



SUNY Oswego Dept. of Chemistry

2017-2018

Letter from Chair-Dr. Fehmi Damkaci:

We had 28 undergraduate degree candidates and 6 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 are expecting to see an increase in the number of chemistry majors for 2018-19, which has already been at an all-time high these last ten years. Due to our increasing student enrollment as well as several new faculty hires, our summer research activities have increased and we need more support for our students who would like to perform summer research with our faculty. We believe that 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. In order to better serve our increasing student body, we have added a 12th faculty VAP line for next year and our faculty will now receive assigned release time for their research activity with students. This should increase the student-faculty collaborative research and grant activity within our department.

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.

Also, 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 have a majors only general chemistry and a majors only organic chemistry class now so we might be able to have you visit one of these classes to teach the majors about your career. We also welcome any company related visits to recruit interns or new employees with the company. This year our students had campus visits from Johnson & Johnson, PharmAssist, and Q² Solutions which you will read about.

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
Chemistry Department Chair

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Our 2018 Augustine Silveira Jr. Distinguished Lecturer was Danielle Gilbert 03/06



At dinner meeting the Chemistry Faculty: Left to Right: Dr. Thomas Brown, Dr. Matthew Baker, Daniele Gilbert '03/06, Dr. Fehmi Damkaci, retired Faculty Dr. Ken Hyde and Dr. Joe LeFevre



At the dinner inspiring young female chemists: Brianna Helfeld '18, Kaleigh Tinker '18, Danielle Gilbert '03/06, Alyssa Shoemaker '18, and Chynna Chou '19

Danielle has 14 years of experience with Johnson & Johnson within the areas of Quality Labs and Information Science. She began her career with Johnson & Johnson as a Scientist II working in their stability and finished good laboratory. In her current position she works as an IT Lead Business Analyst, Technical Application Owner for Janssen Supply Chain. She develops, implements, and maintains the data backup computerized solution worldwide. She supports different laboratory groups all over the world traveling to places such as China, Belgium, The Netherlands, France and Ireland. She has presented at various conferences including the Waters Informatics User Conference and the Labware Customer Education Conference. She is active in the Johnson & Johnson Credo Team and is a member of their Diversity and Inclusion team. Danielle earned a Bachelor of Science in Chemistry, (biochemistry track) from SUNY Oswego in 2003. While at Oswego she was an active member of the Chemistry Club and interned at the Medical Examiner's Office in Syracuse. She earned her Masters of Science degree in Chemistry from SUNY Oswego in 2006. She performed biochemistry graduate research under Dr. Kestav Bendinskas, GHB Detection Using Human Brain Succinic Acid Semi-Aldehyde Reductase. She resides in Hunterdon County, New Jersey with her husband and son.

Her talk Thursday evening was held in the Marano Campus Center Auditorium. The title was "Seize Your Opportunities". During her presentation, Danielle spoke about J&J's mission, which is to help everyone live longer, happier, healthier lives. Headquartered in New Brunswick, New Jersey, J&J has 126,500 employees worldwide and 389,00 different products. She talked about their Consumer Products, Pharmaceuticals, Medical Devices, and Diagnostics. She said she is appreciative of the opportunities she's been given at Johnson & Johnson and encouraged our students to go out and find those positions. Prior to her talk Danielle was able to sit down with different chemistry faculty, students, and administrators and enjoy nice conversations over dinner.

On Friday morning Danielle was invited to interact with sophomores taking the organic 2 lecture. She spoke to them about her career path and her job at J&J. Later that day, the Chemistry Club and Women in STEM club were invited to a special meet and greet luncheon where they were able to talk to her in a more informal setting about the different aspects of her job and career opportunities at Johnson & Johnson.

She wrapped up her visit on Friday afternoon with one more talk to the chemistry department's faculty and students in Room 175 Shineman entitled "Using Chemistry in IT". She thanked Oswego for providing her with the fundamentals such as lab culture, time management, research skills and team work that had helped her in her career today. She encouraged students to take steps out of their comfort zone and find a career they are passionate about.

