



SUNY Oswego Dept. of Chemistry

2018-2019

Letter from Chair-Dr. Fehmi Damkaci:

We had 30 undergraduate degree candidates and 5 graduate degree candidates this year. Several of the graduates are already employed or will begin their PhD program this fall. You can find more information about this year's graduating class on page 15.

We received a very generous donation from our alumni Peter and Andrea Bocko for supporting our summer research program. With their support, we were able to support every undergraduate summer research student this summer with a stipend at \$2,000 or more.

Here is a quote from one of our recent graduates regarding the importance of research in their education: "Research this past semester was phenomenal, I feel more confident in a laboratory, more independent, and was finally able see some of my experiences and lessons learned come to fruition".

We believe that the best way of educating future chemists is providing more research opportunities both during the academic year and in the summer. Any support from our alumni in that regard is highly appreciated by our department. I will ask for you to utilize your company's matching donation policies to help these young minds. All your donations go directly to our undergraduate and graduate students for their summer stipends or research-related expenses.

We would love to have you come by the department for a visit. Summers are more vibrant than ever in our department. If you would like to stop by and talk to our summer research students, please arrange a visit on a Monday. On this day we have summer research lunch get-togethers, which can provide a great opportunity for you to meet all of our summer researchers. Our students are always eager to learn from our alumni to help shape their future.

We have an alumni speakers program: we had 4 alumni last year in our majors only general chemistry and organic chemistry courses talking about their experiences as students and how their life has been shaped since they graduated from Oswego. We also have them lunch with students to have more one-to-one engagement and ask more personal questions about their future plans. Students always comment on these talks and visits and, therefore, we are always looking for our alumni to come to campus to serve as guest speakers throughout the school year. If you are interested, please drop us an email to set up your visit.

We also welcome any company related visits to recruit interns or new employees with the company.

There is so much exciting news related to our faculty and programs; such research funding, publications, sabbaticals, summer research, new collaborations, and international trips. Please enjoy reading our annual newsletter and continue to support SUNY Oswego Chemistry.

Dr. Fehmi Damkaci
Chair Department of Chemistry

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In Memoriam: Dr. Joseph William LeFevre (1952-2019)

We were all saddened by the death of Joseph LeFevre, professor emeritus of organic chemistry, who passed away on Thursday, Jan. 10, 2019. Appointed to our department in 1985, Joe retired in 2015 after 30 years of employment at the college. He received his Bachelor's degree from DePauw University in Indiana and his PhD from Virginia Tech.

Joe received the Chancellor's Award for Excellence in Teaching in 1994. He was also a renowned photographer – often recognized for his natural landscapes – and taught photography workshops across the country as one of the teaching staff of the Adirondack Photography Institute. Many of his fabulous campus images were used in college publications and cards over the years. His images can be viewed online at : <https://www.joelefevrephoto.com/Portfolios.html>



Joe is survived by his wife, Linda – who recently retired from her visiting assistant professor position in math, she also served as the First Year Residential Experience (FYRE) coordinator and GST instructor in Johnson Hall. And also his sons Robert of Nanuet and David of Oswego; daughter Joanna of New Jersey.

In Memoriam: Dr. Raymond T. O'Donnell (1931-2019)

We were also very saddened to hear about the death of Dr. Raymond T. O'Donnell, associate professor emeritus of Chemistry. He passed away on Feb. 1, 2019. Ray began his 42 years of service at Oswego in September 1964, and retired August 31, 2006.

Ray studied at Loyola College of Baltimore, the University of Minnesota and Michigan State University, where he earned his Ph.D. in Chemistry. He and the love of his life, Marylou, were married for 60 years and raised five children together, while he taught chemistry at SUNY Oswego. He was active in the American Chemical Society (ACS) for decades, a service that earned him a national award: the Henry Hill Award, the highest honor in the Professional Relations Division. Ray sponsored Oswego's ACS student affiliate chapter and served as its adviser from 1964 to 2001.



His love of music led him to become a church organist and choir director for 12 years at St. Mary's in Oswego. He also played at the weddings of many former students, which highlights the bond O'Donnell forged with students, both chemistry majors and non-majors alike. In a career spanning more than 40 years, he taught everything from large undergraduate survey courses to small seminars in instrumental analysis, his specialty.

An endowed scholarship has been started by **Dr. Todd Maloney '96** and his wife Donna in memory of Dr. Ray O'Donnell. If any alumni are interested in contributing (or making gifts) to The Raymond T. O'Donnell Scholarship in memory of Dr. O'Donnell, checks can be made out to "The Oswego College Foundation" and can be sent to: University Development- 215 Sheldon Hall- Oswego, NY 13126. Or given online at <https://alumni.oswego.edu/givenow>.

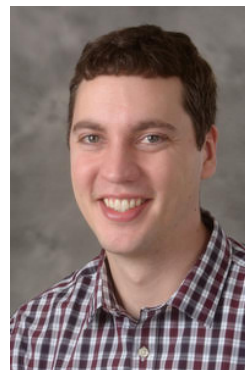
Faculty and Staff

Matthew Baker, Assistant Professor, Organic Chemistry

matthew.baker@oswego.edu

Ph.D., The Pennsylvania State University, 2014

B.A., Alfred University, 2009



Research Interests: Design and synthesis of stimuli-responsive polymers and materials. Specific applications include polymers with sensing capabilities, biodegradable and environmentally friendly plastics, and industrially relevant materials. Additional interests include the development of application-based organic and polymer chemistry teaching laboratory experiments.

Updates:

Dr. Baker enjoyed mentoring eight students over the past year. During this time, his students were very busy working on developing unique environmentally friendly plastics and new stimuli-responsive materials. As a result of their productivity, six of his students presented their work at local or regional symposiums. In addition, Dr. Baker was able to present some of the work developed in his lab at the National American Chemical Society meeting in Orlando. In the spring semester Dr. Baker was also able to provide the first offering of Advanced Polymers at SUNY Oswego. This was a graduate course focusing on the synthesis of plastics, as well as the chemical and physical properties of plastic materials. Dr. Baker has continued to develop and incorporate labs focused on plastics into the undergraduate curriculum, allowing students to create moldable plastics and biodegradable plastics. These labs, and Dr. Baker's research, have greatly benefited from a new instrument (Gel Permeation Chromatography) purchased by the University. Dr. Baker looks forward to using this instrument with his research students and undergraduate students in organic chemistry lab over the next year.

Kestutis Bendinskas, Professor, Biochemistry

kestutis.bendinskas@oswego.edu

Post-doctoral fellow, John Hopkins University, 1997

Ph.D., Bowling Green State University, 1996

B.S., Mendeleev University of Chemical Technology, 1991



Research Interests:

- to explore effects of heavy metals on human health;
- to study metal-binding properties of proteins;
- to measure stress biomolecules in novel matrixes, e.g. cortisol in hair or nails;
- to develop teaching laboratory experiments, such as CRISPR, one of the most exciting and powerful techniques of modern biochemistry.

