

The Cavendish Chronicle

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*Dingle Peninsula, Ireland.
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Christopher Bannochie in
Ephesus, Turkey, 2011

Alum Tackles Waste, Travels the World

By Alex Messner

When someone thinks of the classic image of a chemist, the image of someone watching a dangerous radioactive material through a thick window may come to mind. But for **Christopher Bannochie, Chem '84**, this is just another day at work. Bannochie is a Senior Fellow Scientist at the Savannah River National Laboratory (SRNL) in South Carolina. As part of his daily activities, he works with mercury of various species found in the liquid waste system. Recently,

Bannochie's team presented a report to the Department of Energy's Environmental Management Technology Development Office about their efforts in extracting and speciating mercury in high-level radioactive waste solids using selective sequential extraction, marking the first time a feat like this has ever been attempted. This work was completed using apparatus that included leaded glass windows, thick concrete walls, and a master-slave manipulator.

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The Blue Mosque, Istanbul, Turkey (2011)

National Lab & World

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Bannochie also serves as project manager for the lab's Electronic Laboratory Notebook system, which manages instrumentation, measurement systems, and reference standards. SRNL has thousands of pieces of equipment across its numerous laboratories that have been used by countless organizations. To create better cooperation between groups and improve functionality, Bannochie's Electronic Laboratory Notebook will contain tracking and records management and standardize usage data.

In addition to holding down a demanding career in a national laboratory, Bannochie is also an active member in the social aspect of chemistry as well. He often works closely with ACS. For example, he helped SRNL in sponsoring the 70th Southeastern Regional Meeting of the American Chemical Society in Augusta, GA in 2018. He is the General Co-Chair, responsible for managing the organizing committee across the Savannah River Local Section.

Bannochie's graduate work was in inorganic chemistry at Texas Agricultural and Mechanical University. He went on to do a postdoctoral appointment at the Mallinckrodt Institute of Radiology at Washington University in St. Louis,

gaining experience working with radioactive materials which would aid him later in his career. In his current laboratory, he has worked his way up over the past 26 years from Senior Scientist to Senior Fellow Scientist.

Despite his active presence in the chemistry world, Bannochie still has enough time to pursue leisure activities, ranging from mundane yard work to world travel. He has visited 36 countries across all seven continents (Antarctica completed his bucket list). Travel gives him the chance to practice his other hobbies of photography and scuba diving. He already has his next trip planned, where he will be headed to Egypt to visit his freshman roommate at St. John's, who is the Controller at the U.S. Embassy in Cairo.

His years spent at St. John's are a fond memory for Bannochie. He still manages to visit every so often, even if it is just for a night in the Guest House. He says that the skills he learned in critical thinking through his liberal arts education is priceless, because it really demonstrates that the world is a complex place outside of the classroom walls. He also made his first contact with the ACS through Chemistry Club, no doubt an important stepping stone in his life. Little did he know the great things he would go on to achieve in the chemical society in his future.



Antarctica (2014)



Stonehenge, England (2016)



Postcards from Abroad



"During my last week in Japan, we visited Miyajima island, home to the iconic floating torii gate of Itsukushima Shrine and residence to a large deer population that are not afraid to bite into any food that's near." -**Amethyst Demeritte, Chem '19**



"I was on a day trip to the Dingle Peninsula in Ireland working my way around Sleah Head Drive." -
Caitlin Loeffler, Chem/Educ '19



"Wine tasting at the Château Rêva vineyard – La Motte, France." -
Wendy Osci-Bonsu, Bchm '19

Chemical Kinetics: CSB Senior Mixes Science, Athletics

By Makenzie Horrigan

Riley Swenson: biochemistry major, pre-med, sociology minor, first-generation student, lifelong golfer. All college students lead busy lives, but Swenson is a dynamo.

Science has been a natural field of study for Swenson, and biochemistry was the perfect major, combining biology and chemistry while preparing her for a future as a doctor. Her minor in sociology helps develop people skills, allowing her to study how both people and society operate, gaining valuable insight for patient care.

Swenson has also been a member of the CSB Golf Team during her four years at St. Ben's, a sport she started playing as a three-year-old with her father. "[Athletics] has brought me a second family through the golf girls who I can always count on," Swenson said.



She appreciates the atmosphere of CSB/SJU as she is able to balance a biochemistry major and playing golf. "Here they make it so both are a priority," Swenson said.

Golf is not the only activity Swenson must balance with her demanding course load. She also runs the BenCO swim program, sits on the Chemistry Club executive board, works in the Chemistry department as a tutor and a TA as well as Athletic Media Relations, and is a

biochemistry mentor. Amidst her busy schedule, Swenson also found time to study abroad in Cork, Ireland for a semester.

After graduation in the spring, Swenson plans to take a gap year to study for the MCAT and work in a medically-related field. Her eventual goal is a life of practicing medicine in Minnesota.



Tech Savvy Provides Mentoring & Fun for Girls

By Makenzie Horrigan

Middle school girls donned their safety goggles and participated in the day-long Tech Savvy conference at St. Cloud State University in St. Cloud, Minnesota last November. It was the third year that Tech Savvy has been striving to gain middle school girls' interest in pursuing a career in a STEM field through fun, exciting science workshops. It was the largest turn out yet, with 134 participants.

CSB/SJU Chemistry Faculty, Drs. Alicia Peterson and Annette Raigoza helped coordinate Tech Savvy workshops. Peterson and Raigoza recruited thirty-five CSB students to partner with SCSU students at Tech Savvy to help with registration, conduct workshops, and sit on panels.

