



The Cavendish Chronicle

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Joe Freemark on defense, page 2

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The Vander Louw family visit a tea plantation in Sri Lanka

A World of Opportunity for CSB/SJU Chemistry Alum

For Steve Vander Louw '92, traveling the globe and solving problems is all part of the job. Vander Louw currently serves as the business director for the Masking, Packaging, and Personal Care business at 3M. It's an important position within the company. "This makes me responsible for the overall business performance, strategy,

and execution of these commodities at 3M," explained Vander Louw. "Day to day activities center around customers –what new products are needed, what new technology combinations from 3M can fulfill those needs, as well as operational items such as supply chain, pricing, and manufacturing planning."

After graduating from SJU, Vander Louw pursued a Ph.D. in synthetic organic chemistry at Iowa State University. "My area of specialization was natural product synthesis – taking the molecules that had been isolated and characterized by other chemists and then deriving the most (continued page 4)

A Glimpse of the Senate Chambers



For some college students, the time available outside of classes just provides more opportunity to get involved. **Frantz Soiro, Chem '16**, and **Ian Durbin, Bchm '17**, spend a little of their extra time serving on the St. John's Senate (SJS). That work helps them give something back to their community.

"At the senate's most basic level we allocate the student activity fund back to the

student body," explained Durbin. "Clubs and organizations come and present to the senate every Monday for various funding requests." For example, the SJS has allocated funds to the Outdoor Leadership Center to purchase bikes that are available for the campus community to borrow on an everyday basis.

In addition, individual senators carry out specific functions necessary for the work of the senate. Soiro, for example, is the Public Relations Representative for the SJS. Among other things, he meets periodically with the editors of *The Record* to ensure open communication between the SJS and the newspaper.

Durbin has served on the senate since his freshman year. He has served as First-Year Representative, Public Relations Representative, and Men's Issues representative.

Both students have specific goals they are interested in accomplishing in the senate. For example, Durbin wants to promote Johnnie participation on campus, getting students out of the dorms and into

campus life. He thinks that the newly formed Men's Development Institute will play an important campus role in this regard. Soiro wants to improve communications between SJS and the student body, including social media outreach and Voice Your Opinion events that allow students to raise issues that they see on campus.

Durbin was involved in Boy Scouts growing up, eventually becoming an Eagle Scout, but had not participated in student government before college. Seeing a friend put together a campaign for the senate, he just decided to get involved and give it a try himself.

Soiro has been highly involved on campus, although this is his first year on SJS. He served on the Archipelago Association board during his first year and was Co-Chair of the association the following year. A member of Element dance club since its creation three years ago, he now serves as the club president. He has worked in the Admission Office as a tour guide since his sophomore year, serving more recently as the Student Overnight Coordinator. He has also been a tutor, a FoCuS mentor and a teaching assistant in the chemistry department. "I've always had a passion to lead," said Soiro.

That passion will likely guide the way to enriching careers in a few years. Durbin hopes to enroll in medical school after graduation; Soiro plans to serve in the Benedictine Volunteer Corps for a year, then apply to graduate school in Public Health.

**Soiro &
Durbin: "A
passion to
lead"**

Freemark on
the Ice



Chemical Kinetics

Freemark Balances Hockey, Class, Labs

By Alex Messner

Joe Freemark, Chem '16, has always been interested in how things work, so it's no surprise that he pursued a science degree in college. As a high school student, he was highly encouraged by his father to study math and science; they were the only grades that mattered. Freemark soon encountered chemistry, which he found to be challenging enough to keep him interested. He says that he was always good at chemistry, though, and he attributes his success to the motivation from his parents.

Now, Freemark is a senior chemistry major and hockey player for Saint John's. His favorite college course was Sustainable Energy (with **Dr. Richard White**) because of the passion and creativity required of him. He also enjoyed Macro and Micro chemistry because they both incorporated math, another of his favorite subjects. Following his graduation in the spring, he plans to find a job using his science background, preferably in pharmaceutical or medicinal sales.

Freemark understands how overwhelming coursework can be at times for underclassmen. While he admits that even he would occasionally become

frustrated, he now looks back on his time in the program with a higher regard, because he can see the results of all that work.

"It goes by so quickly," Freemark says. "Don't be afraid to take a step back and truly enjoy what you are going through. It's a process, but you have to trust the process."

Hard work isn't new to Freemark. He began playing hockey at the age of four, which he says was actually later than many of his friends. While his parents never actually played the game, his family's love of the sport stemmed from his uncles, and his mother was determined to get him into skates as well. Today, Freemark is a defenseman for St. John's. At 5'9", he is often smaller than the opponents he faces. In order to compensate, he tends to play smarter and more quickly than his opponents.