Update:

MS students Timothy Jones and Dylan Charland and all three Capstone students Christine Li, Laura Thacker, Rananjaya Subash Gamage have successfully completed their search for a future career. Our research group also published an article in peer-reviewed literature: "Vacation Frequency is Associated with Metabolic Syndrome and Symptoms" in *Psychology and Health* (2019). Oswego students were ones who measured cholesterol, triglycerides, and glucose concentrations in all samples. Also, we presented nine posters/talks this year, six at Oswego, one in NYC, and two in Saratoga Springs, at ACS-NERM. Dr. Bendinskas was elected by his peers to be the co-Chair of SCAC, the Director of the Molecular Biology and Biochemistry Center, and the President of the Milea Beach Road Association. Kestas continued serving as the Executive Editor of *American Journal of Undergraduate Research* (AJUR). Dr. Bendinskas is the recipient or co-recipient of several active external grants, and he applied for three new NIH/NSF grants this year.

Thomas Brown, Assistant Professor, Inorganic Chemistry

thomas.brown@oswego.edu

Ph.D., University of Nevada, Reno, 2016

B.S., University of California, Davis, 2011

Research Interests: Photoemissive copper(I) coordination compounds for use in optoelectronics. Metallophilicity between closed-shell metal ions and the resulting photoluminescence.



Update:

Tom has completed his second year as tenure-track faculty with the Chemistry Department at SUNY Oswego. He had the joy of mentoring several research students which included three undergraduate students (Cookie, Hector, and Taraeah), three graduate students (Kevin, Ryan, and Darryl), and an exchange student from New Zealand (Vaea). Kevin was the first graduate student in the Brown Lab to complete a M.S. degree under Tom's supervision. This past year, Tom has taught General Chemistry I & II, Inorganic Chemistry with Lab, and Organometallics. He is continuing to spread the joy of inorganic chemistry by developing new laboratory experiments for the senior-level Inorganic Chemistry Laboratory course. He was very thankful to be nominated by two of his general chemistry students to be recognized by the Residence Hall Association for being "an outstanding educator". In order to continue his dedication to teaching, Tom enrolled in a year-long, university supported Effective Teaching Course offered by the Association of College and University Educators (ACUE) here at SUNY Oswego. Beyond teaching, Tom also served as one of the First Year Advisors for the Chemistry Department and enjoyed working with first year students to help them acclimate to college life both socially and academically. This coming academic year, Tom will be striving to submit a grant proposal, contribute a few learning objects to the IONiC VIPER community, and continue to be an active member of the Laker community.

Martha Bruch, Professor, Physical Chemistry

martha.bruch@oswego.edu

Ph.D., University of Delaware, 1984

B.S., University of Delaware, 1978

Research Interests: Nuclear magnetic resonance (NMR) spectroscopy, high performance liquid chromatography (HPLC) and polycyclic aromatic hydrocarbons (PAH).



Update:

Fehmi Damkaci, Professor, Organic Chemistry

fehmi.demkaci@oswego.edu

Post-doctoral fellow, Boston College, 2004-2006

Ph.D., University of Maryland, College Park, 2004

M.S., University of Maryland, College Park, 2000



Research Interests: Research Interests: Synthesis of designer polymeric nanoparticles to act as targeted drug delivery systems, total synthesis of heterocyclic natural products with medicinal and/or structural importance, and copper and iron catalyzed reactions, including heteroaryl couplings, heteroaryl ring formation, and C-H activation using N-pyridylurea derivatives as ligands.

Updates:

Fehmi Damkaci's collaborative research project with SUNY Albany Cancer Research Center on developing polymeric nanostructures acting as targeted drug delivery systems was published in January 2019. Dr. Damkaci worked with five undergraduate and graduate students on several research projects. His students presented their research in regional chemistry conferences throughout the year. Dr. Damkaci continues to manage institutional NSF-STEP grant (around \$860,000). He organized GENIUS Olympiad by hosting 1500 participants from 79 countries and 43 states. The organization that he founded became one of the biggest high school project competitions in the world. He received SUNY Chancellor's award for Faculty service for his work with GENIUS Olympiad, STEM activities at local elementary and middle schools, and serving on regional and national Science and Education related non-profits. He also organizes two regional STEM fairs in upstate NY (Potsdam and Rochester) to encourage student for STEM fields.

Shokouh Haddadi, Assistant Professor, Forensics & Analytical Chemistry

shokouh.haddadi@oswego.edu

Education:

PhD in Analytical Chemistry University of Waterloo, 2008

MS Tabriz University, 1999

BS Azad University, 1995



Research Interests: Chemical Analysis of Latent Fingerprints, Forensic Drug Analysis, Arson Analysis

Updates:

During the academic year 2018-2019 Dr. Haddadi taught Advanced forensic chemistry graduate course for the first time as well as criminalistic chemistry, and forensic science undergraduate courses during the Fall semester and analytical chemistry and forensic chemistry during the Spring semester. She also continued conducting research in the area of forensic chemistry, working with three capstone students. She presented the results of one of her research projects at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy in March 2019. She also worked with five undergraduate students on three different projects which received the NSF and departmental summer research grant this summer, who will present their work during the Summer Scholars poster presentation session in September. Besides teaching and research, Dr. Haddadi enjoyed serving as the capstone/assessment coordinator, being in touch with capstone research students and research advisors, and getting to know staff and faculty of other departments and discussing assessment approaches. Department of chemistry major assessment report for the academic year of 2017-2018 was identified as one of the exemplary major assessment reports by the assessment committee. Dr. Haddadi is looking forward to another exciting and effective year and would like to thank all faculty, staff and students who she had the opportunity to work with during the last academic year and helped her with their kind advice, excellent support and their warm and effective presence.

Webe Kadima, Associate Professor, Analytical & Biochemistry

webe.kadima@oswego.edu

Post-doctoral fellow, University of California, Riverside, 1987–1989

Ph.D., University of Alberta, 1986

M.Sc., University of Montreal, 1982

B.S., University of Montreal, 1980



Research Interests: The investigation of plants used to treat diabetes in the Democratic Republic of Congo (DRC) involving clinical studies in the DRC and biochemical studies at SUNY Oswego.

Updates: On a yearlong sabbatical 2018-2019

Julia Koeppe, Assistant Professor, Biochemistry

julia.koeppe@oswego.edu

Education:

Postdoctoral fellow, Oxford University, England, 2006-2010

Ph.D., University of California, San Diego, 2006

B.S., Hope College, Michigan, 2001



Research interests: Protein interactions involved in activation and regulation of innate immunity. Protein interactions linking blood clotting and inflammation. Structure-function relationships in enzymes. Creating research-based curricula for biochemistry teaching labs.

Updates:

This year I was very busy in the research lab where I mentored a total of 11 students. Of these, I had 5 Capstone students majoring in chemistry or biochemistry, 2 Capstone students majoring in biology, and 1 MS student. It was a productive year for our experiments, and 5 students presented their work at conferences off campus. In March, I took 4 students to Baltimore to the annual meeting of the Biophysical Society. Kyler Anderson, Matt Gehm, Veronica Singh, and Vanessa Wiltsie presented posters at this conference on their research with proteins in the complement system, and I presented a poster about my biochemistry lab project where we study enzymes of unknown function. In June, Ali Khan traveled to Saratoga Springs to attend the Northeast Regional Meeting of the American Chemical Society, and he presented his work on one of the enzymes of unknown function. Additionally, I was invited to give a talk at SUNY Brockport last October, where I described the work that we do in my lab to study protein interactions important in regulating the immune response. We expect the coming year to be productive, too, as three students worked in the lab during the summer, and I will have some new students joining the lab in the fall semester.