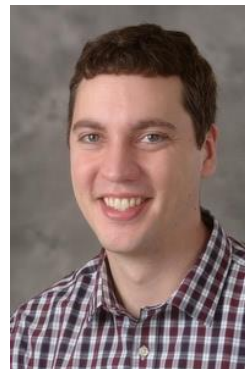
Faculty and Staff

Matthew Baker, Assistant Professor, Organic Chemistry

matthew.baker@oswego.edu

PhD., 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's research group had the pleasure of sending three of its members to Ph.D. programs at the end of the academic year (Cory Ludwig to University of California at Riverside, Alyssa Shoemaker to University of Albany, and Kaleigh Tinker to Syracuse University). These students, along with two others, have continued to make progress in the development of stimuli-responsive disulfide based materials, biodegradable poly(acetals), and light mediated controlled-release systems. Three of his students presented their work in these fields at Quest this year. In addition, over the past year Dr. Baker and his group received four internal grants; three of which include: a faculty scholarly and creative activity grant, a student scholarly and creative activity grant, and a faculty-student challenge grant. These grants have kept his lab busy over the past year and will continue to provide resources for his students over the summer and into the fall semester. Dr. Baker has also enjoyed developing and implementing polymer chemistry laboratory experiments for undergraduate students in his advanced lab course. He is currently modifying these procedures for the sophomore level organic chemistry II lab course.

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 metals on human health, i.e. omics of lead, cadmium, mercury, arsenic in kids and steel mill workers in Oswego and Syracuse in the USA, Kolkata in India, and Tbilisi in the D.R. of Georgia;
- to study metal-binding properties of proteins, e.g. the quenching of fluorescence of gelsolin due to its binding to mercury;
- to use detection methods to measure stress biomolecules in novel matrixes, such as cortisol in hair of military veterans/ patients of tropical diseases in Ecuador/ kids in Syracuse;
- to develop teaching laboratory experiments; we are now working on CRISPR, one of the most exciting and powerful techniques of modern biochemistry.

Update:

Kestas had fun teaching General Chemistry CHE 111 and worked with Adhel Akol, Dahdralee Myrie, Christine Li, Kaitlyn McCue, Rananjaya Subash Gamage and two graduate students, Dylan Charland and Timothy Jones, this year. Adhel & Dahdralee presented their results on BSA-iron binding as a poster at Quest. Christine and Kaitlyn worked on hair cortisol samples from Ecuador, and Kaitlyn presented a talk at Quest. Kaitlyn has been accepted to PhD at Upstate Medical, Christine is working at the same school for a summer REU. Tim received a summer internship with Dr. Evans of PharmAssist supported by Festa Leadership Fellowship funds. Dr. Bendinskas published an article entitled "Exposure to Background Levels of Lead and Mercury: Psychological and Behavioral Problems in Children" in Environmental Research. Kestas ran two active external (NIEHS and Hill Collaboration) grants this year, applied for three additional external grants, submitted several articles for publication, and received a formal request to process 231 samples for hair cortisol analysis from Syracuse University. Dr. Bendinskas traveled to the University of Calcutta, Kolkata, India to present an invited talk this February. Kestas continued serving as the Editor-in-Chief of American Journal of Undergraduate Research (AJUR).

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 first year as a tenure-track faculty member at Oswego. He had the opportunity to mentor five undergraduates, one graduate, and one high school student in the lab which helped progress his research endeavors. The research projects should continue to expand with the recent acquisition of new laboratory space in the Shineman Center. Tom also helped secure a new low-temperature cryostat for the department's fluorimeter allowing a wider breadth of photoemissive studies to be conducted. This past year, Tom has taught General Chemistry I & II, Inorganic Chemistry, and Chemical Applications of Group Theory. He was nominated by one of his General Chemistry students to be recognized by the Residence Hall Association for "being an outstanding educator". This coming academic year, Tom steps into the role of First Year Advisor. He will continue to enjoy his teaching and research as well as 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 continued and expected to result a publication in 2018. Dr. Damkaci worked with six undergraduate and graduate students on several research projects. He presented his research at National ACS conference in Washington DC in August 2017 and will present at ACS conference in Boston in August 2018. His students also presented their research in regional chemistry conferences throughout the year. Dr. Damkaci continues to manage institutional NSF-STEP grant (around \$860,000), and its 4-year cumulative showed great retention rates by using peer-mentorship program within freshman labs. Juniors and Seniors are placed in freshman labs as peer mentors (in addition to TA) to help them with their work as well as questions regarding major, courses etc. In addition, Dr. Damkaci had \$22,500 external grant for high school summer research program. It served 14 students and three teachers by five faculty in STEM fields. In addition, Dr. Damkaci acted as co-PI for the following NSF proposal: 1- NSF grant titled "common problem pedagogy" with four other colleges for \$300,000 (granted), 2- NSF grant titled STEM Transfer Success at SUNY Oswego which is not granted but received high remarks, for \$1,515,000 (not granted). In 2017-18, Damkaci and his research group have published two papers and have two accepted papers as of August 1, 2018:

