

The Cavendish Chronicle

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Abby Kaluza in DC.

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Following a Dream in Personal Care Products



Xiong takes New York

Occasionally, CSB/SJU students have an interest in working in the personal care products industry. Sometimes, that goal is related to the Ave-da Institute in Minneapolis. Sometimes, it's sparked by

curiosity about the chemistry of mundane yet fun things, like what makes the bright, bold colors of nail polish. Employers in this sector range from major multinationals such as Proctor and

Gamble to innovative companies like Kolmar Laboratories. Located in Port Jervis, NY, just outside the metropolitan NYC area, Kolmar employs about 500 people, including **Susie Xiong, CHEM '18**. Xiong's path to her current position also included jobs with cosmetic giants L'Oréal and Chanel. We caught up with her this summer.

Cavendish: What can you tell us about your job?

Xiong: I am an R&D Chemist for Kolmar Laboratories. Kolmar is a Personal Care and Cosmetic Contract Manufacturer (CM). CM's are third-party vendors that offer services such as R&D, Process Engineering, Manufacturing and Production. I work in the Personal Care Lab, where I create formulas for skincare, body care and cosmetics. I am also being cross-trained in the powder and lip lab. In order to do my job, I usually choose a product brief and create/reverse engineer formulas to meet the customer's brief.

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Ardolf Reopens for Summer 2021 Research Season

After a season of upheaval caused by the COVID-19 pandemic, Ardolf Science Center resumed its summer research program in 2021. A dozen CSB/SJU students benefited from institutional funding for summer positions in the chemistry department.

Emily Imm, Bchm '22, Katie Brewer, Chem '23 and Abby Widmer, Bchm '23 worked with **Prof. Fazal**. Widmer and Imm looked at nanoparticle interactions between amino acids, proteins, and other particles in the blood. Brewer worked on a way to detect cyanide poisoning in both blood and saliva using fluorescent chemicals.

Jake Minkinen and Megan Wolf, Bchm '22, Equoia Gibson, Chem '24, Gen Woods, Bchm '24, and Alex Host, Biol '23 worked with **Prof. Lisa Gentile**. They focused on protein-drug interactions involved in depression, HIV/AIDS, SARS-CoV-2, and diabetes. The team also engineered a metabolic enzyme to monitor its interaction with another metabolic enzyme.

Zeke Pena, Chem '22, Ugbad Abdi, Chem '23 and Sophia Anderson, Bchm '24 studied the degradation of environmental pollutants under the guidance of **Prof. Alicia Peterson**.



The crew convenes in Ardolf

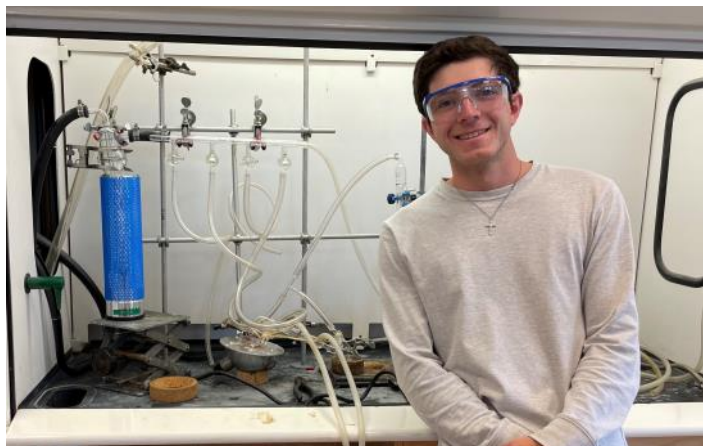


Team Peterson hits the lake

Abdi and Anderson used Lake Sag water to show how natural water matrix affects the lab's rhodium catalytic system as it breaks down fluorinated and chlorinated compounds, including pharmaceuticals. Pena degraded fluorinated agrochemicals using photolysis.

Megan Kohout, Bchm '22 and Mary Ludwig, Bchm '23 worked in the stockroom with director **Paola Forero-Bello** and **Hiep Nguyen**, the new stockroom fellow. Activities included preparation of student samples and general support for the upcoming academic year.

Students Find Better Summer Experiences in '21



Cerritelli in lab with the Research Experience for Undergraduates (REU) program at South Dakota. Like many programs, it is sponsored by the National Science Foundation (NSF).

After the summer of '20 saw a host of cancellations in summer internship programs, CSB/SJU students were able to bounce back with new prospects in 2021.