I continued to teach courses in biochemistry this year. I am still working with many collaborators around the country on a research-based curriculum for the biochemistry lab. In this curriculum, students use protein structure comparisons to predict functions for enzymes of unknown function. In doing this, the students are introduced to computer programs for 3D structure alignment, and they then use traditional wet lab experiments to test the predicted functions. I expanded the scope of this curriculum this year as I taught the computational experiments in my graduate course on enzymes. I also had a student in my research lab performing additional structural studies of one of the enzymes. We used the curriculum in Introductory Biochemistry Lab in the spring semester, and one student was inspired to join my research group to continue working on her enzyme. This is an NSF-funded project, and we focused this year on making it available via a new website (<https://basilbiochem.github.io/basil/>). In March, I had a visitor from Florida (NOVA Southeastern University) who came to observe how we teach the curriculum so he can implement it in his classes. I will also have a visitor from England (University of Leeds) in November who wants to learn how to teach the curriculum.

Vadoud Niri, Associate Professor, Analytical Chemistry

vadoud.niri@oswego.edu

Post-doctoral fellow, University of North Dakota, 2009-2010

Post-doctoral fellow, University of Waterloo, 2004-2008

Ph.D. in Analytical Chemistry, University of Tabriz



Research Interests: Dr. Niri's research group has been focusing on developing new sampling/sample preparation and analytical methods for monitoring chemical pollutants, which negatively affect public health and the environment (air, water, soil and sediment media) and investigating the efficiency of possible removal/remediation techniques for these compounds.

Update:

Dr. Niri has been active in research by supervising 2 graduate students and 9 undergraduate students in their research projects in the area of analytical chemistry during last fall and spring semesters. He is also supervised 7 students during summer 2019 supported by different grants. His research group worked on different projects such as analyzing drugs in biological samples, analysis of microbial volatile compounds from mold samples, VOC removal by indoor plants, and investigating the effectiveness of different washing methods on removing the pesticides' residues from fruits and vegetables. He has been also collaborating with Dr. Haddadi and Dr. Schneider from chemistry department, Dr. Poongodi from Biological Science department, as well as Dr. Schummer from SUNY-ESF. In addition to presentations in on-campus conferences such as QUEST and Summer Scholars Symposium, Dr. Niri and his students have presented the results of their works in regional and national meetings. He is a co-pi for the current NSF-NOYCE external grant.

Awards:

- The Provost's Award for Mentoring in Scholarly and Creative Activity (2018)
- The Outstanding Faculty Teaching Award sponsored by the graduate studies (2018-2019)

Presentations (presenters are underlined):

1. K. LaGatta, S. Haddadi, V. Niri, Analysis of Drugs Used in Crimes using Solid Phase Extraction and Liquid Chromatography-Tandem Mass Spectrometry, The American Academy of Forensic Sciences 71st Annual Scientific Meeting, Baltimore, Maryland, February 18 th – 23 rd , 2019. (Poster presentation)
2. V. Niri, C. Pitts, B. Helfeld, A. Jemmott, N. LaFrance, Early detection of Microbial Volatile Organic Compounds from Mold Samples, Pittcon conference and expo 2019, Philadelphia, PA, March 18-21, 2019. (Poster presentation)
3. A. Sommer, P. Newell, V. Niri, Untangling Metabolic Cooperation: An Investigation into the Metabolic Profiles of Lactobacillus Bacteria, QUEST symposium, SUNY-Oswego, April 3, 2019(Oral presentation) Quest Sigma Xi winner for best oral presentation
4. H. Russel, M. Schummer, V. Niri, The Effect of Phenolic Compound Concentrations in Staghorn Sumac Seeds on The Winter Foraging Behaviors of Birds, QUEST symposium, SUNY-Oswego, April 3, 2019 (Oral presentation)
5. V. Niri, Monitoring chemical pollutants, which negatively affect public health and the environment, and investigating the efficiency of possible removal/remediation techniques, Invited speaker at SUNY-Cortland, Cortland, NY, April 22, 2019. (Oral presentation)

Casey Raymond, Associate Professor, Inorganic Chemistry

casey.raymond@oswego.edu

Post-doctoral fellow, Northwestern University, 1996–1998

Ph.D., Colorado State University, 1996

B.S., Michigan State University, 1991



Research Interests: Solid-state inorganic chemistry, metal oxide, boron chemistry, crystallography, brewing science, fermentation science, and food science.

Updates: I am continuing to serve as the Acting Director of the Honors Program while Prof. Gwen Kay serves a second term as president of the SUNY Faculty Senate. It's been an enjoyable year working with these students. I taught a new course this past fall semester focused on chemical information. The students worked on accesses and reviewing references, which is so much easier with computers and search engines today. The students also worked with the best ways to present chemical information and each student created an infographic as a final project that were reviewed by chemistry students in the first-year seminar classes.

The project involving polychalcogenides continued to encounter obstacles; however, we have finally established a process that is working for the synthesis and the students are looking forward to seeing results during the upcoming year. Good progress was made on the hop inhibition of yeast project and the LC analysis of sugars project by the new students in the group this past year. I have two first year students working in the lab this summer, one on the yeast projected one on the LC of sugars project. I worked with a geochemistry student developing the initial results for a water quality analysis project of the Rice Creek watershed. Two undergraduate students presented their research results at NERM 2019 in Saratoga Springs, NY.

Raymond cont.

Jeff Schneider and I co-lead a study abroad trip to Scotland in May and participated in the Tea for Teaching podcast (episode 76). I also taught a study abroad version of HON 300 and we traveled to France over spring break. Although the trip started poorly (we were delayed 2 days in airports in the US), I was able to make adjustments to complete a successful trip. I'm not sure how much I aged trying to keep a group of 13 students calm and collected during the attempts to get us to France.

In late April I was honored to receive the news that I was being awarded the SUNY Chancellor's Award for Excellence in Teaching. I'm truly grateful for the letters of support from my colleagues and former students.

Melissa and I adopted a third cat, as we thought Ulysses needed a playmate so he didn't harass Rosemary. Puma (his name from the shelter and it fits as he is all black and quite broad chested) is about 2 years old and still behaves somewhat as a kitten. Ulysses has stopped harassing Rosemary, but he isn't too interesting in playing with Puma either. We continue to attend hockey games and both DIII frozen fours were in the west this year so we missed those. But we took advantage of the men's DI Frozen Four being in Buffalo and attended those games with friends in April.

Jeffery Schneider, Associate Professor, Analytical and Environmental Chemistry

jeffery.schneider@oswego.edu

Ph.D., Dartmouth College, 1992

M.S., University of Wisconsin-Milwaukee, 1985

B.S., University of Wisconsin-Milwaukee, 1981



Research Interests: The determination of arsenic and lead in soils of Rice Creek Field Station and the study of carbohydrate composition of beer.

