Hogan is both his Faculty Advisor and his mentor. "From the beginning, Leslie began testing me to see what I was capable of, and, throughout the years, has been pushing me to produce increasingly ambitious works," Nick said. "The best thing about working with her is that, as I hoped, she always knew where I was as a composer and kept faith in me even when I struggled to keep up with the work at times."

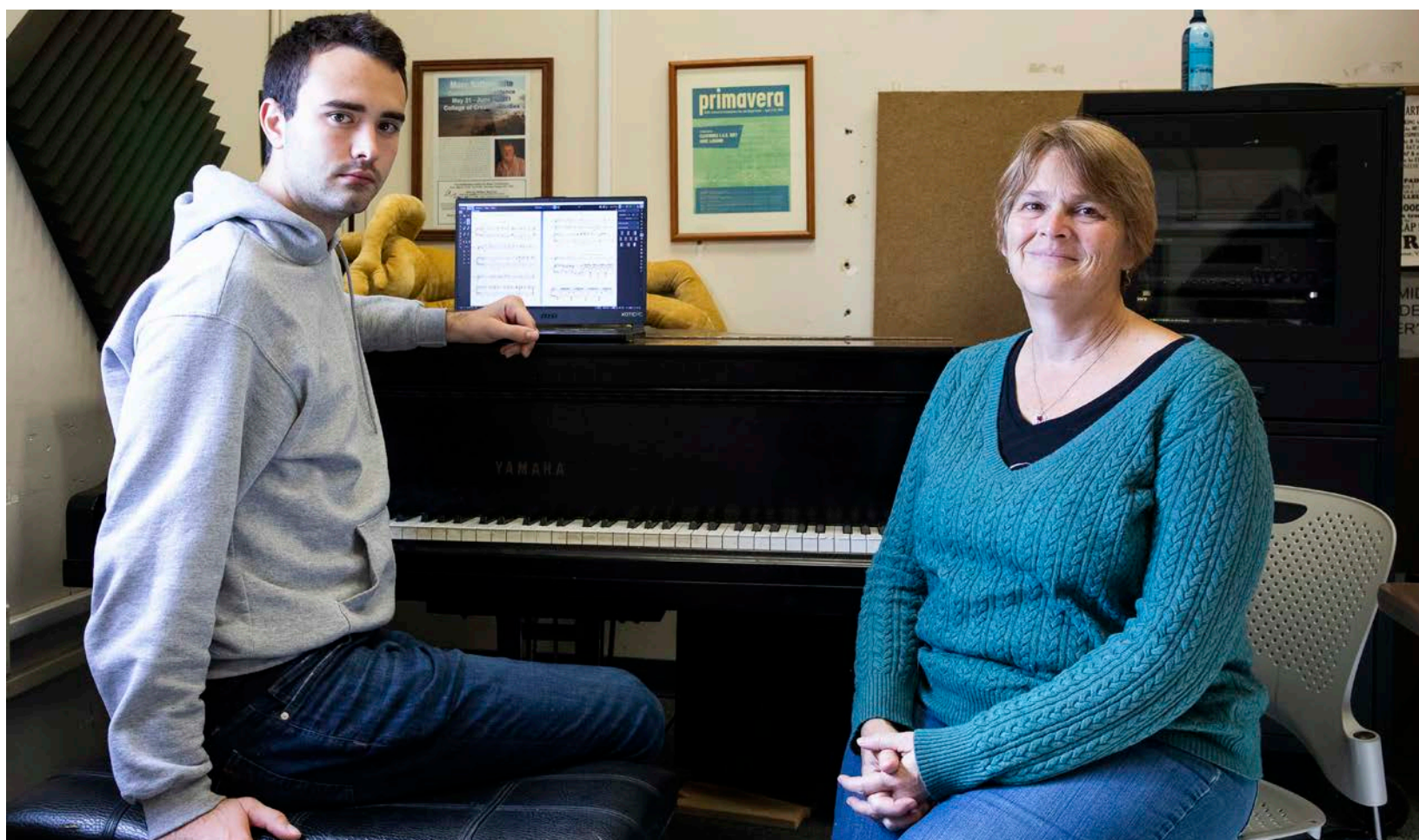
By working as mentors with individual students, faculty provide personalized instruction to help each with specific interests, developing at an appropriate pace. "To me, mentorship in the learning environment has to do with engaging with the student as an individual and helping the student succeed on those terms," Hogan said. "We don't all learn in the same way; we don't have the same background or the same frames of reference. Why then would teaching be 'one size fits all'?"

Hogan has been able to monitor how Nick's work has evolved throughout his time at CCS. "He's a lot more experimental," Hogan observed. "But [he] is also working to be as well-rounded as possible." Nick wants to keep experimenting with various types of music. He has seen careers plateau due to an overly narrow focus early on.

Nick appreciates the opportunities he's received from being in CCS. "CCS has provided me the opportunity to work with professors and mentors who have not only taught me valuable skills in composition (and other fields as well) but have also held me to a higher standard than I would have been able to hold myself, had I been one of hundreds of unknown students," Nick said. "I wouldn't be where I am today if it weren't for CCS and I wouldn't trade these last few years for anything."

#### Finding your passion

"My approach to mentoring students," said **Leroy Laverman, Teaching Professor in the Department of Chemistry and Biochemistry, Associate Dean of CCS, and CCS Faculty Equity Advisor**, "is to let students find their own interests and then help them achieve their goals." Laverman has been at UCSB for over twenty years, first as a graduate student and then as a member of the faculty. He is the Faculty Advisor for all of the Chemistry and Biochemistry students in CCS. As the Faculty Advisor, he enjoys watching students explore the diverse world of Chemistry.



**Nick Capsimalis (left) with his Faculty Advisor and Mentor Leslie Hogan (CCS Music Composition Faculty) (right)**

## Sophie Mendell CCS Chemistry and Biochemistry '19

"The goal of the [extrasolar] travelers section is to prepare pre-selected species for interstellar spaceflight and to determine what on-board experiments we could complete that could inform us on how biological systems function in the vacuum of space and in the general space environment," Sophie said. To that effect, Sophie studied *H. dujardini* (a species of Tardigrade).

*I have always been fascinated by space, its exploration, and its mysteries.*



**Sophie Mendell Courtesy Photo**

"We have only just started experimenting with the use of Tardigrades in the context of the astrobiology project given their amazing ability to undergo cryptobiosis, withstand several more orders of magnitude of radiation than humans, and survive exposure to the vacuum of space," Joshi said. Tardigrades are a type of eight-legged microscopic animal that are between 0.1mm and 1.0mm long. Found world-wide, tardigrades are water dwelling and live in such habitats as mosses, lichens, and marine or freshwater sediment. Tardigrades also have the ability to survive extreme temperatures (one degree above absolute zero to the temperature of boiling water) and can withstand extreme dehydration by drying out to 1% water by weight and reviving upon rehydration. When in a suspended state, the metabolism of the tardigrade slows down. Tardigrades have been known to survive in this suspended state for years.

"Any interstellar travel will require that biological life be put in a state of suspended animation," explained Joshi. "One of the questions we want to address is the effect of suspended animation on learned and acquired memories. Can they remember what was learned after recovering from years of suspended animation?"

For him, advising is about supporting students and helping them discover their passions. "Students need to feel welcomed and have a safe environment to grow and explore. A mentor can serve as a sounding board for ideas and provide a voice of experience to help them navigate their path through their undergraduate career."

One student that Laverman advised is **Sophie Mendell (CCS Chemistry and Biochemistry '19)**. Sophie worked in an interdisciplinary lab with ties to the Department of Physics and the Department of Molecular, Cellular, and Developmental Biology (MCDB). "I [worked] under the Extrasolar Travelers section of

To research this, Sophie worked on training tardigrades. "I [was] doing stimulus sensitivity and preference testing to determine an adequate stimulus to use when we begin to attempt to train *H. dujardini* (tardigrades)," Sophie said. Sophie found that tardigrades, like many other life forms, enjoy sugar. "We will use this either as a reward in training paradigms or by coupling it to a noxious stimulus in a learned aversion assay [or test]," stated Joshi. "After training, the water bears will be dehydrated until they are practically dust and then rehydrated and assayed for their ability to remember the learned behaviors."

Sophie enjoyed working with Lubin, Rothman, and Joshi, and is planning to pursue a doctorate in Astrobiology. "I have always been fascinated by space, its exploration, and its mysteries. In the field of astrobiology and space exploration, the answer to many questions is simply 'we don't know,'" Sophie explained. "As an innately curious person, hearing that excites me about all the potential for discovery."

Project Starlight," explained Sophie. "The overarching goal of this project is to develop new technologies to achieve interstellar travel in a timely fashion." This project is spearheaded by Professor Phillip Lubin in the Department of Physics and Professor Joel

Rothman in MCDB. Sophie also worked with Dr. Pradeep Joshi, who is a Project Scientist in Professor Rothman's lab. "She's always very insightful, very hard-working, extremely diligent in what she does," Lubin said. "She's a great example of an interdisciplinary student."



Sophie Mendell (left) tabling at Yuri's Night, a celebration of space exploration Photo Courtesy of the UCSB Department of Physics

Sophie first met Lubin when he gave a talk in Professor Kevin Plaxco's Astrobiology course in the Department of Chemistry and Biochemistry. "Sophie [was] one of those students who was just incredibly engaged," said Lubin. "She asked all kinds of interesting

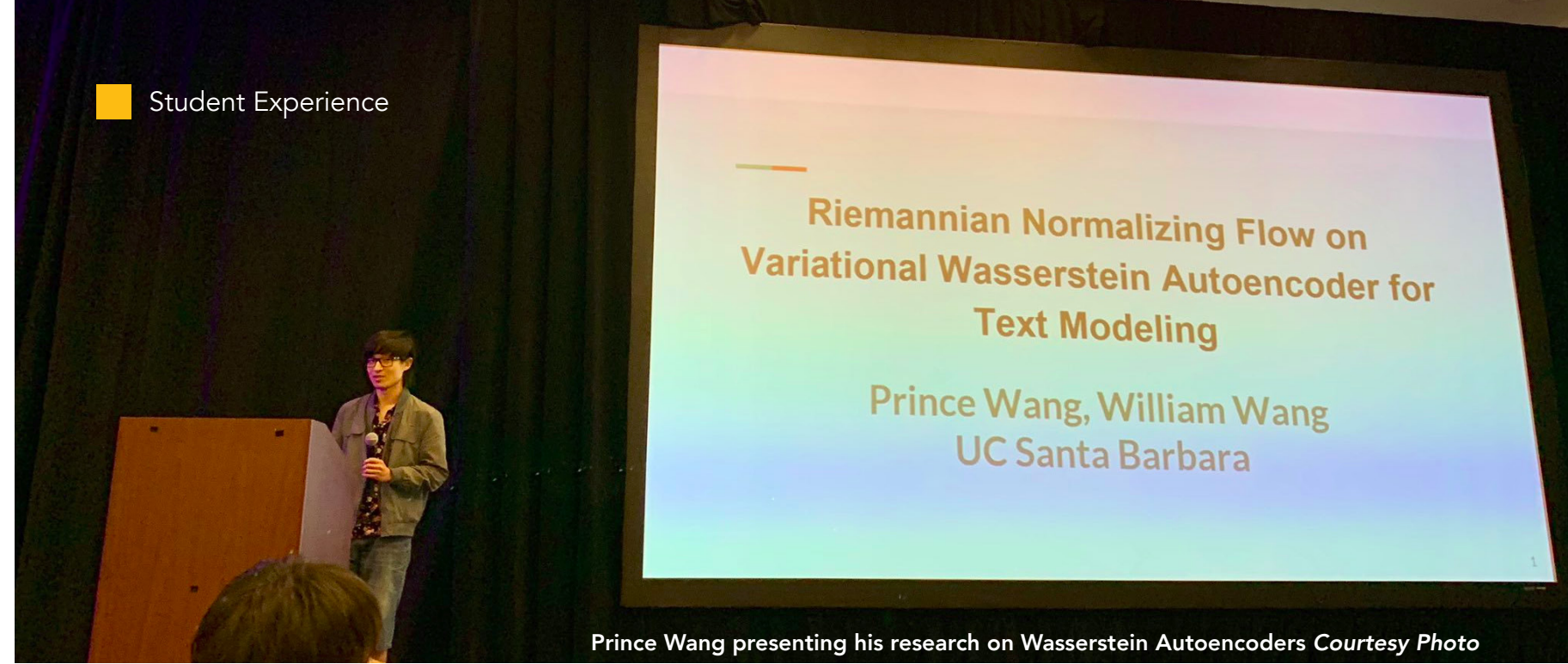
questions, she came up afterwards, and we talked about the work, and then we talked about her getting involved in it." Afterwards, Lubin introduced Sophie to Professor Rothman who's lab she joined to work on the Extrasolar Travelers project.

"Sophie [was] performing pioneering studies under my mentorship," explained Joshi. Joshi views mentorship as an apprenticeship -- an active form of learning that allows students to learn by doing. "A good mentor not only teaches the mentees the relevant skills to perform experiments but also the more fundamental and probably more important ability of asking the right questions, critical thinking, and analysis," Joshi said.

Working in Rothman's lab helped shape Sophie's experience at UCSB and CCS. "My undergraduate career would have been entirely different had I not been at CCS," Sophie said. "I am grateful every day for the experiences and people I have met as a result of being a part of this college. The education and opportunities offered by CCS as a result of the enormous volume of work being done by the faculty, staff, and my fellow students is absolutely unparalleled and I am honored to have spent a few years learning, teaching, and creating in this incredible environment."

“ I am grateful every day for the experiences and people I have met as a result of being a part of this college. - Sophie Mendell ”

## Student Experience



Prince Wang presenting his research on Wasserstein Autoencoders Courtesy Photo

# Understanding Human Learning Through AI

CCS computing student Prince Zizhuang Wang studies natural language processing and fairness in AI

By the time now **third-year computing student Prince Zizhuang Wang** stepped foot into the CCS building as a first-year, he already knew he wanted to research artificial intelligence (AI). At the start of his second-year, he got that opportunity when he joined the lab of Professor William Wang, Director of UC Santa Barbara's Natural Language Processing Group and Responsible Machine Learning Center in the Department of Computer Science.

