MESSAGE FROM OUR NEW CHAIR

Welcome to the sixth edition of Periodic News, the official newsletter of the Department of Chemistry and Biochemistry at California State University, Fullerton.

The Fall 2022 semester has looked and felt like the semesters before the pandemic. The campus quad and hallways are filled with students hastily making their way to their next class. The research laboratories are active with students running experiments and traveling around the country to present their exciting results. The pandemic caused us to reimagine how we teach our classes, and we responded with innovative ideas that have improved our teaching. Every day I see our faculty and staff use their talents to help educate and train our students to be successful in their future careers.

I want to honor and remember Dr. Maria Linder, who passed away in September. Maria was a dedicated researcher and expert in her field that truly valued undergraduate research. Any student could join the Linder research group, as Maria was a caring and passionate mentor to many students. She was an inspiration to the faculty and an amazing colleague.

Dr. Peter de Lijser retired this year, and I want to personally thank him for all that he did for our department. His steady leadership through uncertain times ensured we maintained our high level of excellences. He was a passionate educator and mentor that made a positive difference in many students’ lives.

As the new chair for the department, I am humbled to be in this position. Our department is a special place that will always be home to our students, alumni, friends and family.

Nicholas Salzameda
Department Chair
Several of our students have been in the news the past year for their many outstanding contributions and award-winning activities. What follows is a summary of these stories with links to the original reports (click on the title of the article to read more).

**New Science and Math Students Explore What It's Like to be a STEM Major**
Undergraduate biochemistry major, Alena Nguyen, conducts lab experiments while attending the CSUF STEM Academy.

**Future Physician's Research Focuses on Dangers of E-Cigarettes**
Graduating biochemistry major, Naman Shah, studies the presence of carcinogens.

**Grant to Bolster Diversity in STEM, Fund Research on Materials That Contract When Heated**
Work by students like biochemistry junior, Erica Esteban, and biochemistry senior, Trevor Jost, expands knowledge on negative thermal expansion materials in the Cooley Laboratory.

**Teaching Assistant Aims to Diminish Stigma 'Science is Not Fun'**
Chemistry master’s candidate, Montana Mellody, is recognized with the CSU’s Crellin Pauling Student Teaching Award.

**Student Researchers Win Multiple Awards at CSU Student Research Competition**
Undergraduate, biochemistry students Azeem Horani and Erica Esteban won awards and recognition at the 2022 CSUF Student Research competition.

**Graduating President’s Scholar Sets Sights on a Career in Medicine**
Chemistry minor, Amaya Gregory, is recognized for her college accomplishments, including graduating from the President’s Scholars program.
Hello, I'm Andrew Whang. As an undergraduate at UC Irvine, I pursued a major in Chemistry and a minor in Religious Studies, and also researched programmed cell death (apoptosis) in mouse neurons. After graduating, I studied at UC Davis for a bit. I've also worked in test preparation, preparing students for entrance exams and graduate programs. As a graduate student, I'm interested in chemistry education, and I hope to teach at a community college after graduating. Outside of school, most of my time is spent with my wife and 7-year-old daughter.

Hello! My name is Christopher Nunez and I was born and raised in La Puente, California. I graduated with my BS in Biochemistry from here at CSUF. I am interested in learning recombinant DNA techniques and other assays such as EMSAs that are commonly used in a biochemical lab. I am currently not sure what I would like to do in the future, however I am thinking of pursuing a PhD in Chemistry/Biochemistry. In my spare time, I brew espresso with my own machine and for fun I like to dance bachata and mambo at socials!

Hi, my name is Cristian Perez, and I am a first-year graduate student. I received my bachelor's degree in Pharmaceutical Chemistry from UC Davis in 2020. I joined Dr. Madeline Rasche's Research Lab group, and I am currently working on projects related to Biochemistry with an emphasis on Copper Metabolism. As a graduate student I am looking forward to learning and discovering new ideas and methodologies that will enable me to advance my career even further. Having experience working in industry prior to graduate school, I plan on entering the workforce once again after I graduate. Some of my hobbies include hiking, playing guitar, and traveling.
Hello! My name is **Kirsten McManus** and I was born and raised in Southern California. More specifically, I was born in Torrance, CA. I received my undergraduate degree from the University of California, Irvine. I earned my BS in Chemistry with a specialization in Chemical Biology. As a graduate student I hope to learn more about what it means to work in industry as a chemist, how to refine and evolve my skillset, and also how to properly utilize my professional connections. Upon graduating, I hope to pursue one of two career options: pharmacy industry or becoming a cosmetic chemist. Both paths have sparked my interest and would help me to fulfill my professional aspirations. In my free time, I like to do anything that keeps me active: whether it be strength and conditioning, running, biking, yoga, etc. I also enjoy reading a good book and watching movies on Netflix.

Hello! My name is **Lorenzo Vega**, and I am a first-year graduate student. I received my bachelor's degree in Biochemistry from California State University, Fullerton in 2019. I have returned and joined Dr. John Haan's research lab, and I am currently working on projects associated with electrochemistry. I hope during my graduate studies I learn and strengthen my analytical chemistry knowledge that will help my future career as a scientist. Some things that I enjoy include watching movies, cars, food, and hanging out with friends and loved ones.

Hello! I am **Oliver Solares** and I am a first year graduate student. I received my BS in Chemistry from CSUF in Spring of 2022. As a graduate student, I'm most interested in learning more about computational chemistry and other related fields! I plan on getting a PhD locally in SoCal or Europe after receiving my M.S. In my free time I enjoy concerts, activism, going on road trips, and reading philosophy!

Hello! My name is **Damian Ventura**. I obtained my B.S. Biochemistry degree from CSUF in 2022, and immediately joined the graduate program to pursue my MS Chemistry degree. My ultimate goal is to obtain my PhD. My vision for my future is to research and join the pharmaceutical industry. During my free time, I love to go to the gym, museums, the beach, hiking, night clubs/bars, eat, play videogames, and so much more!

Hi, my name is **Dennis Nguyen**, and I was born and raised in Anaheim, CA and still currently reside there. I got my bachelor of science degree in Chemistry from California State University, Fullerton in 2021. I am currently interested in learning new analytical techniques and instruments, all while learning what it's like to work in a research lab. My plan for the future is to work in the industry either as an analytical scientist, R&D scientist, or a QC scientist. Something that I like to do in my spare time is play video games. An interesting fact about me is that I actually played on the collegiate League of Legends team, and we placed 5th out of the 70 teams in the west conference.

Hello! I am **Lael Cardinal** and I am a first-year graduate student! I’m from La Mirada, CA and I received my bachelor’s degree in Biochemistry from Biola University in 2021. I am part of Dr. Sachel Villafane-Garcia’s Research Lab group and will be working on a project related to analytical chemistry education. When not in school, I enjoy cooking, baking, eating, thrifting, and playing tennis!