Updates:

Kristin Gublo, Instructional Support Specialist

kristin.gublo@oswego.edu

M.S., SUNY Oswego, 1999

B.S., SUNY Oswego, 1996



Updates:

Kristin is responsible for providing all reagents and equipment for our laboratory courses. She provides lab safety training workshops each semester to the chemistry faculty, graduate students and undergraduate research students. Kristin serves as the department's Advisement Coordinator, Coordinator of the General Chemistry Peer Mentor Program, and Academic Probation Advisor. She taught three sections of our "Freshmen Chemistry Seminar" course in the fall semester for our incoming majors. This course provides incoming students a gateway to chemistry course to help smooth their transition and provide opportunities to build a strong cohort of support. She teaches a Chemical Safety course in the spring semester. Kristin works closely with our Career Services and Alumni office to provide our majors with career exploration field trips and alumni visits. This year she helped to plan visits from Peter Bocko, Brian Schultz, Jim Morgan, Thomas Mahl, and Alison Taylor. She serves as the club advisor for both the Chemistry Club and the Pre-optometry club. Kristin is active in various committees on campus including fundraising, advisement practices, orientation and the Chemical Hygiene Plan committee. She has taken on the role of "Professional Advisor" next year for our majors. She put on her Chemistry Magic Show to area 3rd and 5th graders this year. She continues to supervise ~ 5 work study students per year. Her family is her "spare time". Ryan is going into 9th grade and Emily will be starting 6th grade this fall. Her husband Ed (Oswego alumn '95/ '97) has been with Thermopatch Inc. in Syracuse for 15 years as their Operations Manager.

Fred Scoles, Instructional Support Technician

fred.scoles@oswego.edu

B.S., Ohio State University

M.S., Ohio State University



Updates: Fred will be retiring this fall after 36 years of service to SUNY Oswego. Best wishes on your retirement Fred, may it be even better than you ever imagined!!

Quest 2019 Photos



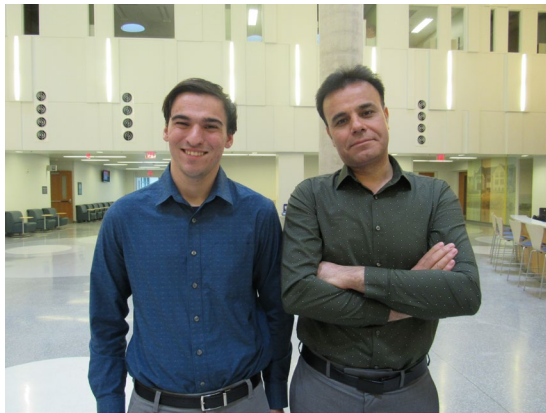
The Baker Group: Chris Serrano, Angela Frampton, Emma Kuczowski, Jasmine Gomez



Hector Gomez and Dr. Brown



Tienna Derooy and Dr. Raymond



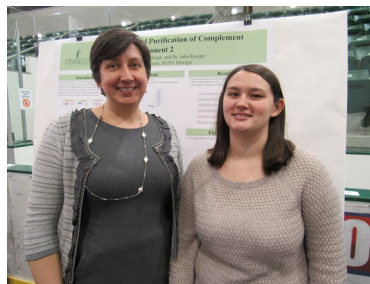
Andrew Sommer and Dr. Niri



Laura Thacker, Dr. Bendinskas and Christina Li



Sierra Andrews and Dr. Haddadi



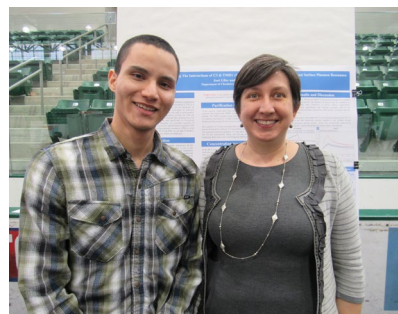
Dr. Koeppe and Lainey Archibee



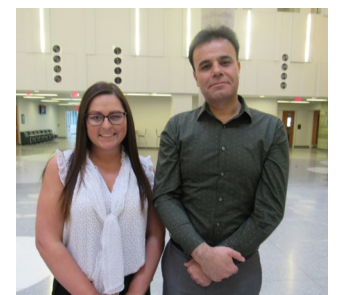
David Eckler, Dr. Schneider and Noah Davidson



Richard DeMaddis, Veronica Singh, Dr. Koeppe, Vanessa Wiltsie



Jose Giler and Dr. Koeppe



Hailey Russell and Dr. Niri

Quest 2019 Presentations:

Using Bio-Feedstock to Synthesize Compostable Plastics

Presenter: Kyler Anderson, Advisor: Dr. Matthew Baker

Development of a Photodegradable Polymer

Presenter: Angela Framptom, Advisor: Dr. Matthew Baker

Development of a Stimuli-Responsive Molecule for Initiation of a Polymer Presenters: Emma Kuczkowski and Christopher Serrano, Advisor: Dr. Matthew Baker

Development and Synthesis of Environmentally Friendly Poly(disulfide)s Presenter: Jasmine Gomez, Advisor: Dr. Matthew Baker

Geometry Optimization and Electron Density Mapping of Picolinamide Derivatives Presenter: Hector Gomez, Advisor: Dr. Thomas Brown

Synthesis of polychalcogenide compounds in different solvents Presenter: Tienna Deroy, Advisor: Dr. Casey Raymond

Dispersive Liquid Liquid Microextraction of Diphenhydramine and its Metabolites from Aqueous Solutions Presenters: Sierra Andrews and Alexis Smith, Advisor: Dr. Shokouh Haddadi

Developing Epigenetic Capabilities at SUNY Oswego Presenter: Christina Li, Advisor: Dr. Kestas Bendinskas

Race, Hair Cortisol, and Cardiovascular Disease Risk in the Syracuse Lead Study Participants Presenter: Laura Thacker. Advisor: Dr. Kestas Bendinskas

The effect of phenolic compound concentrations in staghorn sumac seeds on the winter foraging behaviors of birds Presenter: Hailey Russell, Advisor: Dr. Vadoud Niri

Untangling Metabolic Cooperation: An Investigation into the metabolic profiles of Lactobacillus bacteria Presenter: Andrew Sommer, Advisor: Dr. Vadoud Niri and Dr. Peter Newell

Crystallization of the lectin-like domain of thrombomodulin (TMD1) Presenters: Vanessa Wiltsie and Amarachukwu Ajoku, Advisor: Dr. Julia Koeppel

Expression and Purification of Complement Proteins CFH and C2 for Use in Protein Interaction Studies Presenter: Veronica Singh, Advisor: Dr. Julia Koeppel

Expression and Purification of Complement Component 2 Presenter: Lainey Archibee, Advisor: Dr. Julia Koeppel

Wort Composition In Malted Grains Presenters: Noah Davidson and David Eckler, Advisor: Dr. Jeffery Schneider

Structure and function studies of 3DL1, an enzyme of unknown function Presenter: Richard DeMaddis, Advisor: Dr. Julia Koeppel