- 1- Fehmi Damkaci, Cihad Sigindere, Thomas Sobiech, Erik Vik, Joshua Malone. N-Picolinicamides as ligands in Ullman type C-O coupling reactions. *Tetrahedron Letters* 2017, 58, 3559-3564.
- 2- Fehmi Damkaci, Kristin Gublo, Timothy Braun. A Peer Mentor Program for the General Chemistry Laboratory Designed to Improve Undergraduate STEM Retention. *Journal of Chemical Education* 2017, 94, 1873-1880.

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 2017-2018 I continued teaching criminalistic chemistry, forensic science, and analytical chemistry courses during the fall and spring semesters. I made changes in the courses to both make the classes more effective and hopefully more fun. I also continued conducting research in the area of forensic chemistry, working with three capstone students and one graduate student. I presented the results of one of our research projects at the 254th ACS national meeting in Washington, D.C. last summer. I also worked with two students on another project which received the challenge grant last summer and they presented their results during the Summer Scholars poster presentation session. Besides teaching and research, I 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. During the last academic year, I was also invited to serve as an assessment fellow, which I accepted with the support of the department. I found it to be a fruitful experience, which gave me the opportunity to attend the assessment institute in Indianapolis last October. I learned a lot about the assessment process and met other assessment fellows from other universities. As a part of my responsibilities as an assessment fellow, I worked on a project to improve the department of chemistry major assessments in future and presented the project to other assessment fellows in May. I have also enjoyed advising chemistry/biochemistry majors and forensic minor students during the last year. Hoping to receive an external grant, I applied to the National Institute of Justice (NIJ) for a grant on one of my forensic science related projects. This summer, I spent time with my family and had a nice vacation in Canada, worked on writing a research paper and got prepared for the new graduate course I am going to teach this fall on applications of analytical chemistry in forensic science. I am looking forward to another exciting and effective year. At the end, I would like to thank all faculty, staff and students who I had the opportunity to work with during the last academic year and helped me 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: I presented a talk titled “Inhibition of Hyperglycemia Pathways by the Stem Bark of *Musanga cecropioides*” at the World Congress of Diabetes in Prague, Czech Republic, on July 13, 2013. Research wise, this academic year was focused on the effects of the aqueous extract of *Musanga cecropioides* on pancreatic insulin-producing beta cells and the isolation of bioactive components responsible for the inhibition of enzymes involved in processes leading to high blood sugar in diabetes. We have made progress on both fronts. The work on beta cells was conducted in collaboration with Dr. David Dunn of the Biological Sciences Department, and two students were trained, Andrea Jemmott, a capstone research student, and Richard DeMaddis, a junior biochemistry major student. Richard DeMaddis and Omar, a sophomore biochemistry major student, performed a load of TLC experiments to determine conditions for the separation of bioactive components in the aqueous and methanol extract of *Musanga cecropioides*. The major breakthrough this year was our discovery that the aqueous extract of *Musanga cecropioides* stimulates the secretion of insulin from the pancreatic beta cell line, INS-1 832/13.

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: In my second year in Oswego, I have continued to expand my research lab, and I have been busy teaching biochemistry classes. I gave several presentations on my research throughout the year. I traveled to SUNY Buffalo last August to present at a symposium focused on the complement system and innate immunity. In February, I traveled to the annual meeting of the Biophysical Society in San Francisco, CA, where I presented posters on my protein interaction research and on my research in implementing a research-based curriculum in the biochemistry lab. In March, I gave a talk in the Chemistry Department at Syracuse University on my protein interaction research. Four students worked with me during the academic year to complete Capstone projects focused on protein-protein interactions in the complement system that are important for innate immunity. I also worked with four students over the summer. We have recently set up a new instrument for surface plasmon resonance which we will use to study the kinetics of protein-protein interactions.