Hi, my name is **Xiaohui Weng**. I graduated from Fordham University in 2019 with a bachelor’s in Chemistry. After graduation, I worked as a QC chemist at a pharmaceutical company before I decided to return to school as I developed my interest in medicinal chemistry. Currently, I work in Dr. Pecic's lab on the FAAH/sEH dual inhibitor and the lipidomics project. I hope to contribute to developing novel therapeutics for existing diseases. In my free time, I enjoy travel, crocheting, and trying new food with friends.
ALUMNUS: EDWIN AGUILAR

When did you graduate and what were your degrees?
I graduated and received my Bachelor’s Degree in Biochemistry with a minor in Health Science in 2017. I then joined the graduate program and received my Master’s Degree in Chemistry (emphasis in Biochemistry) in 2020.

Whose lab did you work in during your time in the Department of Chemistry and Biochemistry and what did you work on?
I joined Dr. Madeline Rasche’s lab because of her work on the greenhouse gas, methane, its negative effects on climate change, and its correlation to obesity. I am currently in the process of using LC-MS to estimate the Km value for an analog of pABA, known as p-hydroxybenzoic acid, along with quantifying its product. RFAP and the other analogs have the potential to aid in further understanding of the mechanism of RFAP synthase to possibly develop pharmaceutical drugs to treat obesity.

Where are you now? What is your current position?
After graduation in 2020, I started a position as an Associate Scientist at the Pharmaceutical company Nitto Avecia Pharma Services, in Irvine, CA. Currently, I am tasked to perform a number of tests that involve developing and validating methods and protocols for protein analysis using HPLC methods such as size-exclusion, reverse-phase, ion-exchange, and liquid-chromatography, as well as qualitative and quantitative western blotting.

What do you hope to do as a career?
My ultimate goal is to have an active role in medicine or academia by either earning an MD or a PhD. I truly enjoy communicating with others. Whether it be treating patients in the emergency room, or teaching the next generation of scientists, the change I can bring in either position is my passion. I am driven by watching others reach their full potential.

What is the fondest memory you have of CSUF?
The fondest memory I have at CSUF is being introduced to research conferences by Dr. Rasche as they have allowed me to present my research and network with other scientists. I am now a more confident person that can communicate with others more articulately and effectively. The full-circle moment was getting the opportunity to attend and present at the Gordon Research Conference on the Molecular Basis of Microbial One-Carbon Metabolism in Southbridge, Massachusetts, two years after receiving my Master’s Degree. It was also a privilege to receive the Carl Storm Underrepresented Minority Fellowship, to support my attendance.

What is your advice for current or future students?
To current and future students, my advice is to take advantage of the opportunities the faculty present you with. They have your best interest in mind and want to see you succeed. Your accomplishments are their accomplishments. They are and will be proud to have worked with you. Present at as many conferences as possible, as you will be exposed to others in the field. This will help you grow and become more comfortable communicating science. Pursue tasks that you might find frightening and do not be afraid to step out of your comfort zone as it is beneficial to your growth. Additionally, when you are looking to join a lab, do not choose one because you need to join a lab to satisfy a requirement, choose one because the research excites you and you want to further contribute to the faculty mentor’s research.

ALUMNUS: KEVIN TONG

When did you graduate and what was your degree?
2006, BA in Chemistry. 2014, MS in Chemistry.

Whose lab did you work in during your time in the Department of Chemistry and Biochemistry and what did you work on?
Fu-Ming Tao – Thermodynamics study of acrylamide formation from asparagine.

Where are you now? What is your current position?
Ronald Reagan UCLA Medical Center – Senior Clinical Lab Scientist for Quality, Safety, and Education.

What do you hope to do as a career?
Currently in middle management and hope to further advance in my career to upper management.

What is the fondest memory you have of CSUF?
Meeting my closest friends in The Tao Laboratory.

What is your advice for current or future students?
Be curious! Let your intuition guide you. Study hard, ask lots of questions. There are no stupid questions; except one – the one not asked.
ALUMNUS: YI TING "TIMMY" LIN

When did you graduate and what was your degree?  
MS in Chemistry in 2005

Whose lab did you work in during your time in the Department of Chemistry and Biochemistry and what did you work on? 
I joined Dr. Chandra Srivastava's Lab to study tiny worms and the effect of trace elements to longevity of C-elegans. My thesis: Effect of Ionic Manganese Supplementation on C-elegans

Where are you now? What is your current position?  
I worked in pharmaceutical industry after my CSUF years. I started with entry level analytical research position, moved to R&D and now function as Technical Service for Manufacturing Process Development at TWi Bora Pharmaceuticals, Inc. in Taiwan.

What is your advice for current or future students? 
Enjoy the life in CSUF; play hard and study hard then get ready for the new challenge.

As an international graduate student, what made you decide to study at CSUF? 
The excellent learning environment and facility, nice and friendly students and faculty, wonderful location, beautiful weather, the culture and diversity. There were too many good reasons that made me want to have my graduate years at CSUF.

What are some fond memories you have of your time in the Department of Chemistry and Biochemistry? 
The wonderful teams in Dr. S and Dr. A’s labs. With the strong support from my lab mates and the team, I finished my graduate research and gained a truckload of valuable skills and experience. Graduate life was really busy and challenging, especially as an international student. It was not easy to reach a balance with classes, reports, research, TA hours, work and other activities. Luckily, all the people I met during the years in the Department of Chemistry and Biochemistry were very nice and friendly to international students. The TAs, the super nice Chem stockroom manager, my friends in Dr. De Lijser, Dr. Deming, Dr. Tao and Dr. Li’s courses, the smiles, the research, and the lab teachings are all unforgettable to me.

What impact did your educational and research training in the department have on you and your career?   
During my graduate years at CSUF, our lab formed a partnership with Dr. A’s lab to resource and information sharing. Moreover, both professors always encouraged us to think outside the box for preparations and solutions. Through the collaborations with other labs and experience sharing among teammates, we realized the information and resources would be broadened. Additionally, be prepared for all the possibilities; solving problems is always the best choice when facing challenges. Teamwork matters, being proactive and solving the problem first are the invaluable lessons I gained from the educational and research training in the Department of Chemistry and Biochemistry at CSUF, and it made a beneficial impact to my life and career.

ALUMNUS: CHAO-KUAN TSAI

When did you graduate and what was your degree?  
I got my Master of Science in Chemistry in 2004.

Whose lab did you work in during your time in the Department of Chemistry and Biochemistry and what did you work on? 
I joined Dr. de Lijser’s lab. I would like to express my sincere gratitude and thanks to Dr. de Lijser for his support. In this lab I worked for two projects as shown in below.