Optimizing Complement Factor H Expression in Yeast Presenters: Matthew Gehm and Lorenzo D'Amore, Advisor: Dr. Julia Koeppel

Interactions Between Thrombomodulin and The Complement System by Surface Plasmon Resonance

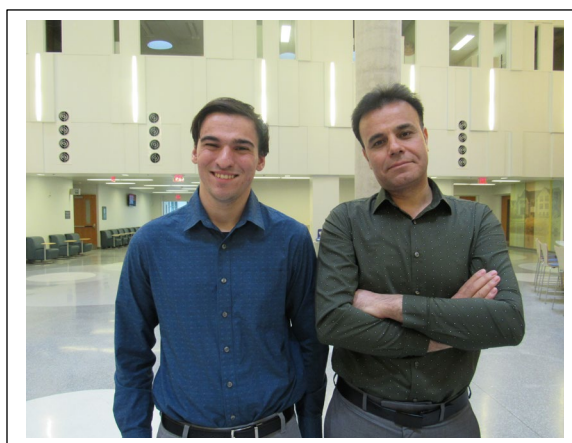
Presenter: Jose Giler, Advisor: Dr. Julia Koeppel

Qualitative and Quantitative Analysis of Amino Acids in latent fingerprints

Presenter: Joonwoo Park, Advisor: Dr. Shokouh Haddadi

Interactions Between Thrombomodulin and The Complement System by SPR and HDMXS Presenter: MaryCatherine Rice, Advisor: Dr. Julia Koeppel

Quest 2019 Sigma Xi/ORSP Chemistry Department Award Winners



Best Chemistry Presentation:
Andrew Sommer

Untangling Metabolic Cooperation: An Investigation into the metabolic profiles of Lactobacillus bacteria

Research Advisor: Dr. Vadoud Niri



Best Chemistry Poster:
Noah Davidson & David Eckler
Wort Composition In Malted Grains

Research Advisor: Dr. Jeff Schneider

News from Alumni

Ruth Baltus (1977) from Clarkson University received the 2019 ACS Award for Encouraging Women into Careers in the Chemical Sciences, sponsored by the Camille & Henry Dreyfus Foundation. Congratulations Ruth!

Mark Hartell (1990) is the Medical Director for the Deputy Assistant Secretary of Defense for Chemical and Biological Defense [DASD(CBD)], who ensures the integration of Department of Defense efforts related to science & technology, advanced development, and test and evaluation of the Chemical and Biological Defense Program.

William Kaden (2002) is currently a Physics Professor at the University of Central Florida.

Kevin Watkins (2010) defended his dissertation at Wyoming titled "Fundamental Aspects of Photoinduced Charge Flow at Spectrally Sensitized Single Crystal Semiconductor Interfaces".

Jennifer Glenn (2014) defended her dissertation at Duquesne titled "Synthesis, Characterization and Crystal Growth of I2-II-IV-VI4 and I4 II-IV2-VI7 Diamond-like Semiconductors with Potential in Infrared Nonlinear Optical Applications".

Alyssa Aldrich (2015) earned her MS in Medicinal Chemistry from UB. She worked in Dr. Atilla-Gokcumen's lab analyzing lipid levels in various biological samples including cancer cells using liquid chromatography. She is employed as research technologist at Roswell Cancer Institute. She studies various chemotherapy agents and their effect in mice.

James Abraham (2016) is currently employed at Nine Mile Point

Edna Gennarino (2017) is a Raw Materials Analyst/Quality Control Chemist at Ultralab Laboratory in Highland NY.

ACS NERM 2019

The ACS Regional meeting was held in June 23-26, 2019 in Saratoga, NY. We had 10 undergraduates from our department present this year.

Development of an environmentally friendly depolymerizable material. **P. Mosher**, M. Baker

Development of a photo-responsive polymer. **C. Labrie-Cleary**, M. Baker

Synthesis of polychalcogenide compounds in different solvents. **T. Deroy**, C.C. Raymond

LC-ECD characterization of sugars generated by pre-cooking sweet potatoes. **S. Rappleye**, C.C. Raymond

N-pyridinylurea derivatives as ligands for copper catalyzed aryl coupling reactions. **D. Digrazia**, **C. Scalzo**, **L. Scott**, F. Papa, M. Knopp, F. Damkaci

Complete and partial restriction endonuclease digestion of plasmid DNA for teaching laboratories. **C. Li**, K.G. Bendinskas

Biophysical investigation of the function of enzyme 3DL1. **A.A. Khan**, J.R. Koeppe

Alumni that were also presenting:

Lenny Breindel '09 (PhD Albany)

Real time in-cell NMR: Ribosome targeted antibiotics modulate quinary protein interactions. **L. Breindel**, A. Shekhtman

Emily Ripka (Yerdon) '16 (PhD Syracuse)

Diffusion and relaxation ordered NMR spectroscopy: A tool for monitoring reactions at nanomaterial surfaces. **E.G. Ripka**, C.R. Deschene, J.M. Franck, M.M. Maye

Chemistry Club News

The club started off the school year with their famous liquid nitrogen ice cream social and included a trivia game this year. Mint chocolate chip and chocolate were their special featured flavors this time around. In October, the club participated in the Program in a Box ACS Chemistry Webinar "Voyage to Mars". Since it was October 23rd mole day, they made Guacamole that night and had a mole day trivia contest that day as well. In November they hosted a Graduate School Information Pizza Night. Their guest speaker was Dr. Tom Brown. Congratulations to junior Mike Kirsch, the lucky winner of the GRE study book. They threw the end of the semester holiday party in December. Congratulations to our lucky winners of the Chemistry Themed Ornament contest and our Grinch trivia contest. In February they hosted another Program in a Box ACS Chemistry Webinar "The Evolving Periodic Table" in celebration of 2019 the International Year of the Periodic Table. The club hosting their own planetarium viewing of "The Polymer Paradox" in March. Kristin, Malik Jones, and Philip Mahar helped Richard Frieman write the script for this show and our own Dr. Matt Baker is featured in the film. They threw the end of the year party for our graduating seniors in May. A good time was had by all playing "Guess the Professor" where the students learned some fun facts about their professors.



Giving Back:

The club donated a Chemistry themed basket to raffle off in the campus's Baskets of Caring event held in November to raise money for the local United Way.

The students raised money this year from the Chemistry Valentine sale for the Oswego Humane Society.

They participated in two outreach activities this year; one for kids in the community on Polymer Chemistry and another to local fifth graders who were visiting Shineman for their class field trip.



Pre-Optometry Club News

In the fall semester, the club invited to campus an admission's representative from Salus University. Mellissa Cinciruk spoke to our pre-optometry students about Salus's admissions and program requirements.

In the spring semester, they invited a SUNY Optometry school representative to campus, Zachary Levin-Epstein, to talk to the pre-optometry students about that school's requirements.

Throughout the spring semester they organized a used prescription eyewear drive on campus for a student club at SUNY Optometry that fixes them up for mission work.

In February, they worked alongside the chemistry club to make and sell chemistry valentines to raise money for the Oswego Humane Society.

