What does it take to be a Distinguished Graduate Student in Chemistry? Every year our department recognizes eight to nine students who demonstrate “research excellence” in their graduate work and award them with funding for a quarter. These students tend to be towards the end of their PhD programs across many different tracks with research in a variety of fields. As might be expected, this year’s group of awardees represent a diverse group of interests within the department. Five of this year’s Distinguished Grad Students came forward to be featured in our new CGSC Newsletter. We wanted to get to know them both as scientists and students.

The Chemistry Graduate Student Council (CGSC) is pleased to present to you the first issue of it’s student-focused, student-edited newsletter. We hope to feature stories that are relevant to the graduate students of our department and that help to foster a sense of community among us. Have a topic you’d like us to cover? Find our contact info in the back of this issue!

Feature Story

Meet Some of Our Distinguished Graduate Students

By Ariana Remmel

What does it take to be a Distinguished Graduate Student in Chemistry? Every year our department recognizes eight to nine students who demonstrate “research excellence” in their graduate work and award them with funding for a quarter. These students tend to be towards the end of their PhD programs across many different tracks with research in a variety of fields. As might be expected, this year’s group of awardees represent a diverse group of interests within the department. Five of this year’s Distinguished Grad Students came forward to be featured in our new CGSC Newsletter. We wanted to get to know them both as scientists and students.

Ryan Lumpkin is a 4th year in the Komives lab who studies the “activity, dynamics, and structure of a model Ubiquitin Ligase”, but also enjoys rock climbing with friends when he has the time. He also recently picked up 3D printing and woodworking. He is currently looking for post doc positions in academia. For Ryan, research excellence means “thoroughly and effectively addressing scientific questions.” His advice to other grad students—use your time wisely. This means working efficiently in the lab, but also finding a way to love your work. “Time is all we have. Don’t waste it doing something you don’t love.”
Finally, **Jake Bailey**, a 5th year in the Tezcan Lab, is focused on the “development and characterization of crystal-hydrogel hybrid materials”. Jake enjoys cycling around San Diego, beach volleyball, and racquet ball. He is still undecided in his career choice, but will likely pursue research either in academia or industry. Jake who says that excellent research should make a lasting impact within the scientific community and lead to advances that benefit society.” His advice to current students is to remain flexible in your research and “be willing to change the direction of your research if necessary”. Jake also notes that he is thankful to the members of his lab for all their support throughout the years.

**Sophia Hirakis**, a 6th year in the Amaro/Mccammon groups, is investigating “multiscale methods to go from the atomic-level to the subcellular level”. She also likes to skateboard and both play and coach basketball. In the next step of her career, Sophia hopes to work for an international service program “to recruit underserved populations to the sciences”. Interestingly, Sophia explains that research excellence is “the ability to teach what you know”. Sophia has dedicated herself to changing the inequitable systems that we work in as scientists. Her advice to students—“work like no one is watching and test the limits of your own scientific understanding.”

**Christopher Lee**, a 5th year also in the Amaro/Mccammon groups, is developing “new strategies to enable the use of high-fidelity geometric models from various imaging modalities in mathematical simulations of signal cascades.” He spends his free time swimming with the Masters swim team and biking with the UCSD Triathlon team. Christopher hopes to pursue an academic post doc that will help him eventually obtain a faculty position. Christopher says that research excellence means “a dedication to ethical integrity and doing reproducible science.” He also adds that “everything you do should count at least twice. Your life is far too busy to dawdle on single use products.”

Meanwhile **Sabrina Berkamp** is a 6th year in the Opella Lab who is “mapping the interactions between a smaller chemokine and a large transmembrane protein using NMR spectroscopy,” while starting to practice the Korean martial art Hapkido. Sabrina also hopes to obtain a post doc in structural biology/biophysics. Sabrina says that research excellence means “not being afraid to take on a challenging, high-risk high-reward project instead of low-hanging fruit.” Sabrina advises students to “try to get involved in activities outside of lab” and meet new people. She stresses the importance of networking within your community because you never know who you are going to meet. On a similar note, she advises students to always be ready to help other people in the lab. “There may come a time when you need help” and building these relationships ahead of time is in your best interest.
CGSC Elections!

With the arrival of Spring, the CGSC is rounding out its first year of departmental advocacy! Already, we have delivered significant impact to our departmental community—including the utilization of your graduate voices, collected through Town Hall and survey, to successfully advocate for stipend increases. Although I am extremely proud of the work our members put together, now is not the time for self-congratulation. Since we need to ensure that the CGSC’s work can continue into the future, it is time to elect a new batch of representatives to continue improving the graduate experience within the department. In the coming weeks, we are collecting nominations for and electing next year’s CGSC and ChemGSA representatives. As such, we are seeking engaged and thoughtful individuals to fill these ranks once more. If you know (or are) someone who wants to help make positive change in our department and University, please consider submitting a nomination here! I look forward to seeing how the next year’s representatives positively shape the department for years to come.

Chris Fisher, CGSC Chair

ChemPAL Spotlight: Glen Junor

By Austen Michalak

Glen Junor grins when I ask him what the secret to graduate school is. “Time management!”, he says between bursts of laughter. I lean back and let my Taco Villa lunch sink in as he shares experiences and philosophy with me.

He plans the workday so he has time to spend with his wife and two year old daughter, Tanja, after work. When I ask whether he wonders if science is in his daughter’s future, he says “She’s testing things around her, (laughs) which means us parents, so she could be.”

Glen took a unique path into science. In community college, he originally planned to transfer into an undergraduate program in psychology. Fatefully, he took a chemistry lab class that really got him excited. Incredibly excited. So excited, he says he was up at night thinking about his lab titrations. Very few people I know liked titrations in general chemistry lab, but Glen discovered his passion for chemistry in this unlikely situation.

Realizing this passion, Glen notified the psychology department at UC Irvine and UC Berkley that he wanted to switch to chemistry. Surprisingly, UC Berkley admissions told him they would not accommodate this, and furthermore they added “You will never be a chemist!” He did not let that deter his desire for chemistry. UC Irvine offered him a path to a bachelor’s degree in chemistry if he succeeded in some basic courses.

At UCSD, Glen works in the Bertrand lab, where he studies elements in strange electron configurations. He works with carbenes, which are $sp^2$ hybridized carbons with a lone electron pair and an empty p orbital. This electron configuration imparts some cool properties and reactivity. After graduation, Glen thinks he might be interested in teaching chemistry, especially upper division classes. “Sometimes I get a little bored with stoichiometry” he remarks when I ask him about teaching graduate classes.

In ChemPAL, he connects with lost students and asks them what he calls the “hard questions, which nobody wants to ask”. To help his students find their way, he asks his students questions like “well, then why are you here doing this?” Those types of questions led Glen to chemistry. As a mentor, researcher, and father, he has his hands full, but is successful. The secret? “Time management and addressing those tough questions!!”
Alumni Spotlight: Jamie Schiffer

Jamie Schiffer, PhD is a chemist, yoga teacher, and avid gardener. She originally entered her undergrad wanting to study history, but like many of us was brought into chemistry through the guidance of an exceptional teacher. She describes her old professor at Boston University, Dr. Caradonna, as being “animated and exuberant, communicating his excitement for chemistry”. Jamie herself has become just such a teacher and communicator through her PhD and postdoctoral work.

Jamie did her PhD work in the Amaro lab where she used computational chemistry to study protein biophysics. She talks about the field with true passion explaining that you “get to imagine how things are moving through space and time where no one can see. It’s almost like a fantasy world.” Using a combination of chemistry, biology, and math, Jamie was able to bring to life some of the molecules that are “dancing and vibrating inside of our cells to make life happen”. Her dissertation presentation won her a 2016-17 Outstanding Dissertation Award from the department.

Now as a postdoc with CAICE, Jamie is using her computational skills to study biomolecules in sea spray aerosols. She says she is most excited about a protein called lipase that can be found on the surface of some aerosol particles. The chemistry of these proteins is almost exclusively determined by electrostatic interactions, allowing Jamie to apply “first principle concepts to really complex chemistry.”

With all of the experience Jamie has gained in her time at UCSD, she will be taking the next step of her career as an Education Specialist at Schrödinger, a software company that develops tools for chemists. In her new role, she will split her time equally between education, outreach, and research. She says that this reflects a new push in industry because “you can’t just make a product, you have to keep up with the science so you can figure out how your product best serves your clients.” Her five year goal is to develop an online curriculum in computational chemistry that will help bring this field into the mainstream of chemistry education.

Looking back at her own PhD and thinking about advice to give current students, Jamie says that the most important thing to learn is self-advocacy. “Only you know what you need and what you want out of life.” The second thing she suggests is to try to do things that make you happy. She remembers that “when I had life balance was when I was the most productive”. For Jamie, that meant doing more outreach than “was probably advisable”. But she used her love of outreach to help her get what she considers her dream job at Schrödinger. From that perspective, she is glad that she followed her passion. That being said, it was also one of her goals to read a paper a day and get as much feedback on her research as possible.

Jamie’s final piece of advice to current students is to have fun with the process. “This is a time in your life when you get to learn as much as possible and that is kind of special in its own way.” Given her own experiences after graduating, Jamie feels confident that “there is definitely going to be a job out there for you” as long as you can figure out what you want and do the work to make that happen.

Now as a postdoc with CAICE, Jamie is using her computational skills to study biomolecules in sea spray aerosols. She says she is most excited about a protein called lipase that can be found on the surface of some aerosol particles. The chemistry of these proteins is almost exclusively determined by electrostatic interactions, allowing Jamie to apply “first principle concepts to really complex chemistry.”

With all of the experience Jamie has gained in her time at UCSD, she will be taking the next step of her career as an Education Specialist at Schrödinger, a software company that develops tools for chemists. In her new role, she will split her time equally between education, outreach, and research. She says that this reflects a new push in industry because “you can’t just make a product, you have to keep up with the science so you can figure out how your product best serves your clients.” Her five year goal is to develop an online curriculum in computational chemistry that will help bring this field into the mainstream of chemistry education.

Looking back at her own PhD and thinking about advice to give current students, Jamie says that the most important thing to learn is self-advocacy. “Only you know what you need and what you want out of life.” The second thing she suggests is to try to do things that make you happy. She remembers that “when I had life balance was when I was the most productive”. For Jamie, that meant doing more outreach than “was probably advisable”. But she used her love of outreach to help her get what she considers her dream job at Schrödinger. From that perspective, she is glad that she followed her passion. That being said, it was also one of her goals to read a paper a day and get as much feedback on her research as possible.

Jamie’s final piece of advice to current students is to have fun with the process. “This is a time in your life when you get to learn as much as possible and that is kind of special in its own way.” Given her own experiences after graduating, Jamie feels confident that “there is definitely going to be a job out there for you” as long as you can figure out what you want and do the work to make that happen.
Campus Resources

Student Health Center
(858) 534-3300
studenthealth.ucsd.edu

Graduate Student Association (GSA)
(858) 822-3243
gsa.ucsd.edu

Counseling and Psychological Services (CAPS)
(858) 534-3755
caps.ucsd.edu

The HUB
(858) 246-2632
basicneeds.ucsd.edu

Legal Services
(858) 534-4374
sls.ucsd.edu

Recreation Facilities
(858) 534-4037
recreation.ucsd.edu

Office of the Ombuds
(858) 534-0777
ombuds.ucsd.edu

Contact Us!

For questions and submissions to the Newsletter, email our Executive Editors Ariana Remmel (amremmel@ucsd.edu) and Sarah Kochanek (skochanek@ucsd.edu)

To get in touch with CGSC members, you can email cgsc@ucsd.edu