Topic 1: The Formation of Aldehydes and Nitriles in Photosensitized Reactions of Aldoxime Ethers

Topic 2: Photoinduced Electron Transfer Reactions of Oxime Ethers

The easy way of understanding both topics is to find chemistry reaction pathways by characterizing/ studying reaction products from a photolyzed reactant substance.

Where are you now? What is your current position?  
I just joined HP Inc. as Peripheral Product Steward (Program Manager) in November 2021. Before joining HP Inc., I worked as Manager in Chicony Power (power supplying unit manufacturer) to ensure all products were in compliance with worldwide environmental regulations and energy regulations.

What impact did your educational and research training in the Department of Chemistry and Biochemistry at CSUF have on you and your career?  
CSUF’s educational and research training had a profound impact on my career development by building up my critical thinking and logic reasoning skills. By providing product environmental compliance service in the Information Technology (IT) manufacturing industry for more than thirteen years, I have been challenged every year with emerging environmental regulations. Any minor violation of environmental regulation will cause an IT company to pay administration penalty, stop shipping products, and recall products. Therefore, years of academic training in CSUF helped me analyze regulatory impact severity, prioritize task urgency, and foresee plausible and executable plans in alleviating regulatory impacts to those companies I have served for. In addition, both ACS conference presenting and master thesis writing have provided me a solid foundation of creating SOPs for new process, immediately spotting key information from complex legal-writing regulations, and giving satisfactory presentations to different customer audiences by adjusting contents.

What is your advice for current or future students?  
We are living in a changing world. Surviving this world requires us to be equipped with multi-discipline knowledges and people skills in order to accomplish one complex job via team work. Taking courses other than your major will help you to view/analyze topics from a different perspective. Using up your spare time to attend academic seminars and participate in departmental activities will not only improve your social skills, but it will also allow you to better present yourself. Having a skill of presenting your researching work is as important as putting hard work on doing your research. So, please stand up from your seat and get out of your lab to embrace outside world.

Fun Fact: Yi Ting and Chao-Kuan became friends when they studied chemistry at National Chung Hsing University in Taiwan. They both completed their graduate studies at CSUF.
At the end of the term, the research teams will present their novel findings via a poster presentation. CURE students will be working to find an oxide based inorganic material that can split water to form hydrogen gas as an alternative to petroleum. Each student will make a unique target compound that addresses their research team’s hypothesis. Combating climate change requires an interdisciplinary approach. One strategy is using sources of energy other than burning fossil fuels. CURE students will be working to find an oxide based inorganic material that can split water to form hydrogen gas as an alternative to petroleum. Each student will make a unique target compound that addresses their research team’s hypothesis. They will then determine the purity using powder x-ray diffraction and the water splitting properties by building an electrolytic cell. At the end of the term, the research teams will present their novel findings via a poster presentation.

**USING GENERAL CHEMISTRY LABORATORY FOR CURE**

The General Chemistry Laboratory II (CHEM 120B) was chosen for several reasons. From the experience standpoint, Dr. Ally Fry-Petit previously coordinated a similar experience at Ohio State University while a graduate student. She observed firsthand how students who were not actively engaged during typical laboratory experiments were excited to participate in the discovery the CURE enabled. This highlights the identified need: the loss of female students from research experiences. In the 2021-2022 academic year staggering data showed that despite the fact that Natural Sciences and Mathematics (NSM) is primarily under-represented minority (URM) female students, participation in the core high impact practice of research wanes for our URM female students as they proceed to degree. Moreover, CHEM 120B is a bottleneck course with many students not passing in their first attempt at the class. Data show that statistically significant equity gaps exist in CHEM 120B (i.e., URM students are successfully completing CHEM 120B at a lower rate when compared to non-URM students). Thus, the CHEM 120B lab need to adapt to engage a wider variety of students in relevant lab experiences.

As research is intrinsically fraught with setbacks, CUREs allow students to build problem-solving skills, develop resilience, and understand that setbacks are often learning opportunities. By exposing first and second-year students to group-based research, this CURE will help our students develop a sense of belonging in science, their science identity, and a self-efficacy toward science (i.e., a student’s perception of their ability to perform scientific tasks) early in their academic career. This will, in turn, inspire our students to persist toward their STEM degree and establish a career in science regardless of their demographics and background.

**SUPPORT FOR CURE**

The program has already obtained funding through CSUF’s Faculty Enhancement and Instructional Development (FEID) Award to pilot the first semester of the CURE in Fall 2022. This will primarily use equipment already in the general chemistry laboratory and instruments in the research laboratories of Dr. Joya Cooley and Dr. Ally Fry-Petit. However, to scale to all of the CHEM 120B sections the department needs more equipment and instruments. Therefore, CURE faculty have applied to the CSU Hispanic Serving Institution Community Grant to expand support and equipment this year, and in January 2023 CURE will be submitting a grant to the National Science Foundation’s Improving Undergraduate STEM Education call to expand the project through the Spring of 2026.

**THE DEPARTMENT’S UNIQUE APPROACH TO CURE**

CUREs are not new, these have been implemented in STEM programs around the world. They have been shown to increase interest and persistence in STEM, exactly what the program wants to do. However, what is unique about CSUF’s approach is that the CURE led by Joya Cooley and Ally Fry-Petit is just one piece of a three-pronged approach. Dr. Andrew Petit will be developing specifications grading for the lecture portion of the course where students are given multiple opportunities to demonstrate mastery of the key learning objectives in the course. Passing CHEM 120B no longer is dependent on performance on a handful of exams. Instead, lowering the stakes of assessments will allow students to grow in their understanding of the material throughout the semester as they apply the material in different contexts. The last prong is tying these experiences together with Growth Mindset interventions led by Dr. Julia Chan. When students believe their ability is malleable, i.e. they possess a Growth Mindset, they will be more likely to dedicate time to improving their studying strategies because they believe this will result in increased skills and greater academic performance. Such students are more intrinsically motivated, confront challenges by turning them into learning opportunities, and believe their ability can be developed through persistence and utilizing effective study strategies. Given that both the CURE and specifications grading provides opportunities to learn about failing and getting back up, the Growth Mindset interventions will provide a scaffold for students to learn resilience in CHEM 120B and apply these skills to the rest of their degree.
When did you start at CSUF?
I started at CSUF in August of 2020.

Why did you come to CSUF?
I wanted an equal balance of teaching and research in my faculty position. Graduate school taught me how much I enjoyed helping others learn and how much I enjoyed doing research with undergraduates. I thought the Cal State system would probably be a good fit because of the focus on teaching, but CSUF in particular had an excellent balance of teaching and research. Beyond that, I thought the way that faculty intertwine research into class curriculum and vice versa was special and something I wanted to be a part of. I think what really solidified my decision was hearing the other faculty talk about the students they got to work with daily.