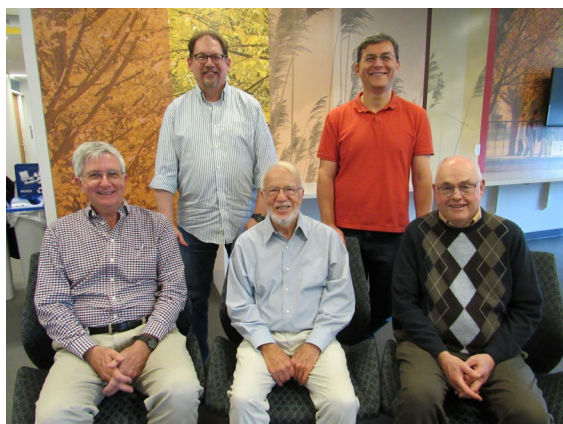
Nice job everyone on a great year!



Club Members: Veronika Malinowski, Kim Sprague, Valerie Shoykhet, Callista Wlaschin, Sarah Novak, Ruth Diego

Dr. Augustine Silveria Visits Campus

On October 12th, Dr. Silveira and his wife Beverly came to campus for a visit. He gave an inspirational talk to the sophomores taking Dr. Damkaci's organic chemistry lecture, he met with our faculty about the future of the department and had a lovely lunch with faculty and students.



Spring 19 Department Awards:



Willy G. Schuh Outstanding Senior Award:
Jennifer Ofodile



Augustine Silveira
Junior/Senior Award:
Christina Li



ACS Inorganic Award:
Tienna Deroy



Pearle Monroe Scholarship &
Peter '75 & Andrea Guglielmo Bocko
'73 M '75 Award:
Dylan DiGrazia



Augustine Silveira Jr.
Research Award:
Kim LaGatta & Dylan Charland



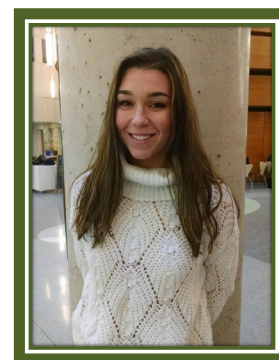
ACS Environmental Chemistry
Award: Hailey Russell



Anthony VanGeet Scholarship &
Outstanding Peer Mentor:
Richard DeMaddis



ACS Analytical Award:
Anthony Pompa



Outstanding TA Award:
Kim LaGatta



2019 Dean's Writing Award
Sierra Andrews &
Christina Li



ACS Senior Organic Award & ACS
Undergraduate Award in Physical
Chemistry:
Andrew Sommer

2018- 2019 Chemistry Degree Candidates

August 2018

Ekure Uvieoghene Biochemistry BS Lab Technician at UFI in Syracuse

December 2018

Subash Gamage Biochemistry BS PhD in Biochemistry at Notre Dame
 Joseph Glaser Chemistry BA Albany College of Pharmacy
 Dahdralee Myrie Biochemistry BS Sovena USA Rome NY
 Jonathan Velasco Chemistry BA



Subash Gamage '18 with Dr. Bendinskas

May 2019

Adhel Akol Biochemistry BS Post Bac IRTA Program NIH
 Kyler Anderson Biochemistry BS MS in Biomedical Forensics Science at Syracuse University
 Sierra Andrews Biochemistry BS

Lainey Archibee Biochemistry BS Officer Candidate in US Army
 Ryan Chartrand Biochemistry BS PhD in Inorganic Chemistry at University of Delaware
 Michael Crisafulli Geochemistry MS in Chemistry at SUNY Oswego
 Noah Davidson Chemistry BS MS in Chemistry at SUNY Oswego
 Richard DeMaddis Biochemistry BS PhD in Chemistry at Syracuse University
 Tienna Deroy Chemistry BS MS Chemistry at University of Albany & Oilfield Lab Technician at SI Group
 Angela Frampton Chemistry BA PSM at SUNY Oswego
 Jose Giler Biochemistry BS PhD in Chemistry at Stevens Institute of Technology
 Jasmine Gomez Biochemistry BS ICP Analyst at EAG Laboratories
 Hector Gomez Chemistry BS Assistant Market Manager for Sherwin-Williams & MBA at SUNY Oswego
 Emma Kuczkowski Chemistry BS Pharm D at D'Youville School of Pharmacy
 Christina Li Biochemistry BS PSM at SUNY Oswego
 Jennifer Ofodile Biochemistry BS Microbiology Doctoral Training Program University of Wisconsin Madison
 Francesco Papa Biochemistry BS Chemist I at Norwich Pharmaceuticals
 Joonwoo Park Chemistry BA PhD University of Alabama
 Hailey Russell Biochemistry BS
 Valerie Shoykhet Chemistry BA
 Zachary Snow Chemistry BS
 Andrew Sommer Chemistry BA
 Laura Thacker Biochemistry BS
 Bojan Topalovic Chemistry BA
 Vanessa Wiltsie Chemistry BS

Kevin Clark MS Chemistry Chemist at Johnson Matthey
 Dylan Charland MS Chemistry Chemist at Mylan, St Albans VT
 Tim Jones MS Chemistry
 Kim LaGatta MS Chemistry
 MaryCatherine Rice MS Chemistry Nanoparticle Research Associate at Eurofins Lancaster Laboratories



Biochemistry major Jennifer Ofodile ('19) wins the 2019 Chancellor's Award for Student Excellence



Jennifer has had a perfect GPA since arriving at Oswego four years ago. She began research her freshmen year with Dr. Niri on his project that removes volatile chemicals from the air with houseplants. She also won our Willy Schuh 2019 Outstanding Senior of the Year, the American Chemical Society Undergraduate Award in Physical Chemistry, the Hubert B. Smith Diversity Award, the Peter '75 and Andrea Guglielmo Bocko '73 M'75 Award, honors in organic chemistry and calculus, and the Black Women for Black Girls Development Scholarship. She interned her senior year as a grain analyst at the Port Authority of Oswego. She was very involved on campus as a member of the women's rugby club, she also has been a member of Phi Kappa Phi honor society; a volunteer leader for GENIUS Olympiad; resident assistant; lab assistant; a tutor in writing, chemistry and math; Educational Opportunity Program teaching assistant and mentor for first-year students; and Harborfest volunteer.

Christine Finnegan is recognized for 35 years of service

On June 13th, Christine was recognized for 35 years of service at the 30th Annual Employee Recognition and Awards Ceremony held in the Sheldon Hall Ballroom. She has worked 19 years for our department and before that she had worked for physics and mathematics. Congratulations Chris and thank you for all you do for our faculty and students!!!