In addition to my research on proteins, I have continued to work with many collaborators around the country on developing materials for a research-based curriculum to use in the biochemistry lab. This is an NSF-funded project, and we were particularly focused on student learning outcomes as we implemented the curriculum in several different classes this year. Dr. Kadima joined this project in both the fall and spring when we used the curriculum in Biochemistry I and Introductory Biochemistry labs. I was able to meet with some of my collaborators in Baltimore in March and at Hope College in Michigan in July to discuss successes and challenges as well as improvements for the project.

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: During the last year, Dr. Niri has been active in research by supervising 2 graduate students and 10 undergraduate students in their research projects in the area of analytical chemistry. 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 as well as Dr. Dunn and Dr. Poongodi from Biological Science department. 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 won the Provost's Award for Mentoring in Scholarly and Creative Activity for year 2018. He is a co-pi for the current NSF-NOYCE external grant, and will be a PI in the next round of this grant.

Presentations (presenters are underlined):

1. V. Niri, K. LaGatta, K. Herard, S. Haddadi, Analysis of drugs used in facilitated criminal acts using solid phase extraction and liquid chromatography-mass spectrometry, 254th American Chemical Society National Meeting, Washington, DC, August 20-24, 2017. (Poster presentation)
2. I. Kelley, K. Harbour, V. Niri, Analyzing Pesticides in Washed and Unwashed Green Grapes, 44th Annual Fall Scientific Paper Session of the Rochester Academy of Science, St. John Fisher College, Rochester, NY, November 11th, 2017. (Poster presentation)
3. K. LaGatta, K. Herard, S. Haddadi, V. Niri, Analysis of Drugs Used in Facilitated Criminal Acts Using Solid Phase Extraction and Liquid Chromatography-Mass Spectrometry, 44th Annual Fall Scientific Paper Session of the Rochester Academy of Science, St. John Fisher College, Rochester, NY, November 11, 2017. (Poster presentation)
4. S. Henderson, J. Schneider, V. Niri, Analysis of Higher Alcohols in Scotch using Gas Chromatography, 44th Annual Fall Scientific Paper Session of the Rochester Academy of Science, St. John Fisher College, Rochester, NY, November 11th, 2017. (Poster 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 transitioned to a new role on campus as the Acting Director of the Honors Program, after Prof. Gwen Kay was elected president of the SUNY Faculty Senate. It's been an enjoyable year working with these students. We also addressed some revisions to the program requirements that had been discussed over the last couple of years. Needless to say, this took some juggling of time between my Honors duties, teaching, and research students. I continued to teach a majors-only section of General Chemistry, which allows students to develop connections and study partners early in their undergraduate career. For the first time in 15 years, I offered a graduate-level geochemistry course. I believe that I learned as much as the students in shifting the course materials to the graduate level. 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. I presented these efforts at the Gordon Research Conference on Inorganic Chemistry in June in Biddeford, ME. A graduate student, Ali Taylor, helped initiate a new research project in the group related to the inhibition of yeast growth by hop components. Our question is "Can making very hoppy, bitter beers affect the growth of yeasts?" Ali won the inaugural 3-minute thesis competition at Quest this past spring and you can watch her video at <https://www.youtube.com/watch?v=RcIRUW7ELEA> or by searching for "3MT Alison Taylor". I have two first year students working in the lab this summer, one on the yeast project and one on the LC of sugars project. I completed the first edition of the tutorial documents from my SUNY Innovative Instruction Technology Grant and presented this work at the SUNY Conference on Instruction and Technology in May 2018. I will also be presenting this work at the Biennial Conference on Chemical Education in South Bend, IN in August 2018. I was asked to participate in a new podcast series developed on our campus, Tea for Teaching, and talked about these algorithmic homework assignments in one and my digital notetaking/pencasting that I use in lecture in another. I was also interviewed for the June 10, 2017 episode of the Outspoken Cyclist on the fermentation science study abroad course that Jeff Schneider and I teach.

Raymond update cont.