With the guidance of Professor Wang, Prince started researching natural language processing (NLP), a branch of artificial intelligence that teaches computers to understand human languages. Applications of NLP fall into several broad categories including text classification and categorization (e.g. filtering spam emails, classifying questions into asking about location, person, etc.), speech recognition and question answering (e.g. applications such as Siri or other virtual assistants or online chat boxes), sentiment analysis (i.e. identifying the emotion inherent to specific posts), as well as such tasks as translation and spell-checking. Even if not immediately evident, NLP can be found almost everywhere in our modern world.

“ We need artificial intelligence to study the human brain. ”

"My project is about teaching machines how to write sentences," said Prince. Though this is a simple task for people, it is a complex demand for machines. "For computers, it is very difficult because we cannot teach computers to memorize every word in our vocabulary. So instead, we find a latent space (defined below)

which corresponds to the human languages. The computer is able to change the latent space in which to write different, more creative sentences,” Prince explained.

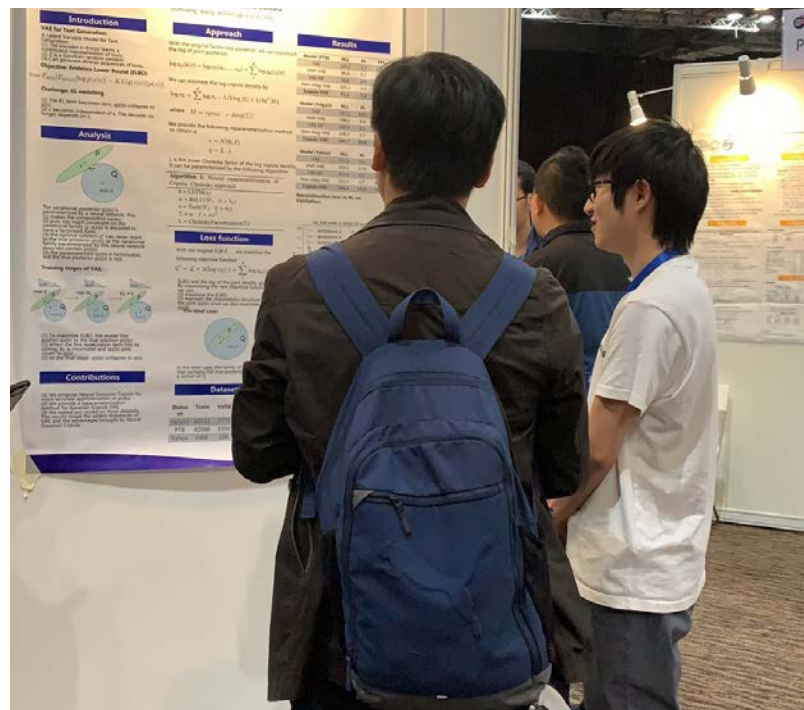
Being able to create realistic text can be useful for a variety of applications, such as generating the text for news stories so that breaking news can be released faster. However, news coverage is not the reason Prince is interested in NLP and text generation. “My original inspiration is not about artificial intelligence and computers, it is actually about human brains,” explained Prince.

“We need artificial intelligence to study the human brain,” Prince continued. His goal is to use computers to build simulations that show how people process information, such as language acquisition. “If we can understand how people learn and accumulate knowledge, then maybe we can accelerate our current education,” Prince said.

“If we can understand how people learn and accumulate knowledge, then maybe we can accelerate our current education.”

To understand latent spaces, it is first necessary to know more about natural language processing. A common tool used in NLP is a Variational Autoencoder (VAE). VAEs consist of two main components, an encoder and a decoder. For a standard autoencoder, data is fed into the encoder, which then compresses (i.e. encodes) the data, and then the decoder takes the compressed data and decompresses (i.e. decodes) it to recreate the source data. The area where the compressed data is stored is known as the latent space.

The power of a variational autoencoder is that it can do more than just recreate the original input data. VAEs can take data from the latent space to create data that is different from but still related to the original input data. To accomplish this, a VAE can use various sampling methods of the latent space in order to generate original content. In his research, Prince has been studying a Wasserstein Autoencoder, which expands on the traditional sampling methods of VAEs to improve the accuracy of text generation.



Prince Wang (right) explaining his research at the 2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP) Courtesy Photo

Prince’s project on Wasserstein Autoencoders was supported by the Gene and Susan Lucas Undergraduate Research Fund, which provides funding for first-generation college students at UCSB to conduct research in the fields of science, technology, engineering, and mathematics. Last year, Prince also received the UC Santa Barbara Chancellor’s Award for Excellence in Undergraduate Research, which is almost unheard of for a second-year student. In addition, Prince was recently selected as a Finalist of the Computing Research Association’s (CRA) Outstanding Undergraduate Researcher Award for 2020. This award recognizes undergraduate students from across colleges and universities in North America who demonstrate exceptional computer science research potential.

Prince has not been confining his research to one topic. He has also been working with Dr. Wang to build a model that predicts the success of employees in a company. “We have these datasets in which we have a lot of data about employees, and employees have many attributes including gender, race, and education, their annual income and stuff like that,” Prince said. “We are trying to help a company build a model to predict whether an employee will be successful in the company or not.” One challenge with this model is making sure that it treats all employees fairly.

“Fairness is becoming a major area in AI right now,” Prince explained. Bias is a problem in a lot of areas of research and artificial intelligence is no exception. In AI, one major problem is that bias within datasets, which are taken from real-life data, can be magnified when artificial intelligence algorithms are applied. “In the data, it is really possible that men get more education

“Our job is basically to break the link between this successful rate and any sensitive attributes such as gender or race.”

than women. But theoretically gender should not be the cause of the successful rate of the employee,” Prince said. The same is true when looking at data about the education level or income of employees when divided by race.

“Let’s say we have employee A who is a male and the model is going to predict him as very successful,” Prince said. This employee has certain attributes, for example, “let’s say this employee A graduated from Harvard and that he has an annual income of \$1 million a year and let’s say he comes from the USA and that he’s about 31 years old and then we just change his gender from male to female.” For the model to work properly, this new employee should be predicted to be successful as well. However, the model may not have actually seen this employee

in the dataset before, so it becomes difficult for the model to accurately predict the potential for success of this new employee. This can lead to bias in the model, which may inaccurately predict women or minority groups as being unsuccessful in the company because of the lack of data about them from the original dataset. “Our job is basically to break the link between this successful rate and any sensitive attributes such as gender or race,” explained Prince.

After stepping beyond CCS, Prince is planning to enter into a Master’s program at UCSB, followed by a doctoral program. In his graduate studies, he looks to continue studying how artificial intelligence can be used to benefit society with a particular focus on how AI can model human learning.



Yiluo Li sitting in the CCS Student Lounge Courtesy Photo



Yiluo (right) works with her RMP mentee during Summer 2019 Courtesy Photo

# Exploring New Fields

## Yiluo Li (CCS Physics '21) recounts her early involvement with CCS through astronomy and quantum computing

**Y**iluo Li (CCS Physics '21) first came to UC Santa Barbara (UCSB) in 2015 as a high school sophomore as part of the UCSB Research Mentorship Program (RMP). RMP is a competitive summer program for high school students that engages them in interdisciplinary, university-level research. Up to this point, Yiluo had been doing historical research about modern China.

### Research About Space

For the RMP program, Yiluo wrote down five research projects that she was interested in, all of which were focused on astronomy. She recalled, "I really wanted to do astronomy and then Qicheng took

me [onto his project]." Qicheng Zhang (CCS Physics '17) was a CCS second-year student at the time.

"He walked me through all of calculus and statistics because I didn't take any of those before," said Yiluo. He taught her more than calculus and statistics. "He taught me how to solve any kind of random problems I have on my mind...it was like giving me a fishing rod and teaching me how to fish." Learning with Zhang is where Yiluo's connection with the CCS community began and her appreciation for the close-knit CCS community continues to this day.

Over the course of the RMP, Yiluo worked with Zhang in Professor Philip Lubin's Experimental Cosmology Group, on a project concerning laser propelled spacecraft. Yiluo and Zhang discussed sending a laser array into the Earth's orbit to use as a propulsion device. While Yiluo and Zhang completed calculations and worked with code, other teams in the Experimental Cosmology Group tested the laser for projects like using the laser in asteroid mining or in preventing asteroids from approaching Earth.

Yiluo studied computer simulations. With a laser in orbit, a spacecraft can use Earth's gravity and the laser to increase velocity before the spacecraft launches out of orbit. This reduces the amount of resources needed for a trip to outer space - whether it be sending a rover to Mars or a lander to Europa, one of the 79 known moons of Jupiter.

Zhang and Yiluo researched the optimal times to open and close the laser in order to find what would provide the most velocity. "We want to propel it out, but when it orbits back, we want to close the laser."

Inspired by her work with the RMP program, Yiluo went on to complete an additional planetary science project in 2016 at the University of Colorado Boulder after her junior year of high school. Under the advisory of Dr. Michael Dubson at the University's Sommers Bausch Observatory, she worked with a team studying the orbit of a Near-Earth asteroid.

Yiluo continued her research in planetary science after arriving at CCS. The summer after her first year, she worked on a project at

the California Institute of Technology (Caltech) with Professor Mike Brown. Professor Brown was dubbed the "Pluto Killer" after he discovered Eris, a dwarf planet in the Kuiper Belt. Due to the high rock and ice concentration of both Eris and Pluto compared to the composition of gaseous planets like Uranus and Neptune, Pluto was reduced from planet status to a dwarf planet.

For her project, Yiluo examined the thermal data of various Jupiter satellites (or moons), including Europa and Ganymede, two of the four moons Galileo identified in 1610. "I was looking at the thermal data of this moon, trying to see if we could find any hotspots on it," said Yiluo. Hotspots correspond to some kind of cryovolcano--a volcano that spits out volatiles like water, ammonia, or methane--and, combined with evidence of subsurface oceans, could indicate that there might be life. Yiluo and the team found two potential hotspots on Europa, which supports the idea that Europa is one of the most promising satellites to contain life in our solar system. In future years, NASA plans to send a lander to Europa to test the composition of the moon and, potentially, search for life.

Since arriving at the College, Yiluo has come full circle and was one of the mentors of the RMP program, the program that first brought her to UCSB and CCS.

### From Astronomy to Quantum Computing

Recent alumni, Dolev Bluvstein (CCS Physics '19), said something to Yiluo that stuck. "If you like something, you just dive really deep." Even if you know that you may change interests again later, you should "just delve into that subject." Professor Tengiz Bibliashvili in the L&S and CCS Physics departments echoed the



same sentiment. Yiluo remembers Bibliashvili thought, when trying something new, you have to go deeply into the new subject, or don't go into it at all. Then, if you decide it is not something you like, you can switch.

"I am still very interested in astronomy," admitted Yiluo. "I like planetary science a lot. I just feel like I need to know about the quantum computer." Yiluo found quantum computing to be the intersection of two areas she is interested in, math and theoretical computer science.

This past summer, Yiluo was a CCS Summer Undergraduate Fellow. The program, supported by the Create Fund, supports students in spending a summer dedicated full-time to research, creative endeavors, or entrepreneurial projects. Yiluo worked in Professor Andrew Jayich's lab in the Department of Physics. Jayich's lab group works on developing new quantum technologies and addressing fundamental physics questions by manipulating single quantum states of trapped ions.

Yiluo explained that a quantum computer is not inherently better than a classic computer - there are problems each can solve that the other can't. Quantum computers are also much larger and more expensive than classical computers, and, in many cases, a classical computer with heavy computation power or a good algorithm would be just as fast or faster than a quantum computer.

However, because quantum computers work differently than classical computers, they may be more effective in certain situations. "There are some really hard problems that are hard in terms of a classical computer that we are thinking might be solvable using the quantum computer," Yiluo said.

The basic unit of information in a classical computer is a binary digit, or a bit. Bits can be two different values, represented by 0 or 1. Quantum computers use quantum bits, or qubits, that are designed around quantum phenomena such as superposition and entanglement, which allows qubits to exist in two states at once (i.e. they can be 0 and 1). To understand the power of a quantum computer, consider the task of finding the best way to exit a maze. A classical computer has to try all routes in series until it finds the solution while a quantum computer is able to utilize a faster method of examining each possible path across the maze in parallel. Because of this, a quantum computer can theoretically find answers to complex tasks quicker and finish problems a classical computer might take a lifetime to complete.

One of the main challenges with quantum computing is maintaining 'coherence', or being able to keep a quantum state. Quantum decoherence - losing the quantum state and reverting to a classical system - leads to memory errors and can be caused by any number of factors including light, heat, magnetic fields, or even measuring a qubit. For her research, Yiluo particularly focused on the impacts of fluctuating magnetic fields with a goal of trying to develop a "decoherence free subspace," a space where small fluctuations in the magnetic field will not cause the information to be lost.

Yiluo, along with other summer fellowship recipients and CCS students, presented her work at the third annual Research and Creative Activities Conference (RACA-Con) on November 2, 2019.

“It was like giving me a fishing rod and teaching me how to fish.”

# CCS by the Numbers



- 89 **Physicists**
- 81 **Biologists**
- 77 **Mathematicians**
- 69 **Writers**
- 42 **Computer Scientists**
- 48 **Chemists & Biochemists**
- 36 **Artists**
- 20 **Composers**



CCS accounts for less than **2%** of UC Santa Barbara's undergraduate students and **11%** of the campus' regent scholars

8

**8:1** student to faculty ratio

# CCS Student Awards

CCS students receive many prestigious awards, ranging from college-specific and departmental awards to university-wide and national awards. The following is a partial list of awards received by CCS students in the 2018-2019 academic year.