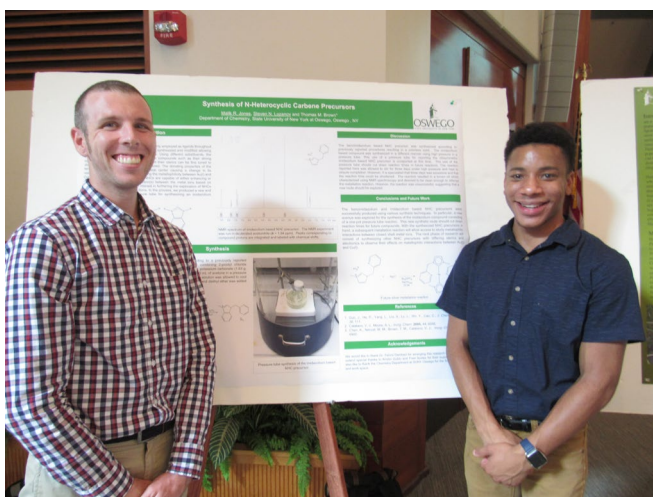
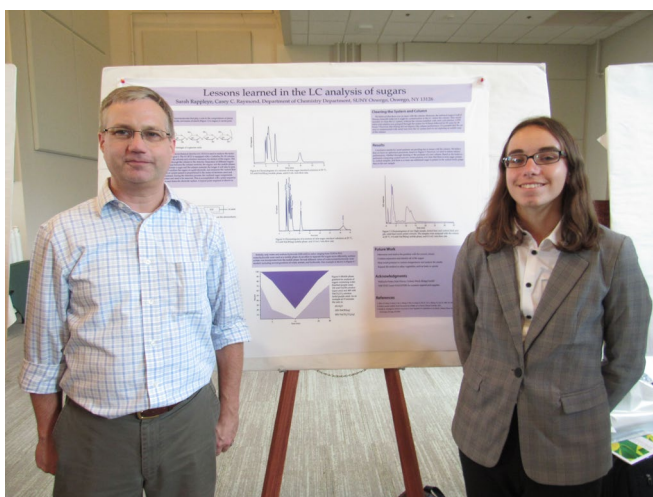
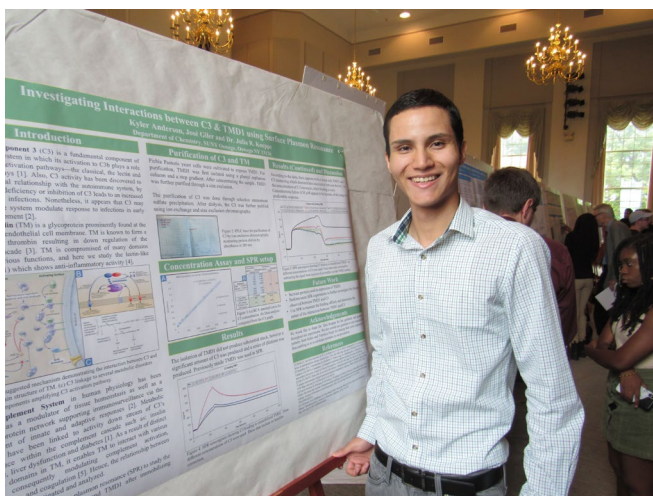
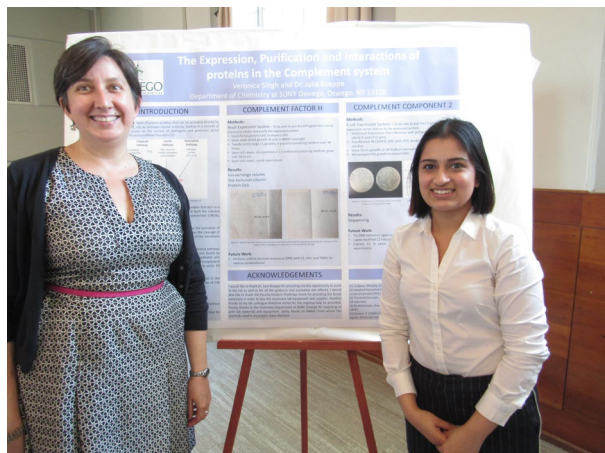
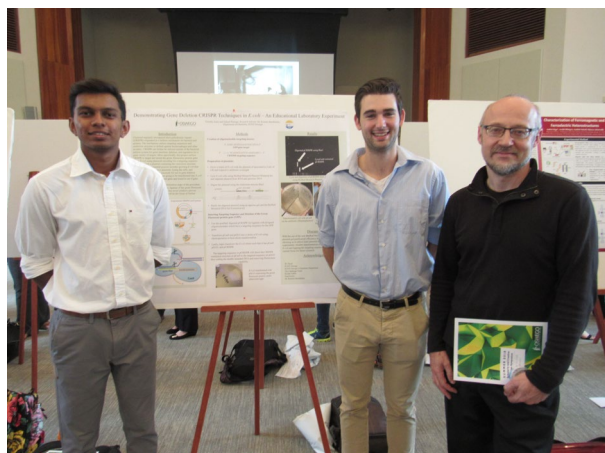


Genius Olympiad:

This summer marked the 9th year of the GENIUS Olympiad at SUNY Oswego, an international high school project competition about environmental issues (<https://geniusolympiad.org/>). In 2019, it hosted 1500 students and mentors from 79 countries and 43 states. Students competed in science, art, business, robotics, visual and performing arts, and creative writing. A special thank you to all of our alumni that volunteered to serve as a judge this year. For any alumni that will be in the area next June, we would love to have you as a science judge. Please reach out to the chemistry department office for details.

The 2018 Summer Scholarly and Creative Activities Symposium:

The symposium took place September 14th in the Sheldon Ballroom. It was a great opportunity for the community to check out student research and creative projects completed over the summer.



Alumni visits

Dr. Peter Bocko (Class of 1975) retired Chief Technology Officer of Corning Glass Technologies gave a talk on April 4th titled "Simple Questions About Glass Science With Not-So-Simple Answers: Glass, the Periodic Table, Entropy, Topology & Cathedral Windows". A special meet and greet lunch was held afterwards sponsored by the Alumni-In-Residence program and the Department of Chemistry. During his visit, he was able to see our student's Quest presentations and he was interviewed by a student reporter for WTOP regarding his generous donation to our summer research program. A link to the interview: <https://www.facebook.com/oswegoalumni/videos/405383243377172/>



On April 16th, **Jim Morgan (Chemistry MS '95 /MSED Sec Ed-Chem '99)** offered to sit down and talk with our students that are interested in a career teaching high school chemistry. He teaches for the Fayetteville-Manlius School District in the Syracuse area. He gave advice about what schools are looking for as far as applicants and how to make their applications stand out.



Dr. Brian Schultz (Class of 2009) as President, Chairman, and Founder of Dimien Inc, he uses his multidisciplinary background in business, entrepreneurship, and chemistry to develop customer centric products and lead project teams. He came to campus to give a talk on April 12th titled "One Alumnus' Story of Entrepreneurship, Chemistry and Business Development" and to speak to our freshmen and sophomore in their classes. He earned his PhD in Chemistry from the University at Buffalo and graduated from the National Science Foundation Innovation-Corps program. A luncheon with the students was sponsored by the Alumni-In-Residence Program.