During the season, days can be pretty crazy for Freemark. He usually has classes from 8:00 am to 12:00 pm. After lunch and a short nap, he heads off-campus to the hockey rink for practice. Most nights, he will remain at practice until 8:00 pm, followed by dinner at Gorecki with some of his teammates, and finally

working on homework for the following day. Despite his busy schedule, he enjoys it all nonetheless.

For many students, balancing athletics and academics can be a struggle, and Freemark is no exception. He finds that school is always more stressful during weeks with important games. But in his eyes, the positives outweigh the negatives. Hockey was always a motivator for his academic life. When he was younger, his parents always threatened to take away hockey if his GPA dropped too low, so Freemark never allowed that to happen. He has also learned valuable lessons in teamwork. While he has not liked all his teammates over the years, Freemark has learned to appreciate the different skills that each player can bring to the ice. He particularly enjoys seeing how a group of people can come together to work as a team, a concept that is valuable both on and off the rink. Hockey has also been a great way to relieve stress, as it provides a time for him to focus on something other than school and the future, and just be in the moment with his friends and teammates.

**Posts in
Singapore
and
Shanghai
to oversee
major
operations
for 3M**

Vander Louw Steps up to the Plate for 3M

(from page 1) efficient synthetic pathway to the final product,” explained Vander Louw. He compares the process to playing with an enormous Lego set with his kids, but without any directions: challenging but fun.

Upon the completion of his studies at Iowa State, Vander Louw returned to 3M, where he had worked as a summer tech aide in 1990 and 1991. His career pathway at 3M took him through a number of different aspects of the company. He started in the lab as a product developer, then moved to technical management after three years working on the bench. After being trained as a Six Sigma “black belt” – an industry-wide, a data-driven approach to management -- he moved over to the business side of operations to become the global product manager for abrasives in the automotive aftermarket. That move eventually led to a post in Singapore to develop 3M’s automotive aftermarket business in Asia. After about five years, he returned to the US, and eventually became the Technical

Director of the Automotive Division. Another five-year post to Asia landed him in Shanghai, this time as Regional Business Director. He recently came back to the US again to assume his new role.

“The global scope and complexity of the business are what keep me excited each day,” said Vander Louw. “We have major, global customers and need to adapt to their needs regardless of the country where we are doing business.” He enjoys the chance to travel internationally and to interact with counterparts in different countries.

It helps that Vander Louw’s wife also enjoys travel. Nevertheless, any high-level position can put strain on a family, and Vander Louw acknowledges that fact.

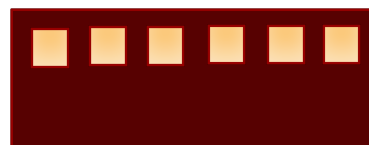
“If you let it, your job can consume you,” he said. “you have to be the one to set the boundaries.”

Vander Louw and his wife made an explicit choice to focus on the quality of the time that they spend together as a family, rather than the quantity of

time. Technology makes it easier to be apart and still feel connected, although there is still no substitute for being there for important events.

Vander Louw believes strongly that he made the right college choice with CSB/SJU, and has fond recollections of his time in the chemistry department. One memorable experience: the day his lab notebook started on fire. Although his instructor, Professor Emeritus Bill Muldoon, complimented Vander Louw on his cool handling of the situation, 3 points were still deducted for incomplete lab notes (some of which had been burned away).

Asked what advice he would give students now, Vander Louw doesn’t hesitate: “Get out of Minnesota. Get out of the US. It is a big world out there.” He credits his own willingness to go where he was needed as a major factor in his own personal growth. Still, he will never stay away from Minnesota for too long, and he always eventually returns to his family and friends.



Postcards From Abroad



Sarah Clark, BChM '17: "I studied abroad in Rome, Italy, and Athens, Greece. This picture was taken on the Greek Island Hydra. No cars are allowed on the island, so donkeys are the primary mode of transportation! I loved the welcoming people and relaxed pace of life on this little island."

Grace Lindquist, Chem '18: "I traveled to Rwanda with Extending the Link. On our first day we met with a group of women. While the women were showing us their crops, they kept pointing to trees that were dispersed throughout the fields saying they were good for the crops. Finally, our translator asked, 'do you know what nitrogen fixation is?' ... Throughout the entire interview this group of kids kept sneaking up behind me, poking me and running away."