Melissa and I adopted two new cats after the passing of Leo at 19 years old. Rosemary is ~5 years old and was in the shelter for over 3 years, and Ulysses is ~3 years old and arrived in central NY from Savannah, GA. All of us are adapting to each other and new surroundings. We continue to attend hockey games and I saw both the women's and men's DIII frozen four this season. Unfortunately Melissa got sick and couldn't attend the men's frozen four in Lake Placid. Lastly, it's hard to believe that five years ago was the big move into the Richard S. Shineman Center. I do have a few more bricks from Snygg Hall so if you're in the building and would like one, please let me know.

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, a First Year Advisor and Academic Probation Advisor. She teaches 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 office to provide our majors with career exploration field trips and alumni visits. This year she helped to plan a field trip to Bausch & Lomb in Rochester and alumni visits from Dr. Jeff Evans ('86), Ashley Glassford ('08), and Danielle Gilbert ('03/'05). She serves as the club advisor for both the Chemistry Club and the Pre-optometry club. She was a guest speaker this spring for our Women in STEM club, she presented on "Work Life Balance". Kristin is active in various committees on campus including fundraising, advisement practices, orientation, and the Chemical Hygiene Plan committee. She continues to supervise ~ 5 work study students per year. Her family is her "spare time". Ryan is going into 8th grade and Emily will be starting 5th grade this fall. Her husband Ed (Oswego alumn '95/ '97) has been with Thermopatch Inc. in Syracuse for 14 years as their Operations Manager.

Fred Scoles, Instructional Support Technician

fred.scoles@oswego.edu

B.S., Ohio State University

M.S., Ohio State University



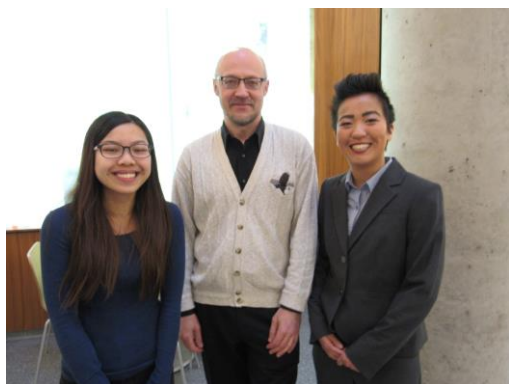
Quest 2018 Photos



The Damkaci Group: Kyle Harbour, Gabrielle Kerr, and Jillian McGrath



The Niri Group: Andrew Sommer, Kyle Pollicove, Dillon Spall, Ilayda Kelley, Kim LaGatta, and Shaun Henderson



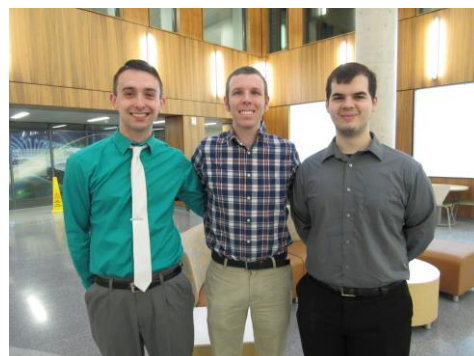
The Bendinskas Group: Christin Li and Kaitlyn McCue



The Koeppel Group: Edgar Ekure, Kyle Pollicove, and Andrew Giromini



The Baker Group: Eynna Qian, Kaleigh Tinker, and Alyssa Shoemaker



The Brown Group: Ryan Smith and Darryl Webber

Quest 2018 Chemistry Presentations:

Hair cortisol concentration in patients with tropical mosquito-borne diseases in Machala, Ecuador-Kaitlyn McCue

Photoemissive copper (I) complexes-Ryan Smith and Darryl Webber

Testing the Stimulation of Insulin Secretion by an Aqueous Extract of the Stem Bark of Musanga cecropioides-Andrea Jemmott

Separation of Compounds and Mixtures-Erin Tucholski

Controlled Release of Covalently Bound Molecules-Eynna Qian

Environmentally Friendly Plastics: poly(acetal)s-Alyssa Shoemaker and Kaleigh Tinker

N-Picolinamides as ligands for Ullmann Type C-N coupling reactions-Kyle Harbour, Gabrielle Kerr, and Jillian McGrath

Using Fluorescence Based Analysis to Determine the Affinity of Binding Between Thrombomodulin and Complement Component -Kyle Pollicove

Fluorescence Analysis of C3 and Thrombomodulin Interactions-Edgar Ekure and Andrew Giromini