In a nutshell, what is the main (general) theme of your research?
The main theme of my research is developing design principles toward technologically relevant materials so that we can rationally design materials with certain properties rather than relying on accidentally finding great materials.

What is your current research focus?
I have two main projects right now. The first project is on inorganic "cool" pigments – we try and understand color tunability of inorganic pigments from a chemist’s point of view, and these pigments are “cool” because they reflect heat. We use microwave-assisted synthesis to understand if we can control the heat reflectance properties of our pigments. We also work on materials that exhibit anomalous thermal expansion – conventional materials expand when you heat them, and we try and understand materials that contract when you heat them. These materials can be very beneficial in many fields, including aerospace and building materials.

What is your biggest research success story so far?
I have really enjoyed having the opportunity to have my undergraduate students engage with national labs. I had never heard of a national lab as an undergraduate, so it’s really exciting to expose my students to this extremely high-level, niche instrumentation. Almost all of my students are able to engage with national labs through mail-in data collection programs, but I really enjoyed getting to take two students to the Advanced Photon Source in Illinois to do measurements to understand our anomalous thermal expansion materials. Having the chance to not only take my students to the synchrotron, but also have them actually learn to build the code and run the instrumentation themselves with the help of our incredible beamline scientist Dr. Saul Lapidus was really a priceless experience.

Approximately, how many research students have you mentored?
In my 2 years at CSUF, I have mentored 13 individual students.

What is one piece of advice you would give new graduate students?
My advice for new graduate students is to learn what works for your productivity. In graduate school, I spent a lot of time trying to do what other people were doing just because it was such an unfamiliar experience for me, so naturally I tried to do what others did and wouldn’t understand why it wasn’t working for me. For example, many of my friends had a very different approach to reading literature than I did: they’d think of a topic, technique, analysis type, etc. they wanted to learn more about, and see what papers they could stumble across related to that. I learned that I had to take a slightly more structured approach otherwise I’d get distracted: I had several journals that I tried to keep an eye on, and I’d pick one day of the week to look at the new articles in one of those journals. The structure worked very well for me, but it would have been too rigid for others. We all eventually found what worked for us, but just like studying in college, the same thing doesn’t necessarily work for everyone!

Any recent highlights you want to mention?
I was recently awarded a National Science Foundation grant through the Division of Materials Research to understand controllable thermal expansion using earth-abundant materials. This grant has given us the opportunity to buy new instrumentation for the lab, go to national conferences, and use national laboratories to learn more about our materials. We are excited that this summer, the grant will allow us to a conference in Canada to present our results!
When did you start at CSUF?
I first joined CSUF as a part-time faculty member in 2015. I became an Assistant Professor in 2016 and was promoted to Associate Professor in 2021.

Why did you come to CSUF?
Ally and I were looking to build careers at an institution that equally valued research and teaching, a place where we could do high-quality research with undergraduates while also innovating in teaching. CSUF allows us to accomplish both these career goals!

In a nutshell, what is the main (general) theme of your research?
As a theoretical chemist, my students and I use supercomputers to approximately solve the Schrödinger equation to tackle challenging chemical problems. We are especially interested in photochemistry, that is, chemistry driven by a molecule absorbing light and becoming electronically excited. Electronic excitation can dramatically transform the properties of molecules and activate pathways that cannot be thermally turned on. Photochemistry has wide-ranging applications ranging from green chemistry to solar energy.

What is your current research focus?
My research group currently has three major areas of focus:
1) We are interested in developing structure-function relationships in photobases. Photobases are weak bases that become transformed into strong bases after absorbing light. We want to gain a better understanding of how the excited-state properties of photobases are affected by changes to their chemical structure. Recently, we have begun to explore other chemical reactions that photobases can engage in besides excited-state protonation.
2) In collaboration with Nathan Kidwell at the College of William and Mary we are interested in photochemistry that is relevant to atmospheric chemistry. One aspect of this involves identifying the reactive and nonreactive energy transfer processes that occur when an electronically excited NO molecule collides with another molecule like H₂O or CO₂. Another aspect involves identifying the pathways for the light-driven decomposition of brown carbon aerosol chromophores.
3) We are interested in modeling the reaction mechanisms of reactive intermediates generated via photochemistry. One aspect of this involves the free carbenes generated by the blue-light induced decomposition of diazo compounds. A number of experimental papers have exploited this chemistry in synthesis but the underlying mechanisms remain not well understood. Another aspect involves oxime and ether radical cations generated by photooxidation. This latter project is in collaboration with Dr. Peter de Lijser.

What is your biggest research success story so far?
Nearly all of my research students joined my lab with no idea about how high-performance computing works or how quantum chemistry can be used to answer real chemical questions. With my mentorship, they all utilize cutting-edge computational tools to answer meaningful scientific questions. Indeed, to date, 25 of my research students are co-authors on at least one peer-reviewed publication in a high-quality journal. Helping my research students learn how to do science, how to analyze complex data, and how to communicate science is easily my biggest success story.

Approximately, how many research students have you mentored?
To date I have mentored 52 students in research, including 3 MSc students, 9 community college students, and 1 high school student.

What are some of the careers your former students have gone to?
Students from my lab have entered directly into industry, pursued MSc and PhD degrees in chemistry, attended pharmacy school, and attended medical school.

What is one piece of advice you would give new graduate students?
Some advice I can give:
1) Never be afraid to ask questions! No one can be an expert in everything and asking for help is often the most effective strategy. My post-doc advisor, Joseph Subotnik, taught me this and he’s easily one of the smartest people I’ve ever met.
2) Go to seminars and learn about a wide-range of science, even stuff that’s not directly related to your project. I learned about photobases from a seminar given at CSUF by Jahan Dawlaty and now I have two published papers on photobases, with many more to come!
3) Networking matters! In my career, conversations with other scientists have led to jobs, collaborations, and scientific publications.

Any recent highlights you want to mention?
My first grad student, José Guardado, successfully defended his thesis this summer and has begun to pursue a PhD at UCLA! He is joined by Project RAISE student Justin Urquilla in a paper that we just submitted to Physical Chemistry Chemical Physics which shows that the reaction between electronically excited NO and H₂O results in the formation of HONO. This result is exciting because HONO is a major reactive intermediate in atmospheric chemistry.
Happy Retirement Dr. de Lijser!

We wish to congratulate Dr. Peter de Lijser who retired in August this year with Emeriti status. To best speak to Dr. de Lijser's impact in the Department of Chemistry and Biochemistry we compiled the below student testimonials.

**Victor Espinoza** (BS Chemistry '20) Third-year Graduate Student at Rice University in Houston, Texas.

**Impact:**
The training I received in Dr. de Lijser’s lab was one of the most important factors in my decision to pursue a career in research. The work I did in his lab helped me grow as a chemist and gave me the confidence to pursue my doctoral degree. It is also interesting to see that the project I am developing heavily utilizes the Sonogashira coupling reaction that I learned during my time in his lab!