Since Tech Savvy is an initiative to get young girls engaged in STEM, CSB students were asked to volunteer and act as role models in science. Tech Savvy believes it is important for young girls to see women succeeding in STEM fields, especially when historically, STEM fields have been dominated by men.

Girls in 5th – 9th grades are eligible to participate in Tech Savvy, which incorporates all aspects of STEM, from chemistry and biology to physics and computer science through various hands-on workshops. Participants sign up individually for workshops that sound interesting to them. This year, CSB chemistry and biochemistry majors coordinated two chemistry-oriented workshops: Harry Potter's Wizarding Science and the Science of Star Wars.

Hannah Holst, Chem '18 volunteered at the Harry Potter workshop. "I remember being their age and I had no idea that these opportunities existed, but the fact that these girls are already aware that [STEM fields] are options is awesome," Holst said.

The Harry Potter's Wizarding Science workshop was envisioned by Caitlin Loeffler, Chem '19. Loeffler has been a Harry Potter fan since elementary school, and first developed a Harry Potter "chemistry magic" activity for an incoming cohort of the FoCuS summer bridge program. Within the Harry Potter workshop, Tech Savvy participants partook in mini-experiments dealing with various chemical concepts. The experiments included: "Troll Slime" polymer investigation, "Dragon's Breath" electromagnetic spectrum explorations, "Crystal Ball" sublimation science, and "Potions" acid-base chemistry.

Heidi Koenig, Chem '19 developed the idea of the Science of Star Wars workshop. Experiments included the fluorescence that makes light sabers (and glow-sticks) dependable in space combat as well the non-Newtonian fluid Oobleck. Claire Nelmark, Chem/Phys '18, was one of the volunteers at the Science of Star Wars workshop which explored other chemistry concepts. "I really enjoyed interacting with the girls because they were so eager

to be there and learn the science behind the experiments," Nelmark said.

Tech Savvy volunteers made career exploration fun for the participants through the live demonstrations.

"We tried to relate all the workshop topics to careers that the girls could pursue in the future as scientists, such as industry, pyrotechnics, and quality control for food and other household goods," Loeffler said.

Tech Savvy offered panels for the parents to attend while their daughters were learning about Troll Slime and Oobleck. Raigoza sat on a panel of professors, while Bridget Ebert, Sam Tinucci, and Grace Lindquist, Chem '18 all sat on a panel of college students. Panelists discussed topics of financial aid and the college application process. The hope is to get parents thinking about the future early, so that they can support and encourage their daughters to pursue careers in STEM fields.



Gift Made in Honor of Alumna

A \$2,500 memorial gift has been made to the Chemistry Department in honor of Antoinette Pollock Hunstiger, Chem '49, and her husband. Hunstiger worked at Pillsbury, where she was part of the team that developed the "Funfetti" cake. The gift was made by her daughter, Susan Schneck.

Alum Notes

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delivery division. He has settled down to teach physics and chemistry at North Community High School in Minneapolis.

Jim Kuderer, Chem '04 graduated from Des Moines University as a Doctor of Osteopathy and completed residency in otolaryngology (ear, nose, and throat) surgery. He practices with Park Nicollet in St Louis Park, MN.



The Cavendish Chronicle

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Nick Briese, Chem '06 graduated from the University of Minnesota Medical School and completed residency and chief residency at Hennepin County Medical Center in Internal Medicine. He currently works as a hospitalist, supervises residents at HCMC and teaches medical students at the University of Minnesota.

Katie Pokorny, Chem '07 finished pharmacy school at the University of Minnesota and completed a pharmacy residency at HealthEast Care System. At HealthEast, she helped establish medication management services (MTM) in the primary care clinics.

Anne Hylden, Chem '10 earned a M.S. in Inorganic Chemistry from the University of Pennsylvania. She has been teaching high school math and science at Georgetown Visitation Preparatory School in Washington, DC.

Hang Zhang, Chem '11 graduated from the lab of Professors George Olah (Nobel Prize in Chemistry, 1994) and Surya Prakash at the University of Southern California. She works as an Air Quality Chemist at the South Coast Air Quality Management District, where she runs air toxics analysis for federal programs and is involved in the laboratory testing of low-cost air quality sensors. She lives in Santa Monica, CA, with her husband.

Christine (Lucachik) Gelo, Chem '12 graduated as a Doctor of Dental Surgery from U of MN and has been practicing with Lucachick Dental Office in International Falls, MN. She recently married a high school classmate.

Krista Barzen-Hanson, Chem '13 defended her PhD thesis at Oregon State in January '17, completed a postdoc in the Department of Biological and Environmental

Engineering at Cornell, and will be starting a tenure-track position in analytical chemistry at Elmira College.

Erin Wissler, Chem '14 graduated with a Masters in Public Service Administration from Marquette University and works at the Center for Peacemaking, a research institute associated with Marquette.

David Crotteau, Chem '14 completed Officer Candidate School for the US Marines in Quantico, VA and flight training in Pensacola, FL. Having learned to fly the CH-53E Super Stallion, the US military's heaviest transport helicopter, he is now ready for deployment in San Diego, CA, where he will be joined by his fiancé, Anne.

Kyle Spengler, Bchm '16 has accepted a job as a process chemist and drug substance manufacturer at Avista Pharma Solutions.

Student Athlete Honored

Will Gillach, Bchm '18 was named a member of the Allstate American Football Coaches Association (AFCA) Good Works Team at the Sugar Bowl in New Orleans during early January.

For three years in a row, Gillach and other members of the SJU football team have raised money for St. Jude Children's Research Hospital. He has volunteered with Kids Against Hunger, helping to pack nearly meals for both local food shelves and international aid. Gillach also mentors children at Anna Marie's Alliance-Domestic Abuse Shelter in St. Cloud.



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