## ABRCMS (Annual Biomedical Research Conference for Minority Students) Student Travel Award

Heather MacGregor, Chemistry and Biochemistry '20

## Barry Goldwater Scholarship

Haley Bowden, Physics '20  
Ryan Sadjadi, Biology '20  
Nominee: Geneva Schlafly, Math '20

## Best Ruby on Rails Hack at AthenaHacks 2019

Lia Yeh, Computing and Physics '20

## Building Diversity in Biomedical Sciences (BDBS) Summer Research Program

Heather MacGregor, Chemistry and Biochemistry '20

## California Playwrights Project Winner

Jordan Finley, Writing & Literature '23

## CCS Traveling Undergraduate Research Fund (TURF) Recipients

Dolev Bluvstein, Physics '19  
Supavit Pokawanvit, Physics '19  
Emma Lennen, Mathematics '21  
Menghang Wang, Physics '21  
Yiluo Li, Physics '21  
Weiheng Fu, Physics '21  
David Rower, Physics '19  
Madeleine Almond, Writing & Literature '21  
Talia White, Writing & Literature '21  
Michelle Politiski, Writing & Literature '21  
Lia Yeh, Computing and Physics '20  
Bonnie Huang, Art '20  
Cecilie Lande, Biology '19  
Yurim Lee, Physics '20  
Michelle Grunberg, Biology '20  
Nicholas Capsimalis, CCS Music Composition '20

## CCS Summer Undergraduate Fellowship Recipients

Madeleine Almond, Writing & Literature '21  
Trevor Anderberg, Physics '21  
Ansuman Bardalai, Mathematics '22  
Sean Benevedes, Physics '21  
Alec Cao, Physics '21  
Hirish Chandrasekaran, Physics '21  
Asad Contractor, Physics '21  
Alistair Dobson, Biology '21  
Shey Dorji, Biology '21  
Michael Drummond, Biology '21  
Sarah Evenson, Physics '21  
Weiheng Fu, Physics '21  
Christian Greer, Physics '20  
Daniel Guo, Mathematics and Computing '22  
Vivian Hoang, Biology '22  
Mattie Jones, Writing & Literature '20  
Brian Kent, Physics '21  
Mitchell Lewis, Computing '21  
Yiluo Li, Physics '21  
Heather MacGregor, Chemistry and Biochemistry '20  
Heitor Megale, Physics '21

Daria Mileeva, Mathematics '22  
Jacob Miller, Physics '21  
Meredith Neyer, Physics '21  
Sarah Polizzotto, Physics '21  
Max Prichard, Physics '21  
Samantha Rankin, Art '20  
Salmanfaizee Sadakkadulla, Biology '21  
Shea Schwennicke, Biology '21  
Michael Straus, Physics '21  
Sharon Tamir, Biology '19  
Menghang Wang, Physics '21  
Sven Witthaus, Physics '21  
Ziyi Xie, Physics '20  
Jieyu (Jerry) Yan, Physics '21  
Hanwen Zhang, Mathematics '20  
Tingyu Zhao, Physics '20

## CCS Competition - Most Excellent Awards Narrative Prose

2nd Place: Via Bleidner, W&L '21  
Hon. Mention: Sheila Tran, W&L '20  
Hon. Mention: Belle Machado, W&L '20

## Poetry

1st Place: Tyana Craig, W&L '21  
2nd Place: Sheila Tran, W&L '20  
Hon. Mention: Hugh Cook, W&L '20  
Hon. Mention: Celine Pun, W&L '21

## Essay

2nd Place: Malire Lozada, W&L '20  
Hon. Mention: Emma deZarn, W&L '21  
Hon. Mention: Grace Holtzclaw, W&L '22

## Brancart Fiction Award

Carson Young, Writing & Literature '22

## Richardson Poetry Awards

Tyana Craig, Writing & Literature '21

## Chancellor's Award for Excellence in Undergraduate Research

Prince Zizhuang Wang, Computing '21

## Center for Public Anthropology, Public Anthropology Award

Seamus Morrison, Writing & Literature '21

## Computing Research Association (CRA) Outstanding Undergraduate Researcher

Prince Zizhuang Wang, Computing '21

## Cooperative International Science and Engineering Internship (CISEI)

Heather MacGregor, Chemistry and Biochemistry '20  
Sophia Uemura, Chemistry and Biochemistry '20

## Edison GRE Scholarship

Heather MacGregor, Chemistry and Biochemistry '20

## EUREKA (Early Undergraduate Research Experience and Knowledge Acquisition) Scholar

Emily Lopez, Mathematics '22

## Gene and Susan Lucas Undergraduate Research Fund

Shahira (Shay) Ellaboudy, Biology '21  
Vivian Hoang, Biology '22  
Yanelyn Perez, Biology '20  
Pharuj Rajborirug, Physics '19  
Youssef Sibih, Biology '20  
Prince Zizhuang Wang, Computing '21  
Lizebeth Martinez, Biology '20

## Georgia Institute of Technology Focus Program Award

Heather MacGregor, Chemistry and Biochemistry '20

## Gorman Scholarship

Yash Chitgopekar, Mathematics '21  
Lia Yeh, Computing and Physics '20

## Hertz Fellowship

Dolev Bulvstein, Physics '19

## International Workshop on Symbiotic Copepoda Competition, World Association of Copepodologists

Jade Morris, Biology '22

## Internship Scholarship Program Debbie Fleming Award from UCSB Career Services

Lizabeth Martinez, Biology '20

## IEEE/ACM International Symposium on Microarchitecture (MICRO) Student Research Competition

1st Place in Undergraduate Category: Lia Yeh, Computing and Physics '20

## Leon Goodman Scholarship

Joyce Tsui, Art '21

## MARC (Maximizing Access to Research Careers) Scholars Program

Diego Reyes, Biology '21  
Alanna Stull, Biology '21

## Marine Aquarium Societies of North America (MASNA) Undergraduate Student Scholarship

Top Five Candidate: Sriram Ramamurthy, Bio '22

## Margo Dutton Scholarship

Sophia Uemura, Chemistry and Biochemistry '20

## Max Kade Foundation Grant

Sophie Mendell, Chemistry and Biochemistry '19

## Menard Lab Internship

Delenn Jadzia, Chemistry and Biochemistry, Writing & Literature, L&S Anthropology '21

## Mexico Initiative Scholarship from the University of California Education Abroad Program

Lizabeth Martinez, Biology '20

## Mochila Review Poetry Contest

Jen Woolard, Writing & Literature '20

## Moeller Faculty Award

Kristen Klitgaard, Biology '20

## Mortar Board Award 2019

Nicholas O'Dea, Physics and L&S Statistics and Data Science '19

## NASA Psyche Inspired Internship

Joyce Tsui, Art '21

## NSA Cyber Challenge at the SACNAS National Diversity in STEM Conference

1st Place Team: Lia Yeh, Computing and Physics '20

## NSF and Boise State University (BSU) Complexity Across Disciplines Research Experience for Undergraduates (CAD REU)

Geneva Schlafly, Mathematics '20

## NSF Graduate Research Fellowships

Sam Aronson, Physics '17  
Dolev Bulvstein, Physics '19  
Jasen Liu, Biology '19  
David Rower, Physics '19  
Shelby Shankel CCS Chemistry and Biochemistry '18

## Ostrow-Bruckner Scholarship

Geneva Schlafly, Mathematics '20

## Partnership for Research and Education in Materials (PREM) Internship

Heather MacGregor, CCS Chemistry/ Biochemistry '20

## Scholarship for Penland School of Craft

Roshelle Carlson, Art '20

## Phi Sigma Rho Gaucho Award

Sophia Uemura, Chemistry and Biochemistry '20

## Promise Scholar

Jordan Finley, Writing & Literature '23

## Quantum Undergraduate Research at IBM and Princeton (QURIP)

Lia Yeh, Computing and Physics '20

## Rama Thogarati Memorial Award 2019

Nicholas O'Dea, Physics and L&S Statistics and Data Science '19

## REPLICATE System Research Internship at Natural Dental Implants

Sophie Mendell, Chemistry and Biochemistry '19

## Santa Barbara Natural History Museum Hearst Internship

Sophie Nebeker, Art and Biology '20

## Santa Barbara Writers Conference Scholarship

Vianna Mabanag, Writing & Literature '20  
Belle Machado, Writing & Literature '20  
California (Cal) Kromelow, Writing & Literature '21

## Santa Cruz Omega Nu Scholarship

Geneva Schlafly, Mathematics '20

## Stanford University Summer Research Program, Amgen Scholar

Andy Garcia, Biology '20

## Stanford University Summer Research Internship, Pringle Lab

Sriram Ramamurthy, Biology '22

## UC LEADS Scholarship

Michelle Chiu, Biology '21  
Shay Ellaboudy, Biology '21

## UCEAP (University of California Education Abroad Program) Promise Award

Geneva Schlafly, Mathematics '20

## UCSB Undergraduate Research and Creative Activities Grant

Delenn Jadzia, Chemistry and Biochemistry, Writing & Literature, L&S Anthropology '21  
Hannah Morley, Writing & Literature '21

## UCSB MRL Research Internship in Science and Engineering

Sophie Mendell, Chemistry and Biochemistry '19  
Sophia Uemura, Chemistry and Biochemistry '20

## UCSB Physics Department Academic Excellence

Mitchell Koerner, Physics '19  
Mingru Li, Physics '19  
Nicholas O'Dea, Physics and L&S Statistics and Data Science '19  
Supavit Pokawanvit, Physics '19  
Nick Rommelfanger, Physics '19

## UCSB Physics Circus Award

Mitchell Koerner, Physics '19  
Jerry Ling, Physics '20  
Nick Rommelfanger, Physics '19  
David Rower, Physics '19  
Ben Siegel, Physics '19

## UCSB Physics Department Research Excellence Award

David Rower, Physics '19  
David Newsom, Physics '19

## UCSB Physics Department Research Honors

David Bluvstein, Physics '19  
Jasmin Kwak, Physics '19  
Pharuj Rajborirug, Physics '19  
Kunal Lakhanpal, Physics '19  
Shulin Li, Physics '19  
Yuanqi Lyu, Physics '20  
Brett McKim, Physics '19  
Nicholas O'Dea, Physics and L&S Statistics and Data Science '19  
Tyler Pennebaker, Physics '19  
Nick Rommelfanger, Physics '19  
Ben Siegel, Physics '19  
Parker Shankin-Clarke, Physics '21  
Aaron Stanek, Physics '19

## UCSB Physics Department Service Award

Haley Bowden, Physics, Physics '19  
Lia Yeh, Computing and Physics '20

## UCSB Physics Department Arnold Nordsieck Award

Samuel Alipour-fard, Physics '19  
Dolev Bluvstein, Physics '19

## UCSB Writing Program Raab Writing Fellowship

Madeleine Almond, W&L '21  
Delenn Jadzia, Chemistry and Biochemistry, Writing & Literature, L&S Anthropology '21  
Hannah Morley, Writing & Literature '21

Michelle Politiski, Writing & Literature '21  
Hayley Tice, Writing & Literature '21  
Talia White, Writing & Literature '21  
Andreas Worstell, Writing & Literature '21

## UC San Francisco Internship

Tessa Chou, Biology '22

## UC San Francisco Summer Research Internship

Mitra Pourmehraban, Chemistry and Biochemistry '22

## University of Chicago Math Research Experience for Undergraduates

Emma Lennon, Mathematics '21

## University of Colorado RNA Bioscience Initiative Summer Internship Program

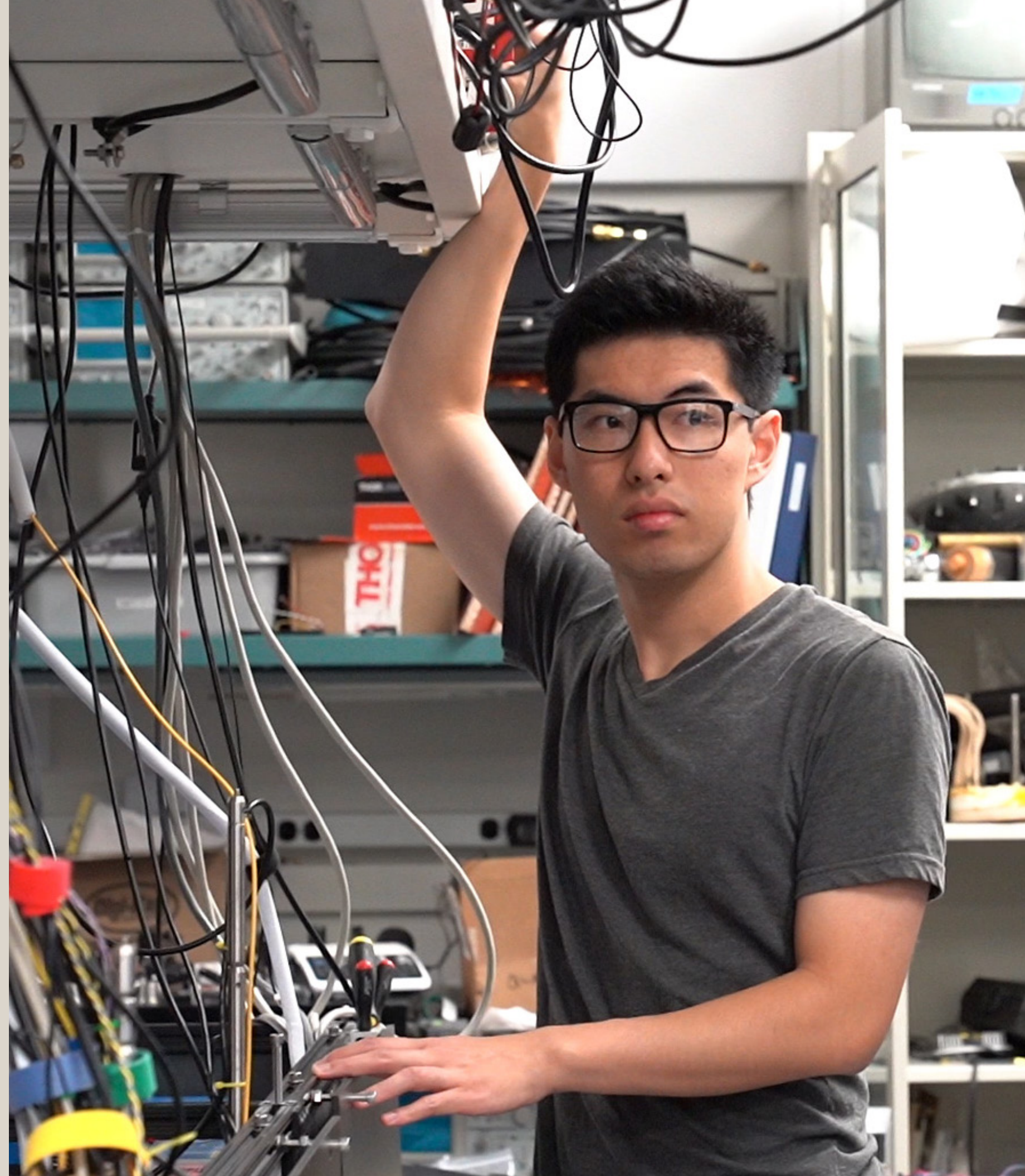
Charlie Moffatt, Biology '20

## Worster Summer Research Fellowship

Jade Morris, Biology '22

“I think my CCS experience has been defined by my ability to do research... I joined a research lab early on because I was excited to do real science and engage my brain in creating something new.”