Removal of Volatile Organic Compounds using Household Plants-Dillon Spall

Evaluation of Pesticide Residue Contents in Fruits and Vegetables After Different Washing Treatments-Ilayda Kelley

Detection of Dioxin Photoproducts from Triclosan in Biota-Brianne Comstock

Investigating the Background Interferences of Carpet Substrates in the Identification of Ignitable Liquids-Nicholas Carusone and Edna Gennarino-Lopez

Analysis of Microbial Volatile Organic Compounds from Mold Samples-Brianna Helfeld

Systematic and Exploratory Hydrothermal Synthesis of Metal Polychalcogenides-Joshua Roys

Heavy Metal-BSA Binding Studies- Dahdralee Myrie and Adhel Akol

Career Exploration Field Trip

On Thursday September 21st, twelve of our students participated in a field trip to Bausch & Lomb in Rochester. The students met with many professionals such as their VP of Research, Analytical Chemists, Process Engineers, Polymer Chemists, and a Research Optometrist. The group learned about the history of B&L, their products, and were given a tour of the Lens Research Labs and the Solutions Process Development area. We were very grateful to all of the B&L employees for taking the time out of their busy day to meet with our students. It was especially exciting for our students to meet with three Oswego alumni: **Andrew Hoteling -Analytical Chemist (BS 91), Steve Maier - Analytical Chemist (BS 84/MS 88), and Tracie Martineau-Quality Engineer (BA 03/MS 05).** Thank you to Mallory Bower and Shelia Cooley from the Compass and Kestas Bendinskas and Kristin Gublo for making this trip possible.



Left to Right: Jasmine Gomez, Tienna Deroy, Jon'Renee Jones, Veronika Malinowski, Kimberlynn Sprague

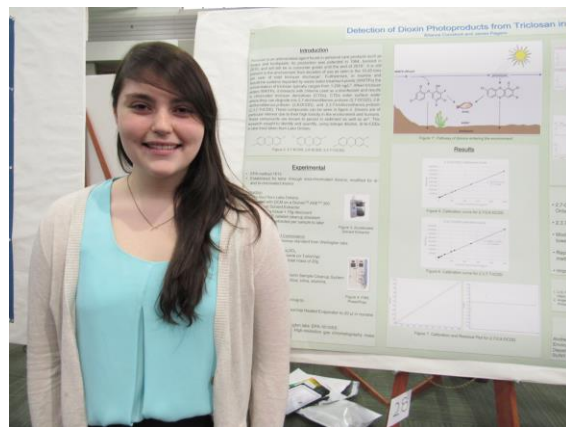


Back row Left to Right: Tienna Deroy, Mallory Bower, Jasmine Gomez, Dylan Charland, Sheila Cooley, Josh Roys, Rananjaya Gamage, Kestas Bendinskas, Kimberlynn Sprague, Jon'Renee Jones, Veronika Malinowski, Eleni Vakirtzis Front Row Left to Right: Sarah Rappleye, Valerie Shoykhet, Kristin Gublo, Olivia Colon

Quest 2018 Sigma Xi/ORSP Chemistry Department Award Winners



Quest Sigma Xi SUNY Oswego Chapter / ORSP Award Best Chemistry Presentation: **Dillon Spall** who conducted research with Dr. Vadoud Niri. His talk was the "Removal of Volatile Organic Compounds using Household Plants"



Quest Sigma Xi SUNY Oswego Chapter / ORSP Award Best Chemistry Poster: **Brianna Comstock** who conducted research for Dr. James Pagano in ERC presented on "Detection of Dioxin Photoproducts from Triclosan in Biota"

Congratulations to our Fall 2017 Freshmen Chemistry Scholarship Winners:

1. Hayley Peruzzi
2. Carter Lucianatelli
3. Taylor Maslin
4. Bella Morocho

News from Alumni

Mark Hartell, (BS 90) is the Deputy Commander at the US Army Medical Research Institute of Chemical Defense. He obtained his MS in Biophysical Chemistry from the Ohio State University and his PhD in Analytical Chemistry from Auburn University. He resides in Maryland with his wife and son.

Katie Miloski (BS 05, MS 08) reached her 10 year anniversary with Metrohm USA last December. She was promoted to senior field service specialist, and was recently engaged to a fellow Oswego Alumni (Jack Rollis class of 2011).