**Fondest Memory:**
There are a lot of great memories, but I think the summer research experience I did in his lab stuck with me the most. I was a community college student and had not taken organic chemistry so I didn’t think that Dr. de Lijser would let me work in his lab. But, he let me work in his lab, and I synthesized my first organic compound at the end of that summer. I don’t think it was used for anything, but the opportunity he gave me meant a lot to me as a first-generation student.

**Message to Dr. de Lijser:**
It’s about time! Thank you for giving me the opportunity to learn from you and I guess its time to “put on some sandals”.

**Sarah Baker** (BS Biochemistry '17) Chemistry Professor at Clovis Community College and finishing up her PhD program in Organic Chemistry.

**Impact:**
Dr. de Lijser had the biggest impact on me. He is the reason I was able to pursue graduate school. By working in his lab, Dr. de Lijser helped me pay for numerous applications. Without him I don’t think I would have been able to go to graduate school. I’m first generation and have navigated the academic system all by myself. I knew I wanted to teach, but did not know how I would go about pursuing it. Dr. de Lijser really helped guide my path. His lab opened my eyes to the world of research and gave me the push I needed to pursue a PhD.

**Fondest Memory:**
My fondest memory would be our annual summer lab BBQs. It was always so fun to see everyone outside of school/lab and to get to know each other. Another memory would be the “award” for most expensive student. We used to keep tally of all the expensive equipment that was broken. The winner one year was a student who broke the liquid nitrogen dewar.

**Message to Dr. de Lijser:**
Congratulations on retirement Dr. D! Without you I wouldn’t be finishing up my doctorate. Thank you for everything and especially for serving on my graduate committee.

**Neha Ansari** (BS Biochemistry ’15) PGY-3 and Chief Resident at Ascension Saint Joseph Family Medicine Residency Program in Chicago, IL.

**Impact:**
Working in Dr. de Lijser’s lab taught me many things about critical thinking, trouble shooting, and perseverance. These lessons have been invaluable to me in medical school, in residency, and as a physician.

**What is the fondest memory/anecdote you have from your time at Dr. de Lijser’s lab?**
I enjoyed going for our lab lunches as a team to downtown Fullerton and for Dr. de Lijser being able to meet my family at my honors thesis presentation and at commencement!

**Message to Dr. de Lijser:**
Congratulations on your retirement! Thank you for everything you did for your students – for guiding us, educating us, and supporting us.

Dr. de Lijser's Lab. December 2016.
Happy Retirement Dr. de Lijser! (Continued)

Stacy Guzman (BS Biochemistry ’18) Biochemistry & Molecular Biophysics PhD student at the University of Pennsylvania.

Impact:
If not for meeting Dr. de Lijser I would not have had the amazing opportunities that allowed me to push for a PhD. In his lab I took lead on my project and critically thought about next steps. He recognized my hard work and willingness to do better. It was a wonderful mentor/mentee relationship that allowed me to discover solutions on my own, but I also knew I could ask for assistance when needed. I learned to be independent, take ownership of my thesis project, and grow confident in my abilities. Dr. de Lijser pushed me to get out of my comfort zone. Thanks to Dr. de Lijser, I felt supported when I presented at conferences, applied for scholarships, and participated in research training programs at CSUF.

Fondest Memory:
My greatest memory was my first encounter with Dr. de Lijser. During a meeting to switch from Biology to Biochemistry, he saw how determined and driven I was in my pursuit of Organic Chemistry research. Dr. de Lijser then offered a spot in his lab, and this ultimately helped with my career goals. He saw something in me and believed in me when I felt that my goals were unattainable. I knew that I could rely on him, and he had the best interests in my future. Nothing means more than when someone sees your potential and is willing to mentor you.

Message to Dr. de Lijser:
Words can never express how truly grateful I am for Dr. de Lijser. I will always remember his wonderful sense of humor and his love for his cats. I was able to experience his love of teaching. I will also never forget his “NMR” lecture. He knew how to grab attention and break complicated topics down in a way that helped everyone fully understand.

Aneta Jelowicki (BS Biochemistry ’16) Finishing a PhD program at UCSB and preparing for a Post Doc program at Behr Paint.

Impact:
The biggest impact would be the many opportunities to present my research at conferences. Because of Dr. de Lijser’s persistence, did more poster and oral presentations while I was an undergraduate student than I did as a graduate student. I am grateful I gained so much public speaking experience.

Fondest Memory:
Fondest memory would be my first memory of Dr. de Lijser, when as a sophomore with very little knowledge about research, I walked up to him after a seminar and asked to join his research lab and he said “of course”. I’ve learned so much from Dr. de Lijser and I wouldn't be the scientist I am today without his guidance. Oh and our shared interest in Belgian beers! I believe Dr. de Lijser said his favorite is Gulden Draak. Let’s hope that is still true!

Message to Dr. de Lijser:
Dr. de Lijser, thank you for everything you have done for me directly and indirectly. You have helped me so much during my time at CSUF and I truly appreciate it. I sincerely hope that retirement is wonderful and that you enjoy your time in Nebraska!

Romie Ngyuen (MS Chemistry ’18) PhD student at the University of Texas.

Impact:
Peter de Lijser is an excellent mentor and cultivated a highly encouraging learning environment. He gave me the direction and confidence to believe in myself and apply to graduate programs and continue my academic career.

Fondest Memory:
I really enjoyed his annual summer BBQ that he and his wife Colleen hosted in his backyard. Those summer nights were super fun and a great way to build a rapport with labmates who have already graduated from the lab as well as those who are just beginning. He always has a great beer selection and a fast quip at the ready.

Message to Dr. de Lijser:
Congratulations on your retirement! You are a great role model on how to make a huge impact in the lives of your students and gently, but firmly, push them towards a greater potential than they would have thought they were capable of. Mentoring is not an easy task, yet you have done it so effortlessly! Thank you for everything and I hope you enjoy the next chapter of your life.

Dr. Julie (Hofstra) Wahlman (BS Chemistry ’14) Caltech PhD graduate. Current Assistant Professor at CSU Long Beach (Chemistry & Biochemistry Department).

Impact:
Conducting research in Dr. de Lijser’s lab played a large role in my decision to pursue my own career as a professor at CSULB. When I first transferred to CSUF as an undergraduate student, I knew I wanted to pursue a career in education. My experience participating in undergraduate research made me realize I liked the challenge of solving complex problems and this led me to a career where I could both teach and conduct my own research.

Fondest Memories:
I think some of my favorite memories while in Dr. de Lijser’s lab were the times the group met together for summer BBQs. It was always fun to catch up with alumni and hear what everyone was doing after they graduated from CSUF.