Val Doze, BCHM '21 (Fall) completed an 8-week internship with the Governmental Affairs Department at the German Marshall Fund. She also continued to work on research with collaborators at Johns Hopkins.

Elle Bartlett, CHEM '22 was at the University of Kansas on a NSF-REU program. Her project focused on computational studies of hydrogen bonding in the diffusion of water through a nonpolar solvent.

John Cerritelli, CHEM '22 secured an REU position at the University of South Dakota. He synthesized picolylborane compounds and characterized their ability to form coordination complexes.

Kenzie Claypool, CHEM '22 had an internship with Sherwin-Williams. She worked in their R&D polymer lab, synthesizing epoxy acrylate and latex resins, among other materials, for a variety of applications.

Abby Jacobs, BCHM '22 worked at the Mayo Clinic through the Nephrology and Urology Student Undergraduate Research Fellowship. She investigated a

mutation in renal system sodium bicarbonate cotransporter.

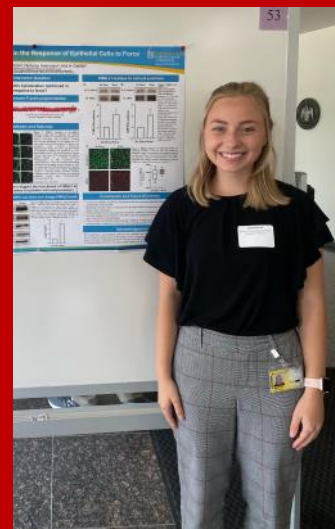
Abby Kaluza, BCHM '22 spent the summer in Washington, D.C., working in the offices of both Senator Amy Klobuchar (MN) and Congresswoman Judy Chu (CA -27).

Gabi Lott, BCHM '22 conducted research at the University of Iowa through their Summer Undergraduate MSTP Research (SUMR) Program. She worked in the lab of Dr. Kris DeMali studying cellular recruitment of FMNL2 to cell-cell contacts in response to force.

Teniesha Ferguson, BCHM '23 had an internship with the health equity and advocacy team at the Minnesota Medical Association researching the role that housing plays in health outcomes.

Jacob Spring, BCHM '23 was a research intern at Minnesota Urology. He spent time auditing and reviewing paperwork for several different clinical trials. He also shadowed physicians during various surgeries in which new medical devices or medications were being tested.

Sonja Hoversten, BCHM '24 taught middle school science at The Blake School in Minneapolis through LearningWorks, a nonprofit organization.



Lott with her summer research poster



Ferguson



Hoversten

Alum Notes *Reports from CSB/SJU Chem & Biochem Grads*

Ryan Rubischko, Chem/Biol '98 is working in a new position with Winfield Crop Protection Marketing at Land O'Lakes.

Teresa Abraham, Chem/Biol '02, Director of Scientific and Technical Partnerships at Visby Medical, recently announced FDA clearance and CLIA waiver of the Visby Medical Sexual Health Click Test. This is the first instrument-free PCR test for the detection of Chlamydia, Gonorrhea, and Trichomonas, in under 30 minutes.

T.J. Nelson, Chem '08, has been promoted to Advanced Product Development Specialist at 3M.

Felicia Burns, Chem '13 finished a Ph.D. in organic chemistry at Syracuse University. She is a scientific analyst at Morrison & Foerster, LLP.

Michael Humbert, Chem '14 is a Senior Data Scientist at Best Buy. Humbert completed a Ph.D. in engineering at Notre Dame.

Carla Saunders, Chem '14 finished a Ph.D. in chemistry at University of California-Davis and is doing post-doctoral work at the University of Bath, UK.

Alex Frie, Chem '15 earned a Ph.D. in Environmental Chemistry at University of

California, Riverside and is doing post-doctoral study at the University of Minnesota-Duluth.

Anna Luke, Chem '15, started a position as a visiting Assistant Professor at Macalester College.

Haley Chatelaine, Chem '16 finished a Ph.D. in Human Nutrition at the Ohio State University and started a position as an IRTA (Intramural Research Training Award) Post-Doctoral Fellow at the National Center for Advancing Translational Sciences, part of the NIH in Rockville, MD.

Becca (Flynn) Klinker, Chem '16 finished a Pharm.D. at University of Minnesota and is a Clinical Pharmacist with Gunderson Health System.