Maeve Ryan, Chem '17: "This photo was taken on our long-weekend trip to Pucón, in the south of Chile. Volcano Villarica, in the background, is the most active volcano in Chile and made international news a year ago when it erupted. In our four days in Pucón, we went horseback riding in the Andes mountains, white-water rafting, ziplining, and explored the city. I had a blast, and it made the 12-hour bus trip one way worth it."



Chem
and
Biochem
Students
Travel the
Globe



Alex Vanyo, Chem '17: "[This photo is at] Hohe Tauern National Park, which is the largest national park in Austria. This was at the top of the 380m waterfall and the only way up there was to hike up the dirt path alongside the waterfall. [It] is the Krimml waterfall and it is the highest waterfall in Europe. I climbed and jumped between some rocks on the river to get to where I took this picture. Located about 5-10m behind me is where the waterfall actually happens so the current was very strong especially at this location."

Hot Off the Presses: Recent Publications in the Chemistry Department

J. J. Gair, A. J. Young, J. J. Scepaniak, P. M. Simone, C. T. Chau, A. A. Peterson, E. M. Nessel Ferguson, W. N. Oloo, D. T. Welna, J. I. Siverson, L. M. Stahl, C. P. Schaller, "Reaction of a Polyphosphino Ruthenium(II) Acetate Complex with Grignard Reagents: Halogenation, Alkylation and β -Elimination", *J. Organomet. Chem.* **2016**, 801, 42-47.

E. J. McIntee, K. J. Graham, E. C. Colosky, and H. V. Jakubowski, "A Size Exclusion Column Chromatography Experiment", *J. Chem. Educ.* **2015**, 92, 2126-2129.

C. P. Schaller, K. J. Graham, B. J. Johnson, T. N. Jones, E. J. McIntee, "Reactivity 1: A Foundation-Level Course for Both Majors and Non-Majors in Integrated Organic, Inorganic, and

Biochemistry", *J. Chem. Educ.* **2015**, 92, 2067-2073.

B. J. Johnson, K. J. Graham, "A Guided Inquiry Activity for Teaching Ligand Field Theory", *J. Chem. Educ.* **2015**, 92, 1369-1372.

C. P. Schaller, B. J. Johnson, K. J. Graham, "Modules for Introducing Organometallic Reactions: A Bridge Between Organic and Inorganic Chemistry", *J. Chem. Educ.* **2015**, 92, 1369-1372.

Alum Notes

Check out the archive!
<http://employees.csbsju.edu/cschaller/cavendish/Cavendish.htm>

Danelle Rolle, Chem '12, has been awarded a Compton Graduate Research Travel Award from the College of Health and Human Sciences at Purdue University, where she is a fourth-year graduate student in Occupational & Environmental Health. Rolle was also a recent recipient of the Purdue Black Graduate Student Association's Humanitarian Award.

Krista Barzen-Hanson, Chem '13, was invited to join the

AAAS/Science Program for Excellence. The program seeks to identify promising young scientists for sponsored membership in the American Association for the Advancement of Science. Barzen-Hanson is a National Science Foundation Graduate Research Fellow at Oregon State University.

Mai Chee Vang '15 has accepted a position at 3M.

Ardolf in Brief

Dr. Anna McKenna was on sabbatical in the fall, dividing her time between CSB/SJU and home in South Carolina. She developed new instructional materials for use in Chem 125.

Dr. Ed McIntee is on sabbatical this spring, working on phosphatase inhibitor research and doing some grant writing at CSB/SJU. Also on sabbatical this spring, **Dr. M. A. Fazal** is doing nanoparticle research, both at CSB/SJU and at North Dakota State University.

Dr. Annette Raigoza was awarded a Research & Engineering Apprenticeship Program grant from the Army Educational Outreach Program, enabling two high school students to work in the lab for the next two summers.

Dr. Lisa Engstrom, Chem '05, is teaching Chem 202 lab this semester. Engstrom earned a Ph.D. from the University of California, Davis, and did post-doctoral work at the University of Minnesota.

Asha Kopp, Bchm '15, is the assistant stockroom manager in Ardolf this semester.



Tinucci (above); Engstrom (right); Kopp (far right)



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biochemistry students

The College of Saint Benedict | Saint John's University

Tinucci Takes Prize

Sam Tinucci, Bchm 18, presented at the Undergraduate Research in Molecular Sciences 10th Meeting in Moorhead, October 9-10. Tinucci was awarded a \$500 Red River Valley section of the American Chemical Society Travel Award to the Spring 2016 National ACS meeting. Tinucci's research, with **Dr. Ed McIntee** and **Dr. Henry Jakubowski**, focuses on inhibitors of protein tyrosine phosphatase.