Message to Dr. de Lijser:
Congrats on your retirement! I know you have inspired many students over the years and will be missed at CSUF!
Welcome Kelly McVey!

The Chemistry and Biochemistry Department is excited to welcome Kelly McVey as our Instructional Support Technician. Kelly is a double alumna of CSU Fullerton, earning Bachelor's of Science degrees in Biology and Geography as well as a Master's degree in Geography. With seven years of experience in the Chemistry Stockroom as a student assistant, Kelly brings with her a considerable amount of institutional memory. With the return of students to campus laboratories and increasing numbers of lab sections, the training of student assistants has become more challenging. Kelly has demonstrated that she is up to the challenge!

What drew you to your position at CSUF?
I was a student worker for several years while I did both my undergrad and graduate degrees. It started out as "Just a little extra work" and I found that I really enjoyed working with the great faculty and staff we had (and still have) here. I was sad to graduate and leave, but so happy when the opportunity to return came around.

What ideas, thoughts, or visions might you have for future activities in your position at CSUF?
I hope to help the department streamline training of TA's and student researchers. Direct training with new TA's and part-time faculty on using our particular equipment helps them to train the students on its usage and, I think, makes the lab work more efficiently. It is very important for students to receive training from authorized persons rather than from each other when using much of the equipment/instruments we have. I hope to be part of creating more efficient and updated teaching lab spaces.

Is there anything you want to say in the Newsletter to Alumni or Faculty?
I was (and am) happy to be a part of the Department of Chemistry and Biochemistry, the College of NSM and a lifelong Titan. I have always felt welcome here and have happily spent a number of years here as a student and a worker. Despite not being a Chemistry/Biochemistry major for either undergrad or graduate degrees, I still felt like a valuable member of the team.

Welcome Mika Perez!

The Chemistry and Biochemistry Department welcomes Mika Perez as our new Administrative Support Coordinator. Mika is a alumna of UC Berkeley and earned her Bachelor's of Art degree in Sociology. With two years in secondary education and two years experience in higher education, Mika brings a dedication to helping students succeed.

What drew you to your position at CSUF?
I have a passion for working in higher education, especially at a school like CSUF with such a high commitment to diversity. Additionally, my father is a retired chemist and my brother is a geophysicist and I love hearing their excitement when discussing STEM topics. So combining my background in higher education and my family's ties to STEM, I knew this position would be a great fit. I also felt genuinely welcomed when meeting department members during the interview process.

What ideas, thoughts, or visions might you have for future activities in your position at CSUF?
I look forward to helping the department become more efficient and organized. For instance, transitioning from paper documents to digital ones. And of course, I am excited to work with students by helping them add classes, get permits, and remove holds. I also plan to add more design elements in the department in regard to posters, social media, and the main website.

Is there anything you want to say in the Newsletter to Alumni or Faculty?
Yes! I want to thank everyone who has visited the office and made me feel so welcome. I feel very fortunate because this is such a warm, nurturing, and supportive group of people to work with.
Maria C. Linder, a nationally recognized scientist who mentored scores of research students during her 45-year career at Cal State Fullerton, died Sept. 25 following a stroke. She was 83.

Linder, professor of chemistry and biochemistry, was an active faculty member who continued to spend time in the lab focusing on research that examines how copper and iron function in the body. Her work also has contributed to a greater understanding of cancer.

“Our hearts go out to those in our community who knew Maria best, especially her chemistry and biochemistry colleagues,” said Marie Johnson, dean of the College of Natural Sciences and Mathematics. “Maria’s love of science and her student-centered approach to teaching and mentoring will be supremely missed.”

Nicholas T. Salzameda, chair and professor of chemistry and biochemistry, called Linder a passionate researcher, teacher and dedicated colleague.

“Maria’s true talents were in the research laboratory as she accepted all students into her research group and always provided them with a transformative experience. Maria provided mentorship and guidance to many students over her 45 years of service to the university.”

During her long-lasting academic career, Linder published more than 100 scholarly articles — many with her students — authored books, garnered more than $12 million in research grants, and earned awards and praise for her research and teaching. But her greatest contribution and point of pride was nurturing and educating generations of future biochemists.

“I’m proud of my own research accomplishments, as well as the work of my students. It’s been rewarding to be a mentor and interact with the wonderful young people entering the sciences — and to help them achieve their goals,” Linder said in 2017 when she was recognized for her 40 years of service to the university.

Over the years, Linder developed close relationships with colleagues and students in the college and Department of Chemistry and Biochemistry and built friendships that lasted for decades.

“Maria was the most inspirational colleague I have known in my professional career. She was dedicated to excellence in research, teaching, mentoring and service to students,” said Madeline Rasche, professor of chemistry and biochemistry, who has worked with Linder since 2008. “She was generous in sharing her profound knowledge, energy and resources — and was an inspiring role model for students and faculty alike.”

Linder joined CSUF in 1977 after her husband’s job relocation to the Los Angeles area, and following a teaching and research stint as an associate professor of chemistry at the Massachusetts Institute of Technology. She grew up in New York City, earned a bachelor’s degree from Vassar College and a doctorate in biochemistry from Harvard University.

For many years, Linder directed the university’s Howard Hughes Medical Institute Research Scholars Program, supported by grants from the Howard Hughes Medical Institute, to bring real-world research experiences to underrepresented undergraduate students. She received the College of Natural Sciences and Mathematics’ Outstanding Research Award in 2002 and 1995 and was named the college’s Distinguished Faculty Member in 1992 and 1998.

In 1985, she was named CSUF’s Outstanding Professor Award and was the inaugural recipient of the L. Donald Shields Excellence in Scholarship and Creativity Award in 2013. In 2007, she received the California State University system’s prestigious Wang Family Excellence Award.

(continued on next page)
She won the 1993 American Chemical Society Award for Research at an Undergraduate Institution. The award is given to a researcher whose work is highly recognized in the field and includes the participation of undergraduate students. Linder also was recognized as an American Association for the Advancement of Science Fellow for her research and expertise on mammalian copper and iron metabolism: “Not enough women scientists, in general, are recognized, so it’s an honor to be acknowledged as someone who has contributed in my field,” Linder said in 2015 of the accolade.

In December 2021, Linder established a CSUF scholarship to support aspiring biochemists pursuing a master’s degree. Visit here to donate to the Maria Linder Nielson Endowed Graduate Fellowship.