Alec Cao  
CCS Physics '21



“I’ve learned so much more than I could have ever hoped... Without CCS, I would not have discovered my passion and talent for printmaking and book arts. I am grateful to CCS for offering opportunities that I would not have been given elsewhere.”

Roshelle Carlson  
CCS Art '20



# Meet Marlene Zuk, CCS Biology '77

Marlene Zuk Photo Courtesy of the University of Minnesota

## Alumni Features

# Marlene Zuk, Regents Professor at the University of Minnesota, reflects on her path to becoming a scientist

**M**arlene Zuk is a distinguished American evolutionary biologist and behavioral ecologist. During a recent conversation, Marlene shared the impact CCS had in her life.

"I became more engaged as a biologist by being at CCS," Marlene stated. "As an undergrad at CCS, I appreciated that everyone took me seriously, allowed me to make my own decisions." She continued, "it may be minor, all things considered, but there are many schools where you couldn't ever do that. CCS let you own your own mind. I could make my own decisions about what was important and valuable to me."

Marlene grew up in Los Angeles and was a first-generation college student. Her parents were immigrants and, though supportive, were not familiar with applying to college or that some schools were better than others. Marlene was in a UC program, designed to help high school students get into UC schools. She ended up at UCSB where she started as a regular biology major. "For someone who didn't really know what college was about, it was an intimidating experience to be an undergrad in a large school," Marlene recalls. She remembers being in an introductory biology class with hundreds of people and felt she was not getting a chance to do the things she wanted to do in college. Sometime during her first year she heard about CCS. "I thought CCS would be a great opportunity as students got credit for the amount of work we did and students were encouraged to do research—all of that interested me a lot." She interviewed with Professor Ian Ross, who became her faculty advisor, and transferred to CCS. "I felt like I had been plucked from the masses and given access to professors so that I could pursue my own interests," she shared.

Marlene remembers fondly several professors and experiences at CCS. She recalled taking former CCS Provost Adrian Wenner's animal behavior class, which taught her to have a real love of natural history, particularly insects, and got her interested in the philosophy of science. In particular, "I was taught to ask questions and be critical, and that not everything published in the scientific literature is correct, which was a big revelation at that stage in my life."

She had a long-standing interest in writing, and had considered pursuing a degree in English. But as she was also fascinated by biology, she thought it would be better for her to do writing/literature on the side. "One of the great things about CCS was that I could take literature classes and not be told that I couldn't take creative writing classes because I was a biology major," Marlene said.

After graduating from CCS, Marlene was unsure what she wanted to do for her career. "I did not come out of CCS thinking that I wanted to be a professor," she commented. "However, I eventually went to a Ph.D. program at the University of Michigan and, after earning my doctorate, I completed a post-doc at the University of New Mexico. Following that, I became a faculty member at UC Riverside and am now at the University of Minnesota." At Minnesota, Marlene is a member of the faculty in the College of Biological Sciences where she was recently named a Regents Professor, the highest honor that the University of Minnesota can bestow on its faculty. The title recognizes those who have made tremendous contributions to the University and to the public good in the form of teaching, research, and scholarship.

In addition, Marlene was elected into the National Academy of Sciences (NAS) in April 2019. NAS membership is based on a scientist's distinguished and continuing achievement in original research and is widely considered to be one of the highest honors in a scientific field. Marlene's lab focuses on emerging questions in behavioral ecology and evolutionary biology, and uses invertebrate systems to study the evolution of mating behavior and secondary sexual characters in natural populations.

When asked about her recognitions, Marlene said modestly: "I am a scientist who does not do the kind of science that is super flashy. I am not trying to cure cancer, come up with a way to feed the world, or alter the genome to make you more resistant to disease. I do not run a large lab with tons of people or receive really big grants. Getting the recognition from both awards shows that you don't have to do that; sometimes it feels like it is all about getting big grants and running big machines, but getting these awards shows that it is not all about the money or who can do all the big flashy stuff."

During the time between graduation from CCS and starting graduate school Marlene worked at an academic skills center on the UCSB campus where she assisted in a program that helped students in early affirmative action programs. Marlene recalls, "UCSB had just started admitting a lot of students who had been deemed really worthy of attending college but their backgrounds weren't always what they could have been. It was an eye-opening experience for me and really showed how access to education is not equivalent for people from different backgrounds. I also remember some students talking about discrimination in the classroom, such as not liking certain labs because the TA would pick on people of color expecting that they would cause trouble. This experience really stuck with me and I became interested in diversity and equity, especially gender in science and how it influences what we do."

"I did not realize it as much at the time at CCS/UCSB, but seeing women professors and scientists doing things I thought I might do made a big difference for me," she shared. "I had great women role models at UCSB in the sciences and they showed me what is possible as a woman scientist."

Asked for a memorable moment at CCS, Marlene recalled a time when she developed a project with her classmates. "I concocted a

project with octopi, went out and got collection permits, and then the divers brought back specimens for us to use. I probably should have had more supervision, but I enjoyed having the freedom to create and pursue my own projects."

Marlene's advice for current and future students: "You have to be motivated by the study subject itself. Let the work carry you through the tough parts, especially if you want to get through graduate school. You can't just go through the motions to get through a Ph.D., you need to let the science speak for itself."

The College is grateful to Marlene for her generosity in supporting The Create Fund which provides Summer Undergraduate Fellowships, a top priority for student experiential learning at the College. Thanks to her support, three Zuk Fellows—Samantha Rankin (CCS Art '20), Vivian Hoang (CCS Bio '22), and Mattie Jones (CCS Writing & Literature '20)—were able to spend their summer in 2019 dedicated to full-time research and creative activities. The Zuk Fellows, along with other CCS students and the additional 34 CCS summer fellowship recipients, presented their work at the third annual Research and Creative Activities Conference on November 2, 2019 at UCSB (see article on page 42 for more on RACA-Con).

Alumni Features



Zoe Zilz (left) with Jade Morris (right) and two high school assistants. Courtesy Photo

“I had great women role models at UCSB in the sciences, and they showed me what is possible as a woman scientist.”

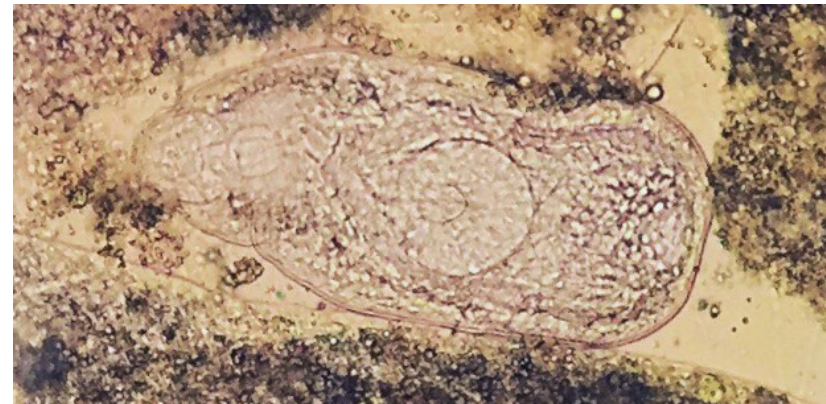
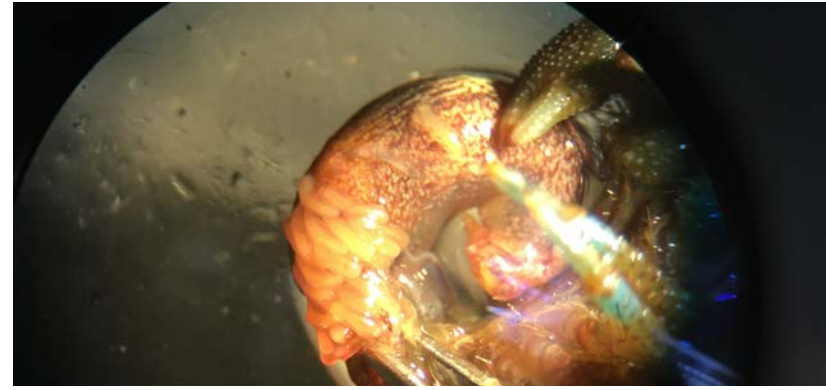
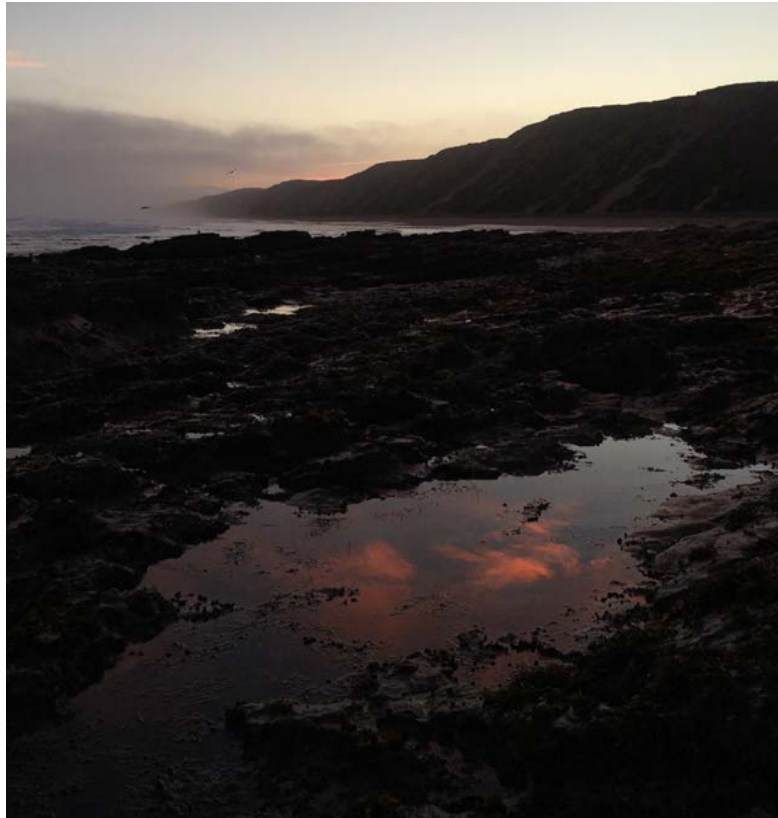
# Parasitic Collaboration

## CCS Biology alumna and CCS 2nd Year Biologist receive a 2019 Worster Award

By Kailyn Kausen (CCS Writing & Literature '20)

**U**CSB doctoral student and College of Creative Studies (CCS) alumna Zoë Zilz (CCS Biology '12) and CCS second-year Biologist Jade Morris (CCS Biology '22) are one of six teams to receive a 2019 Worster Award to support research in ecology, evolution and/or marine biology. The Worster Awards were established with a generous gift by Susan and Bruce Worster

to encourage and support collaborative research between undergraduate and graduate students. This was the 17th year that the Worster Awards were given to students. Undergraduate students who are selected to receive the award conduct research under the mentorship of a graduate student throughout the summer and the following academic year.



Clockwise: A tidepool at the Hazards sampling site, Rhizocephalans on a hermit crab abdomen, larval trematode from hermit crab intestines Photos: Jade Morris

Zilz and Morris have been working in the lab of Armand Kuris of the Biology faculty in the College of Creative Studies and Professor of Zoology in the Department of Ecology, Evolution & Marine Biology (EEMB). Kuris said that the collaborative graduate and undergraduate team won the award due to their work studying “the role of decapods, their parasites and commensals, in the rocky intertidal zone (RIZ) food web.” Decapods are ten-footed

crustaceans that include such groups as crabs, lobsters, and shrimps. The team will present their work at the 2020 Worster Award Symposium during spring quarter.

“CCS is dedicated to instilling enthusiasm for curiosity and creativity in the broadest sense across the generations, a relationship of shared joy between mentor and mentee in the process of making new knowledge,” commented CCS Interim Dean Bruce Tiffney. “Normally this involves our UCSB faculty and CCS students. Thanks to the generosity of Susan and Bruce Worster, this mentorship is extended to another level, making it possible to involve a graduate mentor; delightfully in this case, a CCS alumna.”

Zilz began at UCSB as a Letters & Sciences undergraduate in Pre-Biology and found herself frustrated instead of enjoying what she expected would have felt like her dream major at her dream school. When she transferred to CCS, where she was able to pursue independent research, she found herself living that dream. “Without the opportunities afforded me at CCS, I doubt I would have pursued a career as a biologist,” Zilz reflected.

