

THE CHEM CHRONICLE

Gustavus Adolphus College Chemistry Department



Welcome to the First Chem Department Newsletter

By Ryan Schimek '24 and Katy Cash '24

Hello students, faculty, and alumni, and welcome to the Gustavus Chemistry Department's first Newsletter! We hope you continue to read the newsletters to stay up to date on faculty in the department, upcoming events, what is happening with research on campus, and more. Including a tour of the New Nobel addition, as pictured above, and the renovations which will be a focus for a later edition.

IN THIS ISSUE

**AN INTERVIEW WITH
DR. BRIAN O'BRIEN**

UPCOMING EVENTS

**INTRODUCTION TO THE
NEW DEPARTMENT
CHAIRS**

**A LOOK AT GUSTIE
SUMMER RESEARCH**

ABOUT THE AUTHORS

AN INTERVIEW WITH DR. BRIAN O'BRIEN

Dr. Brian O'Brien

Dr. Brian O'Brien or B.O.B. as students affectionately call will officially be retiring at the end of the '23-'24 academic year. As such, a special feature in the first Gustavs Chemistry Newsletter was appropriate. Dr. O'Brien has been at Gustavus ever since 1985 when he saw an ad in Chemical and Engineering magazine. During his interview, Dr. O'Brien had the opportunity to talk to several faculty and students from all across campus, and these conversations, along with the beautiful campus are some of the main reasons he has continued to work here for the past 38 years.

Dr. O'Brien frequently teaches the organic and inorganic courses offered at Gustavus but says that his favorite is Organic Chemistry III, because it's typically a small class, and everyone takes it because they want to be there. The students' presentations are always a high point in the class says Dr. O'Brien. He also says that he has stayed at Gustavus throughout the years because of the students. They are very enjoyable to be around, as well as the rest of the faculty not only in the chemistry department but across all of the departments on campus. Some favorite memories that stick out to Dr. O'Brien include the first time that Perry the Corpse Flower (Full name Hyperion) bloomed. It was the first time this type of flower had bloomed in Minnesota, and he said it felt like a dream to watch people come from all over to see it. This was an experience he had wanted to see his whole life. Another favorite memory was when he took one of his research students, Jason Schultz, to the Winter Fluorine Conference, and Jason ended up winning the award for best poster, as the only undergraduate presenter in the entire conference.

Dr. O'Brien's research has involved organic, inorganic, and electrochemistry over the years, as well as fluorine and phosphorous chemistry. This makes sense, being that fluorine is his favorite element due to its highly electronegative behavior. Which leads to a lot of unique properties.

Outside of chemistry, Dr. O'Brien enjoys cooking Asian foods, as well as furthering his lifelong interest in botany by exploring different nature preserves around Minnesota. His favorite plants are orchids, but particularly the Ghost flower of the Smokey Mountains, which is featured in the picture below. The Pink Ladyslipper, not Minnesota's state flower, is also one of his favorites.

After retirement, Dr. O'Brien plans to continue to visit friends and family, different natural preserves, as well as a lot of botanizing. He hopes to be able to do more traveling as well, and maybe even write some books about the different flora of Minnesota, especially inconspicuous green and white flowers of Minnesota.



UPCOMING EVENTS

STUDENT EVENTS:

GENERAL CHEM CLUB MEETING - SEPT 20

MEET THE PROFS - FIKA SEPT 22

NOBEL CONFERENCE WATCH PARTY - OCT 3

NATIONAL CHEMISTRY WEEK EVENTS - OCT 16-20

PAINT THE ROCK - OCT 16

BEAKER CUP PAINTING - OCT 17

PERIODIC TABLE COOKIE DECORATING - OCT 19

FIKA - OCT 20

CHEMISTRY DEPARTMENT HALLOWEEN PARTY - OCT 28

**UNDERGRADUATE CHEM AND BMB MENTORING
PROGRAM - STAY TUNED FOR FUTURE UPDATES**

COMMUNITY EVENTS:

**CHEM CLUB HOMECOMING DEMOS - SAT SEP 23
IN THE STEAMERY**

INTRODUCTION TO THE NEW DEPARTMENT CHAIRS

Dr. Amanda Nienow

Dr. Amanda Nienow came to Gustavus in 2007 after earning a Ph.D. from the University of Minnesota, followed by a yearlong postdoc at Purdue University. This is her second term as department chair, with her previous term lasting from 2015-2020.

Family is very important to Dr. Nienow, coming from a large extended family (over 60 first cousins). She also has three children, a son in high school, and a son and daughter in middle school. Along with working at Gustavus, she coaches her daughter's Math Master's team and loves being a part of the community at the Church of St. Peter and John Ireland school. One of Dr. Nienow's hobbies is going hiking, which she has done in places such as Rocky Mountain National Park, and the Auvergne region of France.