Linder is preceded in death by her husband of more than 40 years, Gordon Nielson; and she is survived by stepson Eric, and four grandchildren; a sister, Renate, and niece, Amanda.
### STUDENT AWARDS

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<tr>
<th>Award</th>
<th>Recipients</th>
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<tbody>
<tr>
<td>American Chemical Society Award</td>
<td>Jan Rodri Ragadi</td>
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<tr>
<td>ACS Division of Analytical Chemistry</td>
<td>Daniel Soriano</td>
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<td>Undergraduate Award in Analytical Chemistry</td>
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<tr>
<td>ACS Division of Organic Chemistry</td>
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<tr>
<td>Undergraduate Award in Organic</td>
<td>Katie Van Gorder</td>
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<tr>
<td>ACS Division of Inorganic Chemistry</td>
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<tr>
<td>Undergraduate Award in Inorganic Chemistry</td>
<td>Jacob Fernandez</td>
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<tr>
<td>ACS Division of Physical Chemistry</td>
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<td>Undergraduate Award in Physical Chemistry</td>
<td>Ken Jones</td>
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<td>Advancing in STEM Scholarship</td>
<td>Daniel Cardona</td>
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<td>American Institute of Chemists</td>
<td>Ezekiel Grimares</td>
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<td>Titan of Chemistry and Biochemistry Award</td>
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<td>Brad van Mourik Interface of Computers</td>
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<tr>
<td>Scholarship in Chemistry</td>
<td>Ken Jones</td>
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<td>Coppel Graduate Science Award</td>
<td>Montana Mellody</td>
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<td>Dr. Andrew and Kay Montana Endowed</td>
<td>Tung Nguyen</td>
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<tr>
<td>Scholarship in Chemistry</td>
<td>Ryan West</td>
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<td>Eric and Alyse Streitberger Science</td>
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<td>Education Endowed Scholarship</td>
<td>Kim Nguyen</td>
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<tr>
<td>Excellence in Biochemistry</td>
<td>Elaine Lai</td>
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<td>Glenn Nagel Scholarship</td>
<td>Trevor Jost</td>
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<td>Glen and Takeshi Nakaya Scholarship</td>
<td>Michael Sullivan</td>
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<td>Glorya Welch Scholarship</td>
<td>Ashleigh Burns</td>
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<td>James Sternberg Scholarship</td>
<td>Aerin Bridgers</td>
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<td>Lyle Wallace Service Award</td>
<td>Naman Shah</td>
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<td>Mark Lackey Award for Graduate Teaching</td>
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<td>Outstanding General Chemistry Award</td>
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<td>Phil Berriman Research Excellence with</td>
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<td>Instrumentation Scholarship</td>
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<td>Robert C. Belloli Future Chemistry Teacher</td>
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<tr>
<td>Scholarship</td>
<td>Jun Hwang</td>
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<tr>
<td>Wegner Family Scholarship</td>
<td>Christopher Badolian, Azeem Horani</td>
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<td>Maximizing Access to Research Careers (MARC)</td>
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<tr>
<td>Scholars</td>
<td>Katie Van Gorder, Ryan West</td>
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<tr>
<td>2022 CSU Research Competition (First Place)</td>
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<td></td>
<td>Azeem Horani</td>
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<tr>
<td>2022 CSU Research Competition (Finalist)</td>
<td>Erica Esteban</td>
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### FACULTY & STAFF AWARDS

<table>
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<tr>
<th>Award</th>
<th>Recipients</th>
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<tbody>
<tr>
<td>Outstanding Contributions to Student</td>
<td>Allyson Fry-Petit</td>
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<td>Success Award</td>
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<tr>
<td>Outstanding Lecturer Award</td>
<td>Macy Shen</td>
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<td>Outstanding Research Award</td>
<td>Andrew Petit</td>
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<tr>
<td>Outstanding Untenured Faculty Member Award</td>
<td>Stevan Pecic</td>
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<tr>
<td>Staff Excellence Award</td>
<td>Cristina Clarke</td>
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</tbody>
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### FACULTY UPDATES

Dr. Nicholas Salzameda was appointed to Department Chair of Chemistry and Biochemistry.

Dr. Kelvin Billingsley earned tenure and was promoted to Associate Professor of Chemistry and Biochemistry.

Dr. Michael Groves earned tenure.

Dr. Andrew Petit earned tenure.
Bootleggers Brewery, Fullerton graciously hosted our 2022 Alumni Night social on Friday, October 21st. We had an excellent turnout of 1 emeriti, 9 faculty members, 4 staff members, 14 guests, 40 alumni, and 1 alumni dog for a total of 69 attendees!

It was wonderful seeing so many familiar faces. Everyone had a fun time connecting with old friends and reminiscing about their time at CSUF.

The Chemistry and Biochemistry Department will continue to mentor, educate and train our students to leave CSUF with fond memories and ready for a career in science.

Please stay in touch with us and support your fellow alumni.

CONNECT WITH US & RECEIVE UPDATES ON FUTURE EVENTS

EMAIL LIST CLICK HERE  SOCIAL MEDIA CLICK HERE
Alumni Updates

**Edwin Aguilar** (BS Biochemistry '17, MS '20) Associate Scientist of Biopharmaceutical Development at Nitto Avecia Pharma Services in Irvine, CA.

**Sophya Alamudun** (BS Chemistry '20) PhD student at the University of Wisconsin, Madison. She participated in a recent #BlackinChem campaign event to help amplify the voices of Black chemists showing they are not alone. She presented her CSUF undergraduate work and won first place in the undergraduate portion of the competition.

**Neha Ansari** (BS Biochemistry '15) Chief Resident at Ascension Saint Joseph Family Medicine Residency Program in Chicago, IL.

**Sarah Baker** (BS Biochemistry '17) Chemistry Professor at Clovis Community College and finishing up her PhD program in Organic Chemistry.

**Veronica Cabrera** (BS Biochemistry '20) Nuclear Manufacturing Technician at Cardinal Health, a biotech company in Orange County that produces enzymes and probiotics.

**Damaris Chavez** (BS Chemistry '19) Laboratory Technician at South Coast Air Quality Management District with the Advanced Spectrometry group. “I operate on a 4-day work week so I get to travel often on the weekends! I absolutely love what I’m doing not just for the company but also the community. I will be getting married in December 2022 to a man I met in college who introduced me to the swing dance club/community, wine tasting, and supports my reading addiction.”

**Victor Espinoza** (BS Chemistry '20) Third-year Graduate Student at Rice University in Houston, Texas.

**Christian Franco** (BS Biochemistry '20) PhD student at the University of Nevada Reno.

**Geovanny Gallardo** (BS Chemistry '20) M.S. Chemistry student at CSUF.

**David George** (BS Biochemistry '20) Specimen Management, Lab Technician at Quest Diagnostics.

**Stacy Guzman** (BS Biochemistry '18) Biochemistry & Molecular Biophysics PhD student at the University of Pennsylvania.