Forrest Hyler, Chem '16 recently co-authored a paper, "Stabilizing Hydrogen Adsorption through Theory-Guided Chalcogen Substitution in Chevrel-Phase Mo_6X_8 (X=S, Se, Te) Electrocatalysts", *ACS Appl. Mater. Interfaces* **2020**, *12*, 32, 35995–36003. Hyler is a graduate student at UC-Davis.

Raymond Twumasi, Chem '17 was one of 12 winners of the inaugural Merck Chemists of Color Award. Twumasi is a

senior graduate student at the Ohio State University.

Emma Bonglack, Bchm '17 was a co-author on a recent publication, "Single-cell RNA-seq reveals transcriptomic heterogeneity mediated by host-pathogen dynamics in lymphoblastoid cell lines" (*eLife* 2021;10:e62586). Bonglack is a graduate student at Duke University.

Shelly Peterson, Bchm '18 is starting a master's in materials science at the University of Washington.

Keyla Flores, Chem '19 recently accepted a new position at Authentix in Addison, TX.

Kirk Gronda, Chem '19 has taken a new position as an Additive Engineer at Cretex Medical.

Augie Witkowski, Chem '19 earned a master's in chemistry from University of Oregon and is a Senior Materials Engineer at Medtronic.

Allison Grodnik, Bchm '20 started graduate study in Biochemistry, Molecular Biology, and Biophysics at University of Minnesota.

Updates from Ardolf

News from current students, faculty & staff

Gabi Lott, Bchm '22 won the First Place Poster Award in the Medicinal Chemistry Division at the 2021 Great Lakes Regional Meeting of the American Chemical Society. Lott's research was performed under the guidance of **Prof. Ed McIntee** and **Prof. Henry Jakubowski**.

Anna Zeleny, Chem '21 won the Second Place Poster Award in the Undergraduate Research in Polymer Science Symposium at the Spring 2021 National Meeting of the American Chemical Society. The \$200 award was sponsored by the POLY/PMSE MACRO committee. Zeleny's work was done with **Prof. Chris Schaller**.

Hiep Nguyen has been hired as the new stockroom fellow. The stockroom fellow is an assistant manager position under the stockroom director, **Paola Forero Bello**. Originally from Vietnam, Nguyen is a graduate of Willmar High School and St. Cloud State University. Nguyen enjoys making pottery in his spare time.

Dream Job in Cosmetics (continued from page 1)

Cavendish: How did you get interested in working in personal care products?

Xiong: I have always had a passion for skincare and cosmetics, so during college, I tried finding a way to connect what I loved with what I was studying -- which was chemistry. I started googling how I can connect the two and found that cosmetic chemistry was a real thing! I immediately started looking at grad schools that had a personal care/cosmetic emphasis and stumbled upon the East Coast -- the hub of pharmaceuticals and cosmetics.

Cavendish: What are some typical activities in your job?

Xiong: There are always things to do working at a contract manufacturer! If I am starting on a new formula, my typical day would be to research actives based on the product brief and draft up a paper formula. If a raw material I am using is not coded in our system, I have to fill out a proc to do that. If I have a formula approval, I will have a scale-up and do Recommended Label Claims and Fill Weights for packaging. Aside from all of this, I also handle a lot of other things, such as creating a manufacturing procedure and scaling it up in the lab before it goes to pilot, conducting preliminary stability to ensure the formula is stable before approval/during the approval process, troubleshooting instability issues, and connecting and building relationships with raw material suppliers.

Cavendish: Are there some favourite aspects of your job?

Xiong: Yes! My favorite aspect about my job is that I get to see my products on the shelves of major retailers like Sephora, Ulta, Target... It is a really rewarding feeling. I also love the fact that we have a

community of cosmetic chemists called the New York Society of Cosmetic Chemists that offer networking, courses, and other events, such as Suppliers Day, for the industry to get together and connect!

Cavendish: Did you need special training to get your position?

Xiong: The New York Society of Cosmetic Chemists is a great way for students to network for internships and apply for entry-level chemist positions. They also offer virtual courses on different topics such as formulating emulsions, learning about raw materials, and trends in the cosmetic industry. I decided to go to grad school to get a better sense of the industry. I received my Master of Business and Science in Personal Care Science from Rutgers University in 2020, and that has opened my job pool to either choose a product development/marketing route or a technical route. Having a business degree coupled with a science degree can really help accelerate the path(s) you choose to take! Nonetheless, my graduate program helped me gain the technical expertise I needed to know about formulating personal care/cosmetic products, and how to build a brand from scratch!