We welcomed back to campus **Dr. Thomas Mahl (Class of 1980)** on April 24th. He earned his MD from the University of Buffalo in 1984. Currently he is the Chief of Gastroenterology Medicine at the VA Medical Center in Buffalo and a Professor at the UB medical school. His clinical focus is providing care to patients with a broad range of gastroenterological disorders--particularly those with liver diseases such as hepatitis, alcoholic and non-alcoholic liver disease and cirrhosis. His current research focuses on the delivery of care to patients with liver disease who have limited access to specialists. He teaches the medical students at the University at Buffalo in the classroom and in the clinic, how to diagnose and treat liver disease. He has received numerous awards or this excellence in teaching. He gave a talk "From Chemistry Major to Gastroenterologist", visited our major classes and had a nice opportunity to talk to our students over lunch about careers in the medical field.



Award Winning Faculty

SUNY Chancellor's Award for Excellence in Faculty Service

Dr. Fehmi Damkaci was named the 2019 recipient of the SUNY Chancellor's Award for Excellence in Faculty Service. Through his work in the department and Genius Olympiad; he has touched the lives of students and their mentors here and worldwide, spread awareness of SUNY Oswego's mission and values, and awakened many to the fact that solutions for sustainability issues are within the reach of all and a responsibility for all.



Photo by Jim Russell

2019 Chancellor's Award for Excellence in Teaching,

The State University of New York has conferred on Casey Raymond, the Chancellor's Award for Excellence in Teaching, based on his consistent, beyond-the-call care for the performance and success of his students, his colleagues, his discipline and the college's state-of-the-art science building.



Photo by Jim Russell

Alumni Visits cont.

Alison Taylor (BS '15/MS '18) is a Cosmetic Chemist with the Skincare-Active Cosmetics and Professional Product Divisions at L'Oréal in New Jersey. She came to campus on April 26th to meet with anyone interested in this field of chemistry. The lunch was sponsored by Career Services Pizza with Professionals Program.



Photo by Jim Russell

Outstanding Professors Recognized

Congratulations to our seven chemistry professors that were recognized at this year's Residence Hall Association Professor Recognition Ceremony held on April 25th in Hewitt Union ballroom.

Dr. Matthew Baker
Dr. Kestas Bendinskas
Dr. Thomas Brown
Dr. Martha Bruch
Dr. Jeffery Schneider
Dr. Sarah Harris
Professor Kristin Gublo

Alumni

If your company has any internship or co-op opportunities for our current students, please reach out to us. Same with any job postings for BS or MS chemists. We would be more than happy to advertise the positions to our students.

Please keep in touch and send us updates for next year's newsletter.

Our address is:
SUNY Oswego
Department of Chemistry
296 Shineman Center
30 Centennial Drive
Oswego, NY 13126

Department Secretary: Christine Finnegan
(christine.finnegan@oswego.edu)
Phone: 315-312-3048

Would you like to join our Oswego Chemistry Alumni Group on Linked in? Simply send a message to Kristin Gublo through her Linked in account. What a fabulous way to reconnect with old classmates and help our recent grads network in the field.

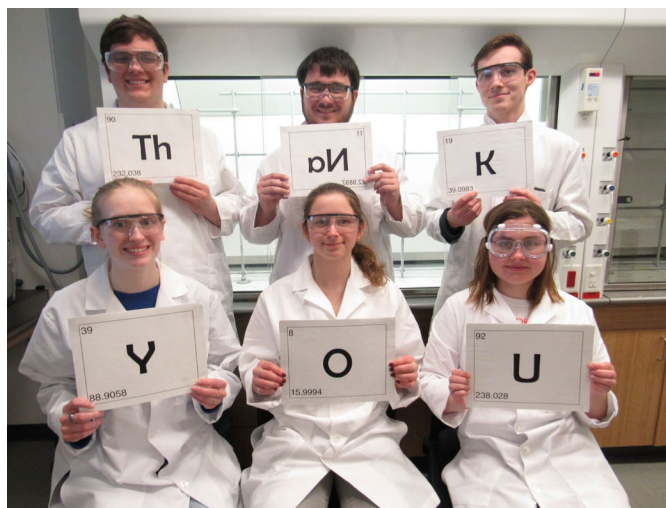
Currently we have ~75 members.

LinkedIn

Thank you!

We would like to thank our generous alumni that made donations to our department last year. We used this money to support extra programs and to purchase equipment for our laboratories. Thank you very much.

If you are interested in making a gift to the college to support the department, you can go to alumni's secure on-line website (www.oswego.edu/givenow). To allocate the donation to our department, simply specify "Other Designation". You have four options available: Chemistry Department, a Chemistry Scholarship, the Augustine Silveira, Jr. Research Scholarship Fund, or the Chemistry Summer Research Fund. Checks can be made out to "Oswego College Foundation, Inc." and can be mailed to: University Development, 219 Sheldon Hall, Oswego, NY 13126. Please write your designation in the memo line. Or given online at <https://alumni.oswego.edu/givenow>



Back row: Michael Scott ('20), Michael Kirsch ('20), Cole Klawon ('21)
Front row: Karleigh Phelps ('21), Brooke Raymond ('21), Anna Makara ('21)



Summer 2019 Chemistry Research Students & Faculty Members

Member of the Class of 2019 were surveyed after graduation and we asked the question:

“What has been your best educational experience in our department?”

-Being a peer mentor for General Chemistry and helping students.

-Seamlessly integrating into the chemistry classes and biochemistry curriculum after transferring in from a different university. Dr. Damkaci had awesome advice and would work with me to resolve any classes that didn't transfer in. In addition, the chemistry faculty is able to provide advice on anything to do with graduate schools involving a chemistry degree or medical school.

-The opportunities to do research (both during the semester and in the summer) are very good and I've found they are open to anyone, regardless of their skill-level.

-Research with Dr. Damkaci has been the most fulfilling. I was given the opportunity to learn with hands-on experiments, ask questions, stimulate creative thinking, be exposed to multiple projects, work alongside bright and motivated students, learn valuable laboratory skills, and to really delve into specific areas of science. On campus research has affirmed my goals in pursuing a career in Chemistry. My research in the summer in particular was productive and enjoyable.

-The support

-It's difficult to say because in each class I've had fun exciting moments learning a new technique or learning a different instrument or learning a concept and connecting it to real world applications.

-Honestly the best educational experiences that I have had within the department are in the labs with the professors. When I took advanced organic lab with Dr. Baker, biochem lab with Dr. Koeppe, p chem lab with Dr. Bruch, and inorganic lab with Dr. Brown I just felt that I was learning concepts better and truly learned what each of the chemistries do in terms of labs much better than within lectures. These labs also make the professors more approachable when outside of class since in a lab setting it is more intimate than a lecture setting usually.

-Research this past semester with Dr. Baker was phenomenal, I feel more confident in an organic laboratory, more independent, and was finally able see some of my experiences and lessons learned come to fruition. I also would like to emphasize how much I learned in Physical Chemistry Laboratory with Dr. Bruch. She is the master of constructive criticism and feel that my report writing skills grew immensely in that course!

-Having such great professors and having First-Class advisement.

-All class labs were educational, highly applicable to the 'real world', and were run by excellent quality teachers.

-Doing research under Dr. Brown and in general any interaction with faculty. The faculty at Oswego and the relationships with them are the cornerstone of the skills we've gained, but also feeling confident enough to use it.