Her favorite class that she regularly teaches is Physical Chemistry 2, in part because of the material, but especially because of the "Fun Fridays" where the class discusses the history of quantum mechanics, what it means to be a scientist, science and religion, and much more. She has also loved teaching a Forensic Chemistry J-Term course many years ago.

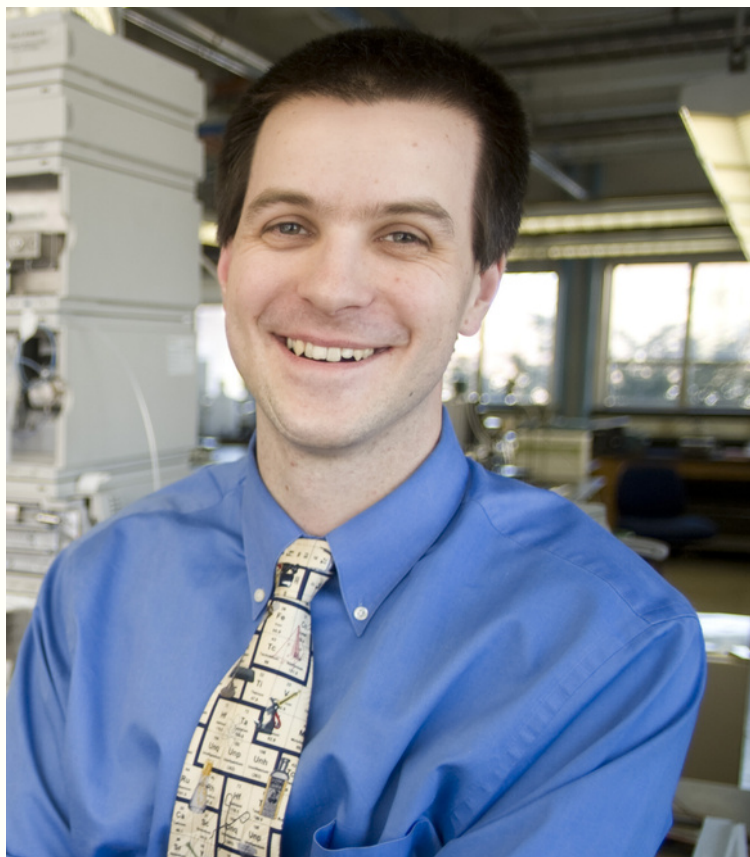
"MY FAVORITE THING ABOUT BEING AT GUSTAVUS IS WORKING WITH OUR STUDENTS!"



Dr. Nienow also performs research here on campus, with a focus on the environmental fate of pesticides, particularly with photochemical degradation. She models the solar spectrum in the lab and observes the reaction rates and products formed when pesticides are irradiated.

Her favorite thing about being at Gustavus are the students. In general, students are very engaged and eager to learn, and Dr. Nienow really enjoys getting to know them as people as well as students. She also likes taking the opportunity to reflect on the career paths alumni have taken and encourage current students to discover their post-Gustavus path.

INTRODUCTION TO THE NEW DEPARTMENT CHAIRS



Dr. Dwight Stoll

Dr. Dwight Stoll came to Gustavus in 2008 after earning a Ph.D. from the University of Minnesota following a rather unconventional path, which included nine months on a thoroughbred racing horse ranch in California, a three-and-a-half-year stint working in industry between his undergraduate and graduate years, and an undergraduate degree in plant biology. This is the second time that he has been a co-chair for the department, with his first term lasting from 2015 to 2020.

When asked what class has been his favorite to teach, Dr. Stoll claimed that it was an unfair question, saying that it was “a bit like asking which of your children is your favorite.” He has enjoyed everything he’s taught but for different reasons. He likes the equilibria topics in Quantitative Analysis because of the “mind muscle” that it builds. But he also finds teaching Instrumental Methods fun because the topics are just really cool and the capabilities that we have to solve scientific problems with modern instruments are amazing.

Dr. Stoll also performs research here on campus, focusing on the technique of liquid chromatography. Within this large domain, his group works in many different areas, including chemistry, engineering, statistics, and computer science. In the end, his goal is to see their findings applied in the real world, and as such they collaborate with other groups in fields such as pharmaceuticals, energy, and the life sciences to help them leverage the findings of his work.

Dr. Stoll’s favorite part about being at Gustavus is the unusually high concentration of good-spirited people on campus. People that are both highly competent and good at what they do, but also kind and generous, including faculty, staff, and students. This environment makes all the hard work more enjoyable.

“MY PATH IS ONE THAT SHOWS THAT A SATISFYING JOURNEY DOES NOT HAVE TO BE LINEAR. THERE ARE LOTS OF POTENTIAL WAYS TO GO THAT CAN TURN OUT JUST FINE.”