Megan Wagner (BS 09, MS 12) recently change jobs. She is currently working for Agilent Technologies as a Field Service Engineer supporting GC and GCMS. She travels to a different laboratories and helps customers with their chromatography.

Fengrong Wang (BS 11) after receiving her PhD from Johns Hopkins last year she is currently doing a postdoc in a lab at the University of Michigan

Timsi Muttreja (BS 13) just finished her first year at the Interamerican University of Puerto Rico, School of Optometry.

Adam Szymaniak (BS 13) completed his PhD in Organic chemistry at Boston College in the Morken Research Group. He is employed as a Scientist at Enanta Pharmaceuticals in Watertown, MA.

Shirley Peng (BS 13) is employed as an Associate Chemist at August Research Systems in Pittsburgh, PA.

Carolyn Joyce (MS 13) is employed at the Ginna Nuclear Power Plant and really enjoys her job.

Jordan Cook (BA 14) received his OD Doctor of Optometry degree from Salus University May 2018. He is employed at Guthrie Robert Packer hospital in Sayre, Pennsylvania as a primary care optometrist. He stated that he hoped all is well at Oswego and that the Pre-Optometry Club is still running strong! It definitely helped him reach this life-long goal.

Anthony Aggrey, PharmD (BS 15) pursued a career in pharmacy by attending the Lake Erie College of Osteopathic Medicine School of Pharmacy. In May 2018 he earned his Pharmacy Degree. He is currently employed with Rite Aid in the state of Delaware. He would like to thank all the professors in the chemistry department at SUNY Oswego for being a key to his success.



Devin Busch (BS 15) is working in industry as a HPLC analyst and is about to finish his thesis at U Albany. He is very grateful for the chemistry department here and the many opportunities we make possible for our students.

Mike Molnar (MS 15) received his Ph.D. in Chemistry from University of Mississippi (Ole Miss) in 3 years and landed a Post-Doctoral Fellowship position at Harvard University Medical School/Massachusetts General Hospital working on cardiomyocyte regeneration.

Danielle Chasworth (BS 16) is employed at Quest Diagnostics in New Jersey as a medical toxicologist. She received her MS in Forensic Science from John Jay College of Criminal Justice in May of 2018

Hannah Valentino (BS 16) just finished her second year as a doctoral student in the biochemistry department at Virginia Tech. She completed her preliminary exams in May. She works in the lab of Dr. Pablo Sobrado studying the mechanism and structure of flavin dependent enzymes involved in natural product biosynthesis. Specifically, she studies monooxygenases that conduct multiple oxidations to amines forming nitro or nitron groups essential for the bio-activity of certain natural products that exhibit medicinal properties.

Diana Rispolli (BS 17) has been accepted into the PhD Chemistry program at SUNY Stonybrook for Fall 18.

Chemistry Club News

Out of Classroom Experiences

The club started off the school year with a Chemistry Faculty vs. Students Softball Game/Ice Cream Social at the Lee Hall fields on Friday September 7th. The club sponsored a Program in a Box ACS Chemistry Webinar on October 24th on Chemistry Rocks and served Bunsen Burner S'mores. The club helped sponsor a fall Graduate School information program with guest speaker Dr. Julia Koeppe, and various meet and greets with our different guest speakers throughout the school year. These gave our students an opportunity to learn about graduate school and different careers involving chemistry. The club threw an end of semester party each semester, celebrating the accomplishments of our graduating seniors. They also sponsored a Bowling Party in February to help us beat the winter blues.



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. Congratulations to senior chemistry major Subash Gamage for winning the basket.



The students raised money this year from the Chemistry Valentine sale to purchase food and shampoo for Human Concerns, a food pantry in Oswego.

They participated in two outreach activities this year; one to kids in the community on Polymer Chemistry and another to local first graders on States of Matter.



Congratulations and a "Big Thank You" to our 2017-2018 Chemistry Club Officers for a Fantastic Year

President: Edna Gennarino Lopez

Vice President: Mariah Foll

Secretary: Ryan Smith

Treasurer: Laura Smith and Ilayda Kelly



Pre-Optometry Club News

In the fall semester, the club invited to campus an admission's representative from Salus University. Mellissa Tran 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, Christian Alberto, to talk to the pre-optometry students about that school's requirements. **Marianna Butera (BA 17)** also came to this session. She was on a break and the timing was perfect for her to share with the current members all about her first year in New York City. Thank you Marianna!!