**Caitlin Han** (Biochemistry '22) Attending the MAT-Science Credential Program at UCI.

**Thyda Heng** (BS Biochemistry '20) Quality Control Technician at Gold Coast Ingredients, Inc. in Commerce, CA.

**Veng Hout Ty** (BS Chemistry '21) PharmD student at Western University Pharmacy.

**Tyler Hua** (BS Biochemistry '16, MS Analytical Chemistry '20) Scientist at Quest Diagnostics.

**Aneta Jelowicki** (BS Biochemistry '16) PhD student at UCSB and preparing for a Post Doc program at Behr Paint. “I’ll be working on their antimicrobial paint project which I am super excited to be a part of! Ready for the winter season and go skiing as much as possible!”

**Thanh Le** (BA Chemistry '20), PharmD student at UC San Diego Skaggs School of Pharmacy.

**Chun "Iverson" Li** (BS Chemistry '20) MS student at CSUF.

**Tanya Ly** (BA Chemistry '20) Employed at Quest Diagnostics.
 Alumni Updates (Continued)

Laura Marsalla (BA Chemistry ’17) Pharmacy school and MS Pharmaceutical Science program at Pacific University. “I moved to Oregon for school. I miss California A LOT, but I also enjoy the experience of fall that other states offer.”

Candace Miller (BS Chemistry ’20) R&D Associate at SGS Research in Orange, CA.

Kimberly Minutella (BS Biochemistry ’22) Pharmacy School student at UC San Diego.

Haylena Nguyen (BS Biochemistry ’20) Formulation Development Associate at HBT Labs Inc.

Henry Nguyen (Chemistry ’21) M.S. Chemistry Education Research at CSUF.

Romie Nguyen (MS Chemistry ’18) Graduate student at the University of Texas.

Belinda Ortega (BS Chemistry ’20) PhD student at UC Davis.

Rafael Robles (BS Biochemistry ’20) Chemistry Ph.D. Student at University of California, Santa Cruz.

Stephanie Salas (BS Chemistry ’20) Chemistry PhD student at UC Riverside.

Grant Schumaker (BS Biochemistry ’17) Medical student at Larner College of Medicine at the University of Vermont.

Aleksei Solomatov (BS Biochemistry ’22) PharmD student at Western University Pharmacy.

Kyle Tanovitz (BS Chemistry ’21) PhD Student at University of Southern California.

Madeleine Thompson (BS Chemistry ’19) MS in Applied Data Science at the University of Southern California. Data Scientist for the US Department of Defense in Washington, DC.

Jordan Thompson (BS Biochemistry ’20) Chemistry PhD Candidate at UCI

Thao Tran (BS Biochemistry ’20) PhD program student at the University of Southern California.

Anthony Truong (BS Biochemistry ‘18) Optometry School at Southern California College of Optometry

Damian Ventura (BS Biochemistry ’22) M.S. Chemistry student at CSUF

Roger Vuong (BS Biochemistry ’20) MS Chemistry student at Boise State University in Idaho.

Julie (Hofstra) Wahlman (BS Chemistry ’14) Caltech Chemistry PhD Alumnus. Professor at CSU Long Beach (Chemistry & Biochemistry Department).

Stephanie Xiong (BS Biochemistry ’20) Pharmacy Student at Oklahoma University College of Pharmacy. “I moved to Oklahoma after undergrad (2020), got married in 2021, and now I’m back in school for my PharmD!”

Carmen Yu (BS Biochemistry ’20) PharmD Candidate at Marshall B. Ketchum University.

Kathryn Zeimis (BS Chemistry ’15) Senior Quality Engineer at Cleerly Health Inc.

Did We Miss You?
We’d love to hear what you are up to!
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Click Me!


National Institutes of Health – Total Award Amount: $319,500
Hyperpolarized 13C Probes for Imaging Warburg Metabolism in Cancer
PI: Kelvin Billingsley

CSUF Robert and Louise Lee Collaborative Teaching Award – Total Award Amount: $2,000.
Implementing a Course-Based Undergraduate Research Experience (CURE) and Specifications Grading in CHEM 120B
Co-PIs: Joya Cooley, Ally Fry-Petit, Andrew Petit

CSUF Faculty Enhancement and Instructional Development Award – Total Award Amount: $500 and 3 WTUs of course release. Implementing a Course-Based Undergraduate Research Experience (CURE) and Specifications Grading in CHEM 120B
Co-PIs: Joya Cooley, Ally Fry-Petit, Andrew Petit

CSUPERB Faculty-Graduate Student Collaborative Research Award - Total Award Amount: $10,000
PI: Niroshika Keppetipola

CSUPERB COVID-19 Research Recovery Microgrant Program Grant - Total Award Amount: $1500
Repair of Combi Flash System for the Purification of Small Molecules - Enzyme Inhibitors
PI: Stevan Pecic

2022 Summer Undergraduate Research Academy – Total Award Amount: $9,000
Using Computation to Develop a Better Understanding of Light-Driven Chemistry
PI: Andrew Petit

2021-2022 Research, Scholarship, & Creative Activity Incentive Award - Total Award Amount: $14,940
Unraveling Pathways for Energy Transfer Involving the Important Atmospheric Pollutant Nitrogen Monoxide
PI: Andrew Petit
Research Updates - Continuing Grants

National Science Foundation - Total Award Amount: $239,204
Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (LEAPS-MPS):
Interrogating Negative Thermal Expansion in Earth-Abundant Oxide Materials
PI: Joya Cooley

2021-2022 Junior/Senior Intramural Grant - Total Award Amount: $6,978
Enhancing Student Success and Reducing Racial-Achievement Gaps in Undergraduate General Chemistry Course Using Growth Mindset Interventions
PI: Julia Y.K. Chan

National Science Foundation 2021-2026 - Total Award Amount $422,198
CAREER: Understanding the Electrochemical Properties of Physical Hole Defects on Functionalized B/C 2D Materials for the 2e- Reduction of O2 To H2O2
PI: Michael Groves

American Chemical Society Petroleum Research Fund 2020-2023 – Total Award Amount: $70,000
UR: Calculating Reaction Barriers for Benzene Hydroxylation to Phenol Using Graphene Based Catalysts
PI: Michael Groves

NSF S-STEAM – Total Award $617,139
Scholarships to Enhance Excellence in the Chemical and Biological Research Based Workforce (STEER)
Co-PI: Barbara Gonzalez

National Institutes of Health SC3 Award - Total Award Amount: $426,000.
PI: Niroshika Keppetipoolu

National Institutes of Health - Total Award Amount: $426,000
Development of Dual Soluble Epoxide Hydrolase/Fatty Acid Amide Hydrolase Inhibitors as a Promising Therapeutic Strategy for the Treatment of Acute and Chronic Pain
PI: Stevan Pecic

CSUPERB Curriculum Development Grant - Total Award Amount: $15,000
Course-Based Undergraduate Research Experience (CURE) Lab: Design, Synthesis and Biological Evaluation of New Therapeutics in Pain Management
PI: Stevan Pecic