“I have always been excited about parasites and their role in ecosystems,” Zilz continued. “I love the idea that we think we understand how an organism functions and interacts with its environment, and then as soon as we start looking into its

parasites, that understanding totally changes in light of how the parasites affect that host.” Zilz’s thesis research focuses specifically on the role of infectious disease in the rocky intertidal zone, including the impact of parasites in tidepools.

She notes that there are a surprising amount of evolutionary and ecological features that are influenced by parasitism. For example, a parasite known as *Euhaplorchis californiensis* has been found to alter fish behavior by sending chemicals through the brain which cause the fish to be less cautious and swim near the surface. According to the research (as reported by the *Los Angeles Times*), this behavior makes them 30 times more likely to be eaten than non-infected fish by shorebirds, which are the next stage in the parasite life-cycle.

Jade Morris started attending Prof. Kuris’ lab meetings at the beginning of the 2018-2019 school year. “It was the best decision I ever made,” said Morris of joining the lab as a first-year CCS biologist. There, Morris presented work she completed in high school on species which live in the space between low and high tide lines. This work impressed Zilz. Zilz said, “I am deeply interested in mentorship, so I immediately connected with Jade about collaborating on future projects and nurturing her interest in marine science.”

“I love being a part of CCS!” said Morris. “It’s like I am part of a family, and the atmosphere feels so collaborative and supportive. I love studying organisms, and the fact that I could jump right into upper division courses like Invertebrate Zoology and Parasitology during my first year allowed me to build the base I needed to begin my research immediately.”

Morris is fascinated with hermit crab symbionts—organisms that have strong, long-term biological interactions with hermit crabs, usually by living on them—where the shell is used like a home for organisms such as slipper snails, amphipods, copepods, polychaetes, and parasites. “It’s amazing to think of these shells as mobile microhabitats with a bunch of different invisible hitchhikers

that all contribute to the overall biodiversity of the intertidal zone,” said Morris. She pointed out that some copepods, a type of crustacean typically 1 to 2 mm long, are known in other parts of the world, but “have escaped notice from biologists in Southern California until recently.”

Zilz and Morris were both interested in similar questions about the role of parasitic processes in the California RIZ which is covered during high tide and exposed during low tide. This zone varies greatly along the coastline, which has led the pair to examine how the parasite load of decapod crustaceans differs north and south of Point Conception, CA, about an hour and a half north-west of the UCSB campus.

“It seemed like an obvious collaboration to merge certain aspects of my work with Zoe’s dissertation focus as my organism of interest falls right in her focus on decapods in the RIZ said Morris. “Working together, I [hope] Zoe and I will be able to potentially contribute very important fundamental information on intertidal animals in the RIZ... By adding parasites and other symbionts to our understanding of rocky intertidal ecology, hopefully we can make better decisions for how to preserve biodiversity.”

Zilz made the observation that many people find parasitology research unappealing and want to forget about parasites. Some even go so far to lump parasites in with ‘pollution.’ “I tell people time and time again that parasites can actually be a really good indicator of a healthy environment!” said Zilz. “Parasitic species are key players in an intact ecosystem, and could be the first things to disappear in an environment that is polluted, missing top predators, or otherwise degraded.”

Following this project, Zilz plans to apply what she has learned to other species in the RIZ by exploring how parasites impact host processes. Morris aims to continue her path to become a research scientist by pursuing a graduate degree, perhaps with time for Polynesian dance.

“Without the opportunities afforded me at CCS, I doubt I would have pursued a career as a biologist.

- Zoe Zilz  
CCS Bio '12

“I love being a part of CCS! It's like I am part of a family, and the atmosphere feels so collaborative and supportive.

- Jade Morris  
CCS Bio '22



Maria Isabel Bueno Cachadina, CCS Mathematics Faculty Photo: Mia Nie

■ Faculty Highlights

# Meet Maria Isabel Bueno Cachadina

## CCS mathematics faculty answers questions about her journey from Spain to CCS and her experiences with mentoring students at the College

**Q. Where did you go to undergraduate and graduate school?**

I received a bachelor's degree at Universidad Complutense de Madrid (Spain) and completed a PhD program at Universidad Carlos III de Madrid (Spain).

**Q. How did you find out about and get involved with CCS?**

I applied for a job to UCSB by mistake! I did not want to come to California because I was afraid of earthquakes. But somehow, I applied to the CCS position. When I came to the interview, I fell in love with both UCSB and the CCS program and decided to accept the offer from UCSB although I had offers from other universities.

**Q. Can you share a little bit about your background?**

I am originally from Spain. I completed my undergraduate degree in Spain and became a high school teacher. After a couple of years teaching in Madrid, I moved to Bolivia where I worked as a high school teacher for a while. Then, I decided to try teaching at the college level. I liked it so much that I decided to go back to Spain to complete a PhD program. After completing this program, I came to the US to do a postdoc in Virginia, at William and Mary. I worked there for two years before I accepted the offer to work at CCS.

**Q. What do you enjoy most about being a part of CCS?**

The interaction with the students. They are very smart and challenge you every day. They make me a better teacher and

“ [The students] make me a better teacher and researcher because of their curiosity and eagerness to learn. ”



researcher because of their curiosity and eagerness to learn. They are not scared of hard homework or difficult material. Actually they crave that kind of thing. It does not matter what you throw at them, they take it with no complaints. I have learned so much from my own students thanks to their demanding nature.

**Q. Is there a moment that exemplifies your time at CCS?**

Something I love about CCS is that every year is totally different from the year before. Every year the group of students is different and they bring their own strengths and richness. So there is not a single moment that would really exemplify my time at CCS. Despite the number of years I have been in CCS (14), every year feels new and every year I learn new things. Going to class at the beginning of each quarter feels as if it was the first time, in the sense that I am as excited and looking forward to it as if it was the first time I taught.

**Q. Could you describe your work with math outreach?**

I started a Math circle a couple of years after I arrived to UCSB. This program was aimed at middle and high school students who were interested in enriching their math education beyond what they learned at school. We attracted very motivated and smart kids during the time we had this program. We used to meet once a week and provide inquiry-based learning activities that exposed the students to college level material. Instead of lecturing, the activities were hands-on and oriented toward discovery. After a few

years, we had to discontinue this program for lack of funding (no one wants to fund enrichment activities). But a couple of years ago we started a new initiative. This time we started a math circle for women. In order to make it more sustainable we only meet once a month and then we have a full day of activities in the winter quarter open to girls in the whole county.

**Q. What is it like advising CCS students?**

I would say it is challenging. CCS students are smart, complex people. Each of them has so many passions and interests that it is difficult to keep up with all of them. Sometimes they change their goals from one quarter to the next, which I find amazing and wonderful. Getting to know them at a more personal level is a great experience because they are all very interesting people, with many things going on in their lives beyond math.

**Q. How would you describe CCS as a whole?**

If I were to use a couple of words I would say that CCS is a magical place where all dreams come true. It does not matter what faculty or students imagine or wish for, it feels like it can happen in CCS. It is the most flexible educational institution I have encountered in my life. It is so wonderful that programs can be changed and adapted to the evolution of the students every year. And that faculty, staff and students come together in so many ways to create an environment that promotes imagination, creativity, and passion.

“It does not matter what faculty or students imagine or wish for. It feels like it can happen in CCS.”

Faculty Highlights



Sarah Gibson, CCS Music Composition Faculty Courtesy Photo

# Welcome

## Dr. Sarah Gibson Composer and pianist Sarah Gibson joins Department of Music and CCS

The UC Santa Barbara Department of Music and College of Creative Studies have appointed Dr. Sarah Gibson as Teaching Professor in Composition beginning Fall of 2019. An accomplished composer and pianist, Dr. Gibson comes to UC Santa Barbara with extensive teaching experience as a Lecturer in Composition, Theory and Analysis at the University of Southern California's Thornton School of Music, through a partnership with the Los Angeles Philharmonic Nancy and Barry Sanders Composer Fellowship Program (2014-present), and at the Colburn School (2018-19), where she taught classes in music theory. As a composer and pianist, she has collaborated with organizations and ensembles

such as the Los Angeles Philharmonic, Aspen Contemporary Ensemble, Eighth Blackbird, Tanglewood Music Center, and the Los Angeles Chamber Orchestra, and has been recognized by the Atlanta Journal Constitution as "a serious talent to watch."

Dr. Bruce Tiffney, Interim Dean of the UCSB College of Creative Studies, shared that "the College is delighted that Dr. Sarah Gibson will be joining our faculty. Her dedication to creating and championing new music, particularly through her co-leadership of HOCKET, will make her an outstanding role model for aspiring young composers. Further, her association with the Los Angeles

Philharmonic and other institutions will introduce our students to the rich musical resources of Southern California, and she has a remarkable reputation as a teacher, guaranteeing that our students will grow in her care and tutelage."

"The Department of Music is thrilled to welcome Dr. Sarah Gibson to our faculty and we are truly excited by the innovative experience she will bring to this position," noted Robert Koenig, Chair of the Department of Music. "Her background and support of new musical compositions, along with her dedication to teaching young aspiring composers has already established her as a musical phenomenon in Southern California and beyond. As an active performer, she brings the highest level of commitment to our music programs at UCSB and our students are certain to flourish under her careful guidance."

In her new position at UC Santa Barbara, which will be split between both the Department of Music and the College of Creative Studies, Dr. Gibson will teach courses in composition, music theory, and orchestration, along with chamber music and various other performance related classes. "I'm elated to join the stellar UCSB faculty and teach Composition in the Music Department and the College of Creative Studies," said Dr. Gibson. "This unique position allows me to work closely with creatively energized students and faculty with passionate and inspiring ideas. UCSB has a long history of being at the forefront of modern music and I am thrilled and humbled to be a part of that legacy."



**Sarah Gibson with HOCKET co-member Thomas Kotcheff**  
Photo Courtesy of HOCKET

for Orchestra competition and was premiered with Dr. Gibson at the keyboard. Previously the Los Angeles Chamber Orchestra's Sound Investment Composer, she currently serves as Associate Artistic Director of the HEAR NOW Music Festival of Los Angeles Composers. She also works alongside Artistic Director Andrew Norman as the Lead-Teaching Artist for the esteemed Nancy and Barry Sanders Los Angeles Philharmonic Composer Fellowship Program, which provides exceptional high school students the opportunity to train with renowned composition faculty and have their works performed by Los Angeles Philharmonic musicians.

In addition to her extensive composition career, Dr. Gibson maintains an active performance schedule. As co-founder of the new music piano duo HOCKET, she has performed with pianist Thomas Kotcheff across the US at festivals and venues such as the Bang on a Can Summer Music Festival at MASS MoCA, Music at the Anthology's (MATA) Festival in New York City, Center for New Music in San Francisco, Carlsbad Music Festival, Other Minds Festival, Eighth Blackbird Creative Lab, and the Los Angeles Philharmonic's Noon to Midnight festival. Hailed as "brilliant" by Mark Swed of the LA Times and as an "adventurous young ensemble" by The New Yorker, the duo has premiered over one hundred chamber and solo works and has collaborated with some of today's most prestigious new music ensembles such as Eighth Blackbird and the Bang on a Can All-Stars. HOCKET has held residencies at Avaloch Farm Music Institute and received grants from the Earle Brown Music Foundation and the Presser Foundation.

Dr. Gibson earned a Bachelor of Music with High Honors in Composition and Piano Performance from Indiana University (2008), as well as a master's degree in Composition (2010) and a Doctor of Musical Arts in Composition with minors in Music Theory, Instrumental Conducting, and Keyboard Collaborative Arts (2015) from the University of Southern California.

“She has a remarkable reputation as a teacher, guaranteeing that our students will grow in her care and tutelage.”

- Bruce H. Tiffney

As a composer, Dr. Gibson has received commissions and performances from the Los Angeles Chamber Orchestra, American Composers Orchestra, Tanglewood Music Center, Left Coast Chamber Ensemble, Aspen Contemporary Ensemble, and Chamber Music America, among others. Her works have received honors and recognitions such as the Victor Herbert ASCAP Award, American Composers Orchestra Underwood New Music Readings, National Federation of Music Clubs Marion Richter American Music Composition Award, and first place in the Percussive Arts Society Composition Contest. Her Left-hand Piano Concerto was selected as a winner of the University of Southern California's New Music

## Faculty Highlights



Caroline Allen (left) and Jeremy Haladyna (right) at their retirement party

# Enjoying Retirement

After many years of dedicated service, two beloved CCS faculty members retire

After long and successful careers, **Caroline Allen of the Writing and Literature faculty** and **Jeremy Haladyna of the Music Composition faculty** have retired from the College of Creative Studies. In June 2019, CCS hosted a retirement party for Caroline and Jeremy to honor their dedication to CCS and celebrate the beginning of their new adventures.

Caroline Allen came to CCS as a Literature student in 1983 after transferring from Ventura Community College. Upon graduating

from CCS in 1985, she went on to receive a masters degree in English from UCSB. It was during her time in graduate school that Caroline began teaching at CCS, first as a graduate student teaching associate and then in 1992, she was appointed as a lecturer by CCS Provost Bill Ashby.

In addition to her writing, Caroline is an accomplished artist. Combining these she led a class called "Words and Images" that taught students how to link the two disciplines. She is also well-known

Faculty Highlights

in the CCS community for her “Diaries to Stories” in which students kept a diary and anonymously shared their entries. This process, along with class discussions, helped students learn to craft diaries into creative work.

Jeremy received his first bachelor’s degree from the University of Texas, Austin, though he holds prizes and academic qualifications from around the world. This includes a diploma from the Schola Cantorum in Paris, a Master of Music (M. Mus) from the University of Surrey in England, and a PhD in Musical Composition from UCSB.