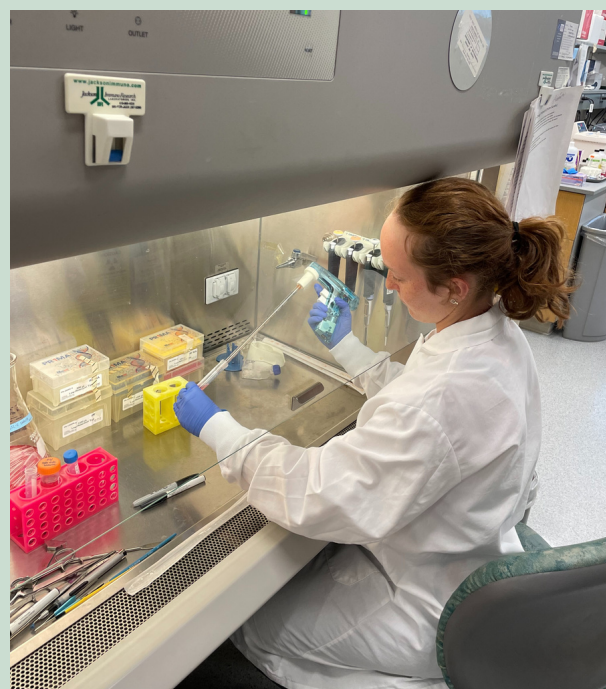
A LOOK AT GUSTIE SUMMER RESEARCH!

Gabby Stoudt

Gabby Stoudt class of '26 is a Biochemistry and Molecular Biology and Studio Art double major from Delano, MN. This summer Gabby worked with Dr. Kennedy Nyongbela at Gustavus to explore the volatile oil composition of three salvia species commonly found in Minnesota: *Salvia officinalis* (culinary sage), *Salvia nemorosa* (woodland sage), and *Salvia pratensis* (meadow sage). The focus was on determining if any natural products of the oils were different from European and Asian counterparts. The oils and some of the pure compounds were then tested for drug activity in Glioblastoma brain cancer, in hopes that a new drug discovery could combat cancer through natural products instead of synthetic derivatives.

Gabby decided to participate in summer research to allow her to experience what higher level research is like, and to determine whether she enjoyed research enough for it to be a future career path. Another consideration of hers was how research experience would look for future resumes and applications for graduate school.

She found out about this research opportunity through the First Year Research Experience (FYRE) program, and by working with Dr. Kennedy in his J-Term research class. Although Gabby was not selected for the FYRE program, she was awarded the Johnson-Peterson Research Fellowship Grant which allowed her to continue her work this past summer. Finally, in addition to research, Gabby is also on the diving team at Gustavus and enjoys hiking, camping, and rock climbing.



A LOOK AT GUSTIE SUMMER RESEARCH!

Cyemone Nusser



Cyemone Nusser class of '24 is a Biochemistry and Molecular Biology major from Mankato, MN. Cyemone's favorite skin tumor is a spitz naevus, which is a star-like mole that mimics melanoma but is benign. This goes along with her future plans of becoming a dermatologist. However, this summer, Cyemone worked with Jace Marti of Black Frost Distillery in New Ulm, MN to learn about and conduct research in the field of distilling. She learned all about the scientific process of distilling, including everything from yeast cell counting and pitch rate calculations to gravity experiments and nutrition type analysis testing. Cyemone also worked with specially made distillation equipment to analyze fractions collected from several different whiskey and rum samples.

Cyemone learned about this opportunity from Dr. Jim Parejko of the Gustavus Biology department, who wanted to inform students about an opportunity to work with his colleague at Black Frost Distillery. After her interview with Jace, Cyemone decided that this was a great opportunity to learn more about the unfamiliar field of distilling, and decided to apply.



ABOUT THE AUTHORS

Katy Cash

Hi! My name is Katy Cash and I am a class of '24 Chemistry ACS major with a Religion minor from Canton, MI. On campus, I am involved in Pound Pals and Chemistry Club as well as being a member of the gymnastics team. I have also been a TA and grader for various chemistry courses. Additionally, I have had the wonderful opportunity to conduct on campus research with Dr. Jeff Jeremiason and Dr. Dwight Stoll. I am so excited to be one of the Chemistry Academic Assistants this year, and I want to thank you for taking the time to read the first Chem Chronicle Newsletter!



Ryan Schimek

Hello! My name is Ryan Schimek and I am one of the Chemistry Academic Assistants this year. I am a class of '24 Chemistry major with a Sociology/Anthropology minor from Stewartville, MN. On campus, in addition to being an Academic Assistant, I am also President of the Chemistry Club, in the Gustavus Wind Symphony, and a grader and TA for various Chemistry courses. I want to thank you for reading our first Chem Chronicle Newsletter from the Gustavus Chemistry Department, and hope to see you in future newsletters!



Have ideas for future articles or events?

Please contact either of us at rschimek@gustavus.edu or ktcash@gustavus.edu