Callista Wlaschin, Bianca Fernandez, Marianna Butera, Valerie Shoykhet, Kimberlynn Sprague

Pre-Optometry Club Officers 2017-2018

President: Valerie Shoykhet
Vice President: Bianca Fernandez
Secretary: Callista Wlaschin
Treasurer: Gabriella DeAngelo

Club Advisor: Kristin Gublo

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. Congratulations to our raffle winner Linda Loomis on winning a Walmart gift card. Shown here are Callista and Valerie with the collection.



In February, they worked alongside the chemistry club to make and sell chemistry valentines to raise money to buy food for Human Concerns, a local food pantry. Nice job everyone on a great year!

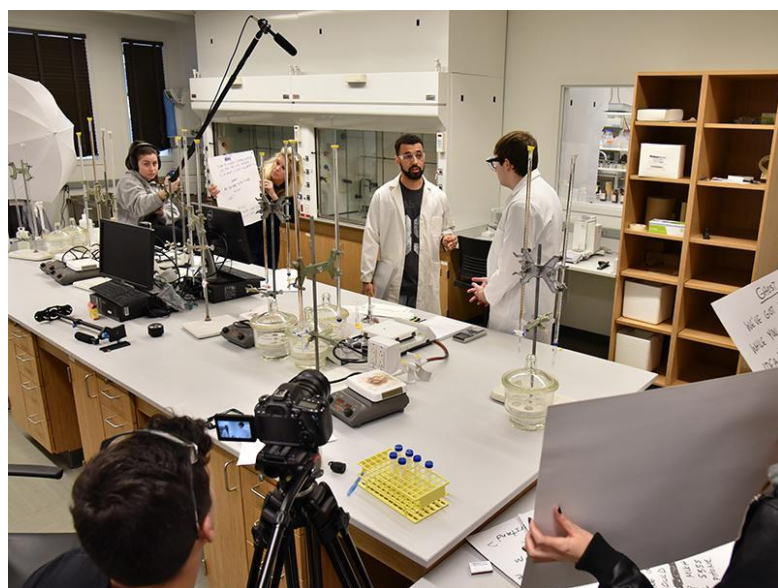


Photo by Jim Russell

Ghost Teaches Lab Safety:

Collaboration between creative writing, chemistry and cinema and screen studies programs created a series of short films on laboratory safety. Dr. Thomas Brown and Kristin Gublo worked with Dr. Juliet Giglio, an assistant professor of cinema and screen studies and Dr. Joshua Adams' location filmmaking class to develop a series of videos. Topics included things such as PPE, Chemical Storage, Fire Safety, and Managing Hazardous Waste the students created a ghost as the main character. The films were shot this spring in our Analytical lab and we hope to use them this fall as part of our lab safety training workshop for our TAs and capstone students.

Department's Spring 2018 Awards:



Willy G. Schuh Outstanding Senior Award:
Kyle Harbour



Pearle Monroe Scholarship & The ACS
Undergraduate Award in Physical Chemistry:
Jennifer Ofodile



ACS Inorganic Award:
Jillian McGrath



ACS Senior Organic Award:
Gabrielle Kerr



ACS Analytical Award:
Sam Waldron



ACS Environmental Chemistry
Award:

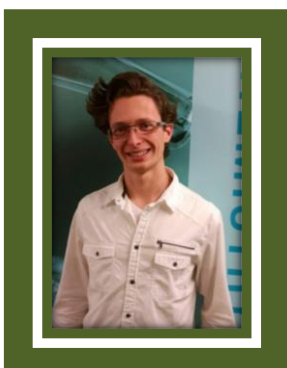
Brianne Comstock



Outstanding Peer Mentor Award:
Ryan Smith



Outstanding TA Award:
Cory Ludwig



Anthony Van Geet Award:
Kyle Pollicove



Dean's Writing Award:
Kaitlyn McCue

2017- 2018 Chemistry Degree Candidates

August 2017

Miranda Berrios Chemistry BA
 Ellen Bryant Chemistry BA
 Calmlo Olive Chemistry BA

December 2017

Steven Duran Biochemistry BS
 Jessica Gibbons