Jeremy’s work is influenced by global experiences, particularly trips to the Mayan region to investigate pre-Columbian thought. This experience inspired one of his most renowned collections of work, *Mayan Cycle*, including such titles as *Zaquico’xol*, *The Oracle of 13 Sky*, and *Jaguar Poems*. At CCS, he is perhaps most remembered for his CCS TV Mu-



Caroline Allen talking with a student at the retirement party

sical courses, which had students from several disciplines create an all-original CCS-authored musical from conception to production.

In retirement, Caroline has been painting, making ceramic sculpture, reading, writing, and doing a little traveling. Jeremy has also been keeping busy and enjoying having time to work on engraving music, compiling mp3 mixes of his music, revisiting New England (after 35 years away), and trying to decipher Mayan grammar. Both enjoy hearing from former students.

“The College will not be the same without Caroline and Jeremy, but we can only applaud them for their generosity and service,” said Interim Dean Bruce Tiffney. “We will cheer both of them on during the next forays of their ever-creative lives.”



Jeremy Haladyna with former students

The College will not be the same without Caroline and Jeremy, but we can only applaud them for their generosity and service.

- Bruce H. Tiffney

Around the Halls

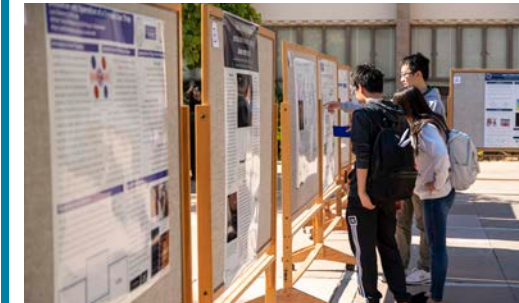
# Year in Highlights

## All College Meeting



On September 25, 2019, CCS hosted the annual All College Meeting. This year’s theme, *Denim on Denim*, was a hit, with many attendees decked out in blue. The traditional fajita lunch was also greatly enjoyed and students, faculty, and staff had the opportunity to reconnect and celebrate the start of another academic year.

## RACA-Con



Posters at RACA-Con Photo: Jeff Liang

On November 2, 2019, CCS hosted the third-annual Research and Creative Activities Conference (RACA-Con). The conference featured student presentations, posters, and a keynote address by CCS Art alumnus Jon Ritt (CCS Art ‘18). This year’s conference was a huge success, with 29 student talks, over 50 posters, and more than 300 attendees. Learn more about RACA-Con on page 44.

## Transdisciplinary Fellows



Dr. Mark Runco  
Courtesy Photo

Made possible by the Transdisciplinary Fund, two Transdisciplinary Fellows visited CCS in 2019 to inspire interdisciplinary exploration and thought. In February, Creativity Scholar Dr. Mark Runco hosted two seminars, a workshop, and individual creativity consultations with students. He earned his doctorate in Cognitive Psychology from the Claremont Graduate University and researches the art and science of creativity. Dr. Runco’s seminars and workshop encouraged CCS students to unlock their creative potential and apply it to their work at CCS and beyond. The second Transdisciplinary Fellow was Tracy Fullerton who visited CCS in May. Fullerton is an experimental game designer, and a professor and director emeritus of the University of Southern California (USC) Games Program. Fullerton’s research center, Game Innovation Lab, has developed many influential, independent games, including *Cloud*, *Darfur is Dying*, and *Walden*. *Walden* was awarded Game of the Year and Most Significant impact by Games for Change. While at CCS, Fullerton gave a university-wide lecture on how she translated Henry David Thoreau’s book *Walden* into the video game of the same name, and hosted a game design workshop for CCS students.



Tracy Fullerton presenting at her game design workshop

## UCSB Arts Walk



On April 17, 2019 CCS students participated in the second annual UCSB Arts Walk. The Arts Walk, a campus-wide event that highlights visual and performing arts at UCSB, including dance, performing arts, music, and gallery showings, was an opportunity for CCS students to showcase their creativity and radical curiosity. During the event, CCS students showcased their artwork and music compositions as well as gave behind the scenes demonstrations of their creative process.

## Faculty/Student Dinners



On May 24, 2019, the College hosted the CCS Sixth Faculty/Student Dinner in the Carrillo Dining Commons, bringing together faculty, students, and staff to connect as a community.

At the dinner, CCS second-year Computer Scientist Prince Zizhuang Wang was presented the Chancellor's Award for Excellence in Undergraduate Research for his research on artificial intelligence (see page 11 for more information). The College thanks Cynthia and Tayloe Stansbury for their generous support toward building the CCS community that makes these dinners possible.

## Commencement



Congratulations to the Class of 2019! 82 students graduated from CCS this year. As per tradition, the ceremony took place in Campbell Hall and began with an address by the Chancellor. Interim Dean Bruce Tiffney also addressed the graduates as did the two student speakers, Casondra Cunningham (CCS Art and CCS Biology '19) and Anoop Praturu (CCS Physics '19). The alumni speaker was environmental anthropologist Dr. Kenny Broad (CCS Literature '89). See page 46 for more information about Commencement.

## Summer Undergraduate Fellowships



Sam Rankin (CCS Art '20) in studio  
Photo: Mia Nie

In Summer 2019, 37 students received Summer Undergraduate Fellowships. These fellowships, supported by The Create Fund, are open to all eight majors at the College and allow students to dedicate themselves full-time to research or creative activities under the guidance of a UCSB faculty mentor. Student projects included studying amphibian parasites in Yosemite National Park, researching ultracold atoms, and creating a variety of paintings, prints, and other art pieces.



Alistair Dobson (CCS Biology '21) in lab

# CCS Writing Competitions

Open to the entire campus, students from all disciplines across UC Santa Barbara are encouraged to submit their work to the annual CCS Writing Competitions. This competition gives students from UCSB's two other colleges a chance to engage with CCS. The grand prizes—the Brancart Fiction and the Richardson Poetry Awards—are bestowed each year thanks to endowments created through the generosity of CCS alumni Christine Lehner (CCS Literature '73) and the late Jeffery Hewitt (CCS Literature '74) in honor of their respective grandmothers. The 2019 Brancart Fiction award was given to Carson Young (CCS Writing & Literature '22) for *Cyanosis* and the Richardson Poetry Award went to Tyana Craig (CCS Writing & Literature '20) for *Song for Sarah*, *Homegoing*, and *Hymn in Seawater*. Below is an excerpt from *Cyanosis*.

## Cyanosis (excerpt)

by Carson Young (CCS Writing & Literature '22)

Finch pushes my hair back, the way she does. I wonder what she sees when she looks at me. Her eyes pierce me through, the crucifixion of sick, starving Chasey girl. I pull my hands away before my stigmata bleeds all over her and drips into her hot chocolate. Finch watches me sit there and not eat and put away black coffee (two calories) like it's my job. I feed my tremors and in return they pull my strings and I become a real human doll. My empty stomach rolls like thunder.

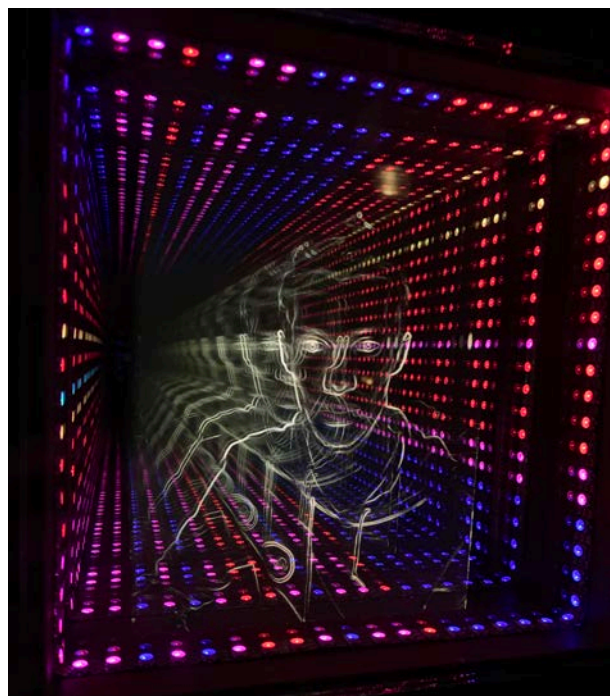
"Chasey girl, are you okay?" Finch is beautiful, objectively and completely. A cinnamon blooded december girl with crooked teeth and calloused hands. Her arms are softly formed with young teenage muscle, her legs are strong tree trunks that climb mountains and turn cartwheels. When she looks at me, the smooth stones in my intestines shift and my heart stirs from its hungry winter.

"Yeah, I'm good. I'm good." In the past three days I have eaten two hundred and forty calories. Yesterday, I was so cold my nails turned blue. Cyanosis. I looked it up, huddled over my anatomy book that is a week overdue from the library. Petal-blue discoloration to the extremities caused from under oxygenation. I am dying, Finch. I can feel my body failing. I haven't decided if this is a good thing.

To view the full list of winners and their works, visit [ccs.ucsb.edu/create/writing-competitions](https://ccs.ucsb.edu/create/writing-competitions)

# CCS Spotlights

## Mitchell Lewis



While **Mitchell Lewis (CCS Computing '21)** may be a third-year computing student, that doesn't mean he can't create art. In fact, he is creating art using mirrors and coding for his project titled, PSEUDOEGO, or "pseudo ego." Liking the ideas of psychoanalyst Jacques Lacan about the ego - and specifically about seeing oneself reflected, either literally in a mirror or photo, or through someone we identify with - Lewis created "Identity Continuum," an artistic representation on how social media can disrupt our connection to our authentic self.

In a second piece of the PSUEDOEGO project, Lewis created "Cyberspace," which is "a triangular prism of semi-transparent mirrors, which, when lit from within, create a seemingly infinite space...meant as a metaphor for devices like smartphones, which are physically confined but virtually infinite in what you can see through them." He has plans to make two more pieces to complete his PSEUDOEGO project.

"Identity Continuum"  
Photo: Mitchell Lewis  
(CCS Computing '21)

## Bonnie Huang

**Bonnie Huang (CCS Art '20)** displayed her artwork, "Six Months at Work," at the Los Angeles Municipal Art Gallery exhibition, Offal, from August 15 to September 29. The installation piece was inspired by a dream Huang had about her mother being ill and dying. "[The piece] encompasses themes of care-taking, obligation and aging, especially through the lens of an immigrant family," Huang explained. To create "Six Months at Work," Huang learned to sew the nursing scrubs that her mother wears to work. "It's about labor through the role of a care-taker that she takes on as a mother, but also outside of the home as a personal care assistant at a rehab center for mostly the elderly," Huang elaborates. In addition, Huang thought about her own role in her family. As the most English-proficient member of her family, she has been in a position to be able to help her parents handle things such as insurance, unions, and immigration offices. "These ideas led me pretty quickly to thinking about [my mother] aging, both because it's a process that I'm reluctantly witnessing and it's also a constant topic between us since she takes care of mostly older people, hence the dream about her that I marked over the body of the scrubs," said Huang.



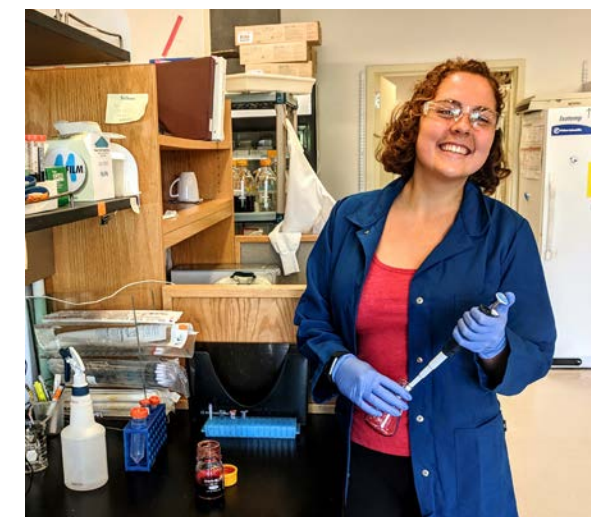
Bonnie Huang (CCS Art '20)

## Michelle Chiu and Shay Ellaboudy

**Michelle Chiu and Shay Ellaboudy, both CCS Biology '21 students,** were selected to participate in the University of California Leadership Excellence through Advanced Degrees (UC LEADS) program and completed the first year of the two year program this summer. UC LEADS supports non-traditional STEM students, increasing their access to research experiences and graduate school preparation, as well as providing financial support for travel and research during the academic year. Ellaboudy is continuing research on a project she began in her first year at CCS in the lab of Professor Thomas Weimbs and studies the poliovirus life cycle. She said, "We are investigating how one of the virus's highly versatile proteases called 3CD interacts with host factors to disrupt host membrane trafficking." For her UC LEADS project, Chiu works in the lab of Professor Read de Alaniz and researches photoswitches, a type of nanomachine sensor that detects changes in light levels or intensity, and is learning how to create organic compounds, a process known as organic synthesis. As part of the UC LEADS program, Chiu and Ellaboudy will work on projects at different UC campuses during the summer of 2020. They will present the findings from their summer 2019 projects at the next Koret UC LEADS Research and Leadership Symposium at UC Irvine on March 7, 2020.



Michelle Chiu (CCS Bio '21)  
Courtesy Photo



Shay Ellaboudy (CCS Bio '21) Courtesy Photo

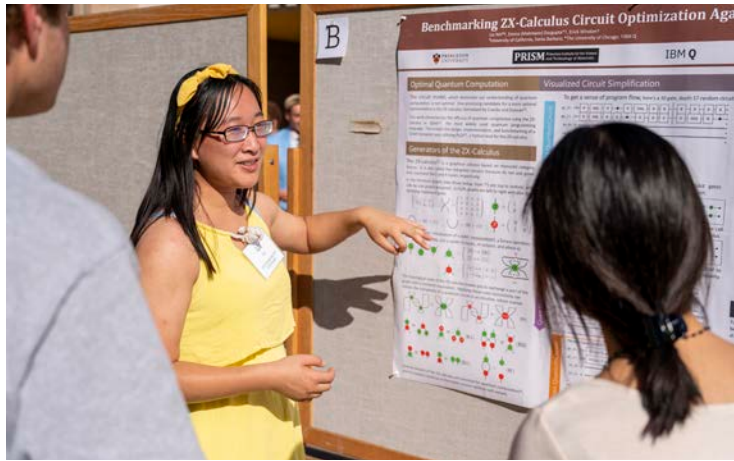
## Via Bleidner



Via Bleidner (CCS W&L '21)  
Courtesy Photo

On August 20, 2019, Publisher's Weekly announced that **third-year Writing & Literature (W&L) student Via Bleidner** received a book deal from Flatiron Books, a division of big five publisher Macmillan Publishers, for her young adult nonfiction essay collection, Calabasas. With observations about modern youth culture, Calabasas tells the story of Bleidner transferring from a small Catholic school to a Los Angeles public school, Calabasas High. The suburban town of Calabasas is where the Kardashian-Jenners grew up as did the "The Bling Ring," a group of seven young thieves active in 2008 and 2009 who targeted mostly female media stars whose style the thieves admired. While at CCS, she also placed second in the 2019 CCS Most Excellent Narrative Prose competition for "Your Wife Poisons Dogs" and in 2018 received a scholarship to attend the Santa Barbara Writers Conference. Calabasas is slated for publication in 2021, the year Bleidner plans to graduate.

# Lia Yeh



Lia Yeh (CCS Computing and CCS Physics '20) researches microwave spectroscopy algorithms for The Patterson Group, a research group led by Professor David Patterson. She works to determine the molecular structure from the lab's experimental microwave spectra. At the 2019 RACA-CON, Lia gave a talk about "the first debugging tool for Qiskit using static assertions." Qiskit is the most widely used quantum programming language. She also presented a poster at RACA-Con about ZX-calculus, a graphical topological calculus based in monoidal category theory, in the context of quantum circuit optimization. "Both projects won 3rd and 1st respectively in the undergraduate Student Research competition at MICRO. She also helped start WomxnHacks, a forty hour plus annual hackathon for female-identifying and non-gender-conforming students. The second WomxnHacks took place January 2020.

Lia Yeh (CCS Computing and CCS Physics '21)  
Photo: Jeff Liang

# CCS Community Council



CCS Community Council hosting Triple Doozy Tuesday, which consisted of board games, an integration bee, and trivia  
Courtesy Photo

This year, the CCS Community Council started CCS Peer Mentoring, which is a voluntary program that pairs incoming first years with upperclassmen who share their major and/or general interests. With this program, the Council aims to help first years transition to CCS, UCSB, and college life. This fits into the main goal of the Council, which is to strengthen the camaraderie and mentorship among students, across years and majors. They schedule, host, and promote various events throughout the school year, including board game nights, trivia nights, movie nights, and the finals-week exclusive Dark Coffee Hour. Students can get involved by coming to any Community Council event or by contacting a current member.

# 2019 Student Service Award

Katie Feerst (CCS Biology '19) and Anoop Praturu (CCS Physics '19) received student service awards at the 2019 Pre-Commencement Celebration for their significant contributions to the CCS community. In Fall 2018, Feerst reimagined the CCS Student Council as the CCS Community Council, headed the creation of a peer mentoring program, worked with Professor of CCS Biology and L&S Molecular, Cellular, and Developmental Biology Kathy Foltz and Writing & Literature Program Coordinator Kara



Katie Feerst (CCS Bio '19) receiving her service award

Mae Brown on student outreach, was an advocate of student mental health, and hand-made a coffee mug rack, now mounted the CCS student lounge. Praturu, a UC LEADS scholar, has been an outreach advocate since his first year at CCS, presented research to the UC Regents, twice hosted the CCS Alumni Panel during All Gaucho Reunion Weekend, and worked with Feerst on student mental health. Interim Dean Bruce Tiffney presented the award to Feerst and Praturu at the CCS Pre-Commencement Celebration reception on June 8, 2019 and their names are also on the Student Service Award plaque in the main hallway of the CCS building.



Anoop Praturu (CCS Physics '19) receiving his service award

# The CCS Faculty Excellence Fund

In 2018, a generous donation by Dr. Anna Patterson established The CCS Faculty Excellence Fund, which enables the College to attract distinguished UCSB faculty, visiting professors, and other experts to teach and guide students in all CCS majors, as well as provide public lectures. These faculty offer small tutorial-style classes and provide one-on-one faculty mentoring that encourages students to investigate questions, take risks, and make significant contributions in their fields.

This year, The CCS Faculty Excellence Fund supported its first UCSB faculty member at the College, Distinguished Professor Subhash Suri from the Department of Computer Science. Before coming to UCSB, Dr. Suri was an associate professor at Washington University in St. Louis and a research scientist at Bellcore. His research focuses on a number of different areas, including Theory of Algorithms, Computational Geometry, Graph Theory, Social Networks, and Databases, with an overall mission of developing fundamental geometric and network algorithms that have broad applicability.

In Winter 2020, Dr. Suri is teaching an upper-division computing course, Algorithms and Human Decisions, at CCS. The course focuses on a variety of topics that emphasize algorithms and optimization under uncertainty.



Subhash Suri Photo Courtesy of the UCSB Department of Computer Science

# Elisabeth Sowerwine

CCS Alumna Elisabeth Sowerwine (CCS Physics '09), professionally known as Elisabeth Newton, was appointed assistant professor in the Department of Physics and Astronomy at Dartmouth College. Shortly after, Elisabeth and her team published the discovery of the planet DS Tuc Ab in *The Astrophysical Journal Letters*. DS Tuc Ab is outside of our solar system, thus, an exoplanet. Researching exoplanets is important as it increases our knowledge about how planetary systems form and change over time.



Elisabeth Sowerwine (CCS Physics '09)  
Courtesy Photo

# Nick Harvey



Nick Harvey (CCS Chemistry & Biochemistry '14) credits CCS and UCSB, which provided his background in chemistry and materials science, for his business success. Nick is the founder of Bay Area Redwood, a company that salvages urban redwood trees and processes them into timber products. To show his gratitude, Nick donated a timeless 12-foot hand-crafted conference table in September 2019 that the College will be able to enjoy for many years to come.

Nick Harvey (CCS Chemistry & Biochemistry '14) sitting at the table he donated to CCS

# Michelle Grue

CCS Writing & Literature Instructor and Gevirtz School of Education PhD student, Michelle Grue, was recently published in the *Astral Waters* literary journal, which supports writers of color and LGBTQ+ writers. The journal published her short story, "Mercy," which is a short fantasy story "about a mermaid who finds a slave ship and saves the life of a slave who was tossed overboard." Grue notes that almost all mainstream media mermaids are white and, thus, was inspired to write this story. "I'm so tired of the presumed whiteness of fantasy lit and wanted to think of a story where it made sense to change that up," she said. Grue remembers her father making up bedtime stories when they couldn't afford more books and she'd already read what the local library had for her age. "I always knew I wanted to do that, to make stories come to life," she said. Her advice to other writers: "Don't be afraid to send your work out or let people review it. You'll never get published if your work stays in a notebook or on your computer."



Michelle Grue Courtesy Photo



Sara Sterphone (left) taking a selfie with students after the 2019 CCS Commencement ceremony

# Send-Off for Sara

## CCS thanks Senior Student Advisor Sara Sterphone for seven years of dedicated service

Since joining the CCS staff in 2013, Sara and their infectious laughter have become an iconic part of the CCS community. Known for their hard work, passion, and dedication, Sara epitomizes the CCS spirit. "Staff advisors play a crucial role in helping CCS students (and their faculty mentors) in navigating the requirements of the College and campus," said Interim Dean Bruce H. Tiffney. "Sara has played a stellar and central role in this process, first as an associate advisor and subsequently as the lead advisor. More importantly, as the lead, they have helped the College hone its processes and its vision."

Sara grew up in New Jersey and eventually moved to Santa Barbara to be nearer their brother and their partner. After arriving in California, they found the CCS student advisor position at CCS by chance and were attracted by the opportunity to guide students through their college experience. A little over a year after starting at CCS, Sara became the Senior Student Advisor. "I am grateful beyond words to everyone at CCS, past and present, who has allowed me to be a part of their life and who has impacted and nurtured my personal and professional growth. Each one of them has left their mark, and I'm thankful to them and still rooting for them wherever they are," said Sara. Sara will be moving across campus to work as the Degree Audit & Reporting Analyst at the Office of the Registrar.

Sara will be sorely missed as a resource, a visionary, a strong spirit, and a good friend.

- Bruce H. Tiffney

"Sara will be sorely missed as a resource, a visionary, a strong spirit, and a good friend," stated Interim Dean Bruce H. Tiffney. "While we lament their departure, we cheer them on, knowing that, in their new role, their insight and expertise will benefit an even wider range of UCSB students."



Over 300 attendees came to CCS RACA-CON Photo: Jeff Liang

# Linking Disciplines

## Students present research and creative activities at the 3rd annual CCS RACA-Con

On November 2, 2019, the College of Creative Studies hosted the third annual CCS Research and Creative Activities Conference (RACA-Con). The conference provides a unique opportunity for students in all eight majors to share their research and creative activities with their peers, CCS faculty, and with mentors from across campus as well as friends and family.

This year, over 300 attendees witnessed 29 student talks and over 50 posters. The talks and posters covered a range of topics including a study of amphibian parasites in Yosemite National Park, the development of Creepypasta as a genre, and using shape-changing lenses as a tool for ultracold atom transport. There were

also story readings, a music video, and physics problems written in chalk on the concrete.

To close the conference, **Keynote Speaker Jon Ritt (CCS Art '18)** gave an inspiring talk about the power of staying curious and fearlessly creative and how it can change the world. He also talked about his own experiences and how his CCS education has influenced his work as a designer, art director, and creative director. He encouraged students to follow their passions and to let their dedication and interests guide their work.

Join us on November 7, 2020 for the fourth annual Research and Creative Activities Conference!

## 2019 CCS RACA-Con Keynote Speaker Jon Ritt (CCS Art '18)



Jon Ritt (CCS Art '18) Courtesy Photo

As a designer, art director, and creative director, Ritt mixes art and commerce to create stories full of distinction, intrigue, and attraction to help brands come to life. He enjoys his role leading talented people to make the world a more interesting and creative place. He finds that mixed minds create powerful ideas especially when surrounded by artistry and clarity, allowing everyone to imagine and realize a brighter future. With this philosophy, Ritt started his own company, Jon Ritt Design Co., in 2012 and now serves as the Executive Creative Director / Chief Creative Officer at The Clorox Corporation / Electro. As part of the 50th anniversary celebration at CCS, Ritt led the effort to build the College's brand identity and designed its very first official logo.



Jon Ritt (CCS Art '18) giving the keynote address at RACA-Con



Attendees listening to Interim Dean Bruce H. Tiffney's introduction (left), Sam Rankin (CCS Art '20) presenting her artwork (top right), Ansuman Bardalai (CCS Math '20) explaining his research (bottom right) Photos: Jeff Liang







# 'A Moment of Triumph'

## 2019 CCS Commencement

Published in *The Current*  
By Sonia Fernandez

Between them, they had shown in 82 art exhibits, performed in 259 concerts and composed 137 musical works. They published 31 papers in peer-reviewed journals, developed 14 computer applications, generated 85 research posters and gave as many oral presentations. They received 66 grants, 70 fellowships and 116 internships. And they're just getting started.

On Sunday, June 9, this group of hardcore UC Santa Barbara undergrads each collected another honor: their bachelor's degrees. Kicking off UCSB's 2019 commencement exercises with the first of nine ceremonies over two weekends, the 82 graduates of the College of Creative Studies sat onstage at Campbell Hall, played music, contemplated futures, listened to advice and gave some of their own.

"Today we celebrate a moment of triumph for all of you upon this stage," said CCS Interim Dean Bruce H. Tiffney. "Hard fought, hard won, in times dark and bright mixed in." In his commencement tradition of invoking the blockbusters, Tiffney compared the CCS Class of 2019 to the Avengers, calling upon them to be heroic in their lives and occupations, and to take on the single biggest challenge: save the world.



2019 CCS Student Commencement Speakers Casondra Cunningham (CCS Bio and CCS Art '19) (left) and Anoop Praturu (CCS Physics '19) (right)



"We must rebuild and protect our cathedral — our old cathedral — Earth," he said. "Our planet, our only home, needs imagination, spirit, visionaries of all disciplines, all kinds of mind and heart that will not be stopped by failure after failure, and defeat after defeat. Meeting, adapting to and even rebalancing climate change and environmental degradation — this is the monument of your age."

Alumni speaker Kenny Broad (literature, '89), knows a little about that challenge. Now an environmental anthropologist at the

University of Miami, his work studying the Earth and the people who live on it has earned him recognition as 2011 National Geographic Explorer of the Year. He credited CCS for the "mind-opening perspectives" that set the stage for his explorations.

"Your challenge is to create these connections to the places, people, species in the distant environments that we don't interact with personally, that we don't look like, that we don't think like, whose categories of being one might not understand, but whose lives are impacted by our decisions and vice-versa," he said.

It's a tall order for the CCS Class of 2019. But many of them have already hit the ground running, with plans for graduate school,

summer internships and research work. Some are heading straight into industry while others have opted to recalibrate with a gap year. Yet others are embracing a moment's randomness, as they move from one stage of life to the next.

For the moment, however, it was all about celebrating their big milestone, after years of productive study and research. Cheered by friends, family and faculty who filled the auditorium, the graduates each received the degrees conferred upon them by Chancellor Henry T. Yang, followed by festivities outside at Campbell Plaza.



Jordan Mitchell (CCS Music Composition '19) performing "Brown Eyes"



Bailey Clark (CCS Art '19) about to receive her diploma



Nick Rommelfanger (CCS Physics '19) and Michael Wintermantel (CCS Biology '19) after graduating

## 2019 CCS Alumni Commencement Speaker Kenny Broad (Literature '89)

Environmental anthropologist Dr. Kenny Broad, who earned a BA in Literature in 1989 from the College of Creative Studies at UCSB, has participated in extreme scientific and filmmaking expeditions on every continent to gather information and samples that shed light on little known environmental and cultural subjects. Broad and the late Wes Skiles received the National Geographic Explorer of the Year award in 2011. He regularly collaborates with ecologists, climatologists, hydrologists, psychologists and a range of other strange 'ologists' and has published dozens of scientific articles on topics ranging from risk perception to venomous snakes to natural resource management.

Kenny is a licensed US Coast Guard Captain, a commercial helicopter pilot, and holds multiple diving ratings. He is currently a professor at the University of Miami where he directs the Abess Center for Ecosystem Science and Policy. He is also Co-Director of the Center for Research on Environmental Decisions at Columbia University, where he received his PhD in Anthropology in 1999. Broad was a National Geographic 2006 Emerging Explorer and was elected a Fellow National of the Explorers Club in 2009.



Dr. Broad as a 1989 CCS student commencement speaker. Courtesy Photo

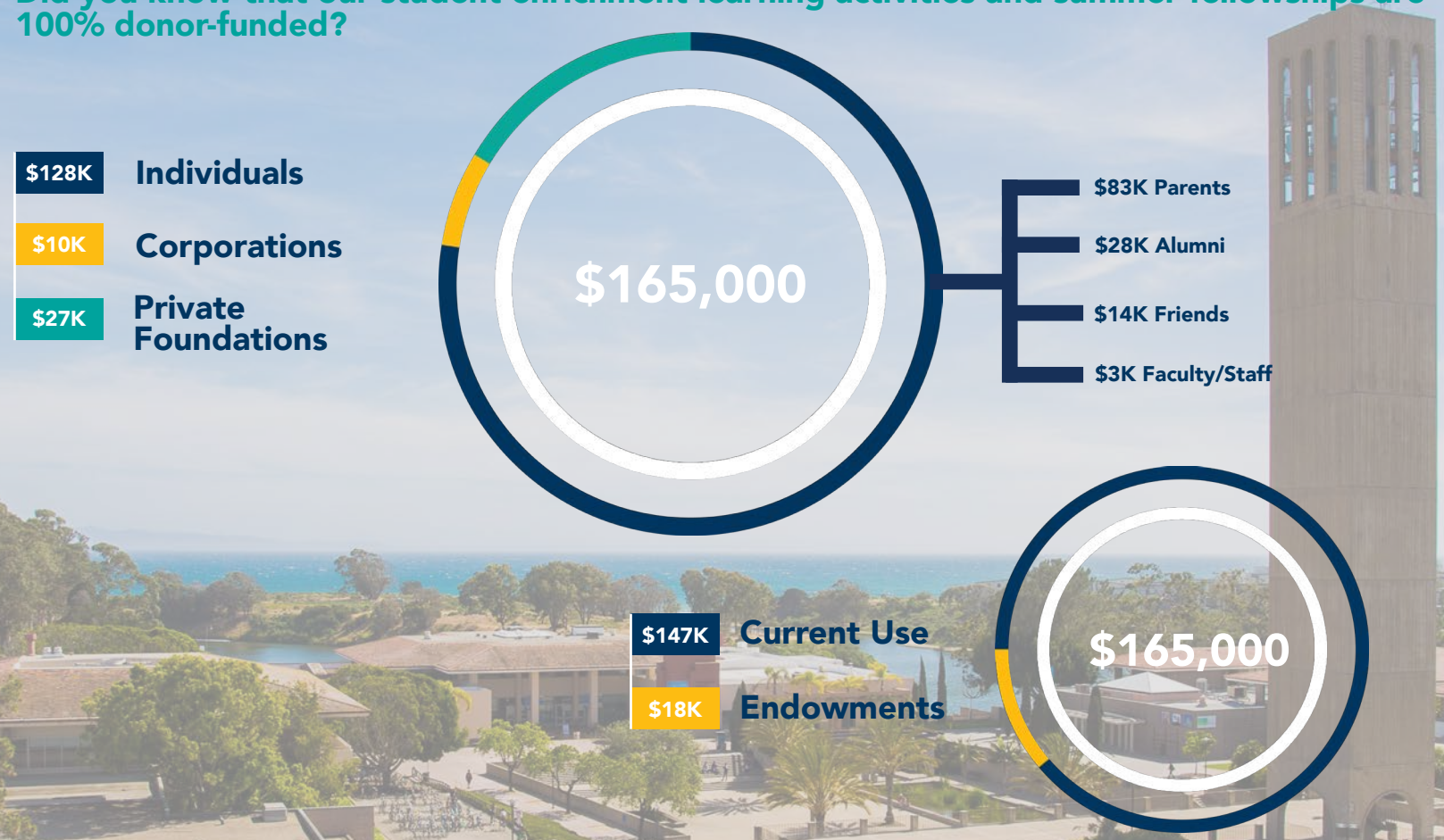


Dr. Broad as the 2019 CCS alumni commencement speaker

# 2018-2019 Fundraising Highlights

Alumni, parents, friends, faculty, and staff of the College of Creative Studies make a tremendous, positive impact on the College and enhance the lives of our students who go on to become leaders and change agents in our society. Our supporters make student success possible!

**Did you know that our student enrichment learning activities and summer fellowships are 100% donor-funded?**



**146** Donors to CCS

**173** Gifts to CCS

**44** First-time donors to CCS

**141** Number of gifts under \$1,000

**Make a gift online at [ccs.ucsb.edu/giving](https://ccs.ucsb.edu/giving)**

**For information on ways to have impact at CCS, contact Venilde Jeronimo ([venilde@ucsb.edu](mailto:venilde@ucsb.edu) or 805.893.5504).**

# Donor Honor Roll

Thank you to the following donors who helped provide an unparalleled learning environment in fiscal year 2018-2019, including Summer Undergraduate Fellowship(s). Your generosity is greatly appreciated.

**Chancellor's Council Tower Associates**

**\$25,000 and above**  
Dr. Anna Patterson

**Chancellor's Council Associates**

**\$10,000 - \$24,999**  
Mrs. Barbara D. Basalone and Mr. Jon A. Basalone  
Mrs. Jennifer Lechter and Mr. Ariel Lechter  
Dr. Marlene Zuk and Mr. John T. Rotenberry

**Chancellor's Council**

**\$1,000 - \$9,999**  
Alchemy Charitable Foundation  
The Mildred E. and Harvey S. Mudd Foundation/Dr. Amber and Mr. Ben Sprague  
The Seeley W. Mudd Foundation/Dr. Amber and Mr. Ben Sprague  
Anonymous  
Anonymous  
Anonymous  
Anonymous  
Anonymous  
Mrs. Susan A. Axline and Mr. John T. Axline  
Ms. Shannon Brownlee and Mr. Greg Garcia  
Mrs. Karen Bowers and Mr. Frank Bowers  
Dr. Monica Dahlem and Mr. Shawn G. Dahlem  
Mrs. Ashia Derksen and Mr. Paul Derksen  
Mrs. Carol George and Mr. Paul George  
Mr. Ryan M. Gill  
Mrs. Mary Kelly and Mr. John R. Kelly  
Mrs. Susan R. Lewis and Mr. Jim C. Lewis  
Mrs. Eleanor M. Miguez and Mr. Richard E. Miguez  
Dr. Milan S. Minsky and Mr. Henry B. Minsky  
Mrs. Susan Nielsen and Mr. Eric Nielsen  
Mrs. Kathleen E. Roig and Dr. Francese Roig  
Mrs. Diane Scalapino and Mr. Douglas Scalapino  
Mrs. Robin G. Tiffney and Dr. Bruce H. Tiffney  
Ms. Kylee Hall and Mr. Daniel A. Voorhies

**\$500 - \$999**

Ms. Herminia D. Arroyo and Dr. Emerson S. Fang  
Ms. Julie R. Bechtloff and Mr. George Weising  
Mrs. Barbara Bolinger and Mr. Todd Bolinger  
Mrs. Aylene M. Gripp and Mr. Parry P. Gripp  
Dr. Leslie A. Hogan and Mr. John D. Rickey  
Mrs. Melody J. Hunt and Mr. Robert M. Hunt  
Mrs. Maria Ferrer-Lacson and Mr. Alexander Lacson  
Mr. Michael Politiski  
Mrs. Katherine E. Rider and Mr. Richard Rider  
Mr. Matthew Shayefar  
Dr. Christine E. Sherer and Dr. F. Alexei Sherer  
Ms. Judy A. Stern and Mr. Dan M. Mihalovich  
Dr. Zhensong Wei  
Mr. David L. Witherow

**\$250-\$499**

Anonymous  
Mrs. Gaye Ashby and Dr. William J. Ashby  
Mrs. Beverly Boise-Cossart and Mr. Kit Boise-Cossart

Mr. Zach Z. Cogan  
Mr. Kerry Gough  
Mr. John R. Haberstroh  
Mrs. Carla Jacobsen and Mr. Joel K. Jacobsen  
Mrs. Helen Najm and Mr. Issam Najm  
Mrs. Lynda Nugent and Mr. Bob L. Nugent, Jr.  
Mrs. April O'Dea and Mr. Brian P. O'Dea  
Ms. Carol Paras  
Mrs. Lilla Pennant and Mr. Michael Pennant  
Ms. Marian R. Mulkey and Mr. John T. Powers  
Ms. Ying Zhang and Mr. Runping Qi  
Ms. Elizabeth A. Ratner and Mr. James A. Fox  
Mrs. Rena Stathacopoulos and Mr. William Russell

**\$1-\$249**

Anonymous  
Anonymous  
Ms. Beth L. Alberts and Mr. Gordon Atkinson  
Ms. Myong Hi Kim and Dr. Michael T. Anderson  
Mrs. Robin L. Aronson and Mr. Alan D. Aronson  
Mrs. Emily Tom-Atzberger and Dr. Paul J. Atzberger  
Mrs. Elaine Behnken and Mr. Howard Behnken  
Ms. Lindsay J. Blackie  
Ms. Kara Mae Brown  
Ms. Chisako Yokoyama and Mr. Bruce C. Byall  
Mrs. Alison Canchola and Mr. Jesse Canchola  
Dr. John R. Cashman  
Ms. Olivia K. Chadha  
Ms. Lyndsay A. Johnson and Mr. Christopher J. Coakley  
Mr. Aaron S. Cohen  
Mrs. Elisa Cohen and Mr. Richard N. Gilberg  
Mrs. Martha E. Cosamino and Mr. Nino Cosamino  
Mrs. Shelley Covey and Mr. Curtis C. Covey  
Mrs. Tally Crosby and Mr. Seth D. Crosby  
Mrs. Molly Crowe and Mr. Dean Crowe  
Mrs. Laura Crossley Dellis and Mr. Donald G. Dellis  
Mrs. Joan M. Dunning  
Ms. April Farr and Mr. Graham Farr  
Ms. Myra Firth  
Dr. Franklin F. Fisher  
Ms. Deborah Elliott and Mr. James Frieden  
Mrs. Rebecca F. Gafvert and Mr. Martin R. Gafvert  
Mr. Ralph Giles  
Mr. James Asher Godley  
Ms. Britta A. Gustafson  
Mrs. Karen S. Holtermann and Mr. Robert A. Holtermann  
Mr. Kyle M. Jacoby  
Dr. Venilde Jeronimo  
Ms. Miriam Kaminsky and Mr. Simon Dobjensky  
Mrs. Janette Kausen and Mr. David Kausen  
Mrs. Judie Kausen  
Mr. Bryan T. Kaye  
Mr. Paul J. Konopelski  
Dr. Geeta Krishnapriyan and Mr. Krishna Krishnapriyan  
Mrs. Miko Landsberger and Mr. Sam Landsberger  
Professor Carol S. Lashof and Mr. William T. Newton  
Dr. Leroy E. Laverman

Dr. Stephanie L. Lee and Dr. Robert A. Peterfreund  
Mr. Demetrious L. Lloyd  
Mrs. Janet S. Loeb and Mr. Jeffrey M. Loeb  
Mr. David Lubin  
Ms. Mary Loughran  
Mr. Yishen Miao  
Mr. Eben D. Mishkin  
Ms. Kathryn L. McGill  
Ms. Erin B. Mills  
Ms. Lilian Kurosaka and Mr. Michael H. Monteabaro  
Mr. Stanley L. Moss  
Ms. Carrie B. Murphy  
Mrs. Kathryn Myszkowski and Mr. Kenneth A. Myszkowski  
New Image Art  
Ms. Kayla X. Nguyen  
Mr. Hans H. Nielsen  
Mr. Bradley J. Owens  
Mrs. Patricia Phleger and Mr. Michael Phleger  
Ms. Kathy Piasecki  
Ms. Mary Pham and Mr. Keith Low  
Ms. Alexandra A. Phillips  
Mrs. Svati Proctor and Mr. William C. Proctor  
Ms. Robyn L. Raymer  
Ms. Allison Riegert  
Mrs. Meg Rowland and Mr. Bob Rowland  
Mrs. Nancy Schicker and Mr. James Schicker  
Dr. Jared A. Schmitthenner  
Mrs. Susan Segal and Mr. Louis Segal  
Mr. Benjamin F. Shang  
Mrs. Ruth Sherer  
Mrs. Karen Shoemaker and Mr. Stephen H. Shoemaker  
Mr. Eric J. Smith  
Ms. Sarah E. Stanley  
Mr. James G. Stanfill  
Mr. Alan P. Swearngen  
Dr. Erika J. Thost and Mr. Thomas A. Reaper  
Mr. Douglas William Thrift  
Mr. Steven E. Vigil  
Mr. Robert I. Wechsler  
Mrs. Nancy R. Weidner and Mr. Harry A. Weidner, Jr.  
Ms. Gretchen A. Wenner  
Mrs. Rachel R. Wright and Dr. Thomas S. Wright, Jr.

2019-2020 CCS All College Photo