Cavendish: You don't work all the time. What do you do for relaxation?

Xiong: I have taken up a few hobbies since graduating and working full time! Last month I took horseback riding lessons with this beautiful horse named Tita, and it was wonderful to connect with her. I also recently started golfing again as well and am loving the joy it brings me after a hard day's work! Other than that, I enjoy spending time with my dog, visiting new restaurants and exploring the great outdoors that Upstate New York has to offer!



Xiong (rear, 2nd from left) on an Arizona vacation with friends (including Zoua Pa Vang, Chem '18, front right).



Welcome home!

Grad Launch *What the Class of 2021 is Doing Now*

Chemistry graduates from the Class of '21 have already started the next stage of their lives with the beginnings of new careers.

Leandria Albury is studying in the University of Minnesota School of Public Health for Public Health Administration and Policy.

Zoe Allyson is pursuing a Masters in Health Science, Prosthetics and Orthotics at California State University, Dominguez Hills.

Elise Bearrood works at Pace Analytical in Minneapolis. She is in the Semi-Volatile Department, where primarily tests soil and water samples via GCMS.

Amanda Bicknell is doing her student teaching placement through CSB, with the goal of a position as a high school teacher.



The Cavendish Chronicle

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College of Saint Benedict | Saint John's University

Mai Chee Lee started graduate school in Population Health at University of Wisconsin- Madison.

Noelle Fursa is an Associate Scientist in the Biologics Division at Catalent Pharma Solutions.

Seth Jackson is pursuing Ph.D. studies in chemistry at the University of Utah.

Kalista Jager is at Beckman Coulter.

Johanna Jernberg is a Research Chemist at the US Army Engineering Research and Development Center in Vicksburg, Mississippi. She is supported in the position through a fellowship from the Oak Ridge Institute for Science and Education (ORISE).

Joe Meier joined the Benedictine Volunteer Corps and is spending the year in Tanzania in southern Africa.

Anna Zeleny had a summer internship at Los Alamos National Laboratory in northern New Mexico. Her work centered on fuel cells with polymer membranes. This fall she is heading to the University of British Columbia for graduate school.

The 2021 graduates of biochemistry, an interdisciplinary major between the biology and chemistry departments at CSB/SJU, have started on the next stage of their journey after finishing college.

Samantha Bruce is a Medical Scribe at Aris Clinic.

Hordofa Burka is studying public health at Touro University in California.

Kieyarrah Dennis is in the University of Wisconsin-Milwaukee's Ph.D. program in the School of Freshwater Sciences. She got a head start over the summer by working with buoy deployments, acid digests of mangrove cores, and learning different programming codes such as R.

Gracie Donohue is a Quality Control Lab Analyst for Aurora Pharmaceutical.

Bergin Flom is working as a medical scribe at CentraCare Plaza in Saint Cloud.

Hannah Johnson is working in a quality control position at General Mills.

Johnathan Johnson is an Operating Room Runner for Hospital Pathology Associates at Abbot Northwestern Hospital.

Aubree Lahr is attending the University of Minnesota School of Pharmacy, Twin Cities campus.

Allison Lewandowski is an Optometry Technician at Carlson & Tillish Eye Clinic.

Patrick Mullon is with the Benedictine Volunteer Corps in Tanzania.

Connor Mikolich found a position as a medical scribe in Burnsville through the Emergency Physicians Professional Association (EPPA).

Jack Scheck is serving with the Benedictine Volunteer Corps in Tabgha, Israel.

Drew Nielsen is a Medical Assistant at Minneapolis Clinic of Neurology.

Ellen Otto is in the Biomedical Engineering Masters Program at Carnegie Mellon University in Pittsburgh.

Cassidy Resmen is working at Pace Analytical as a toxicology regulator. She is also attending graduate school at University of North Dakota in Population Health Research and Statistics.

Amber Rudenick is employed at Minnesota Valley Testing Laboratories.

Buck Strain is working on a masters in chemistry at University of Minnesota - Duluth.

Mackenzie Swanson is employed at iSpine Pain Physicians as a Clinic Assistant.

Ryan Thompson is working as a pathology aide with Hospital Pathology Associates.

Colin Yokanovich was a summer intern at the U.S. House of Representatives and has since been promoted to the post of Legislative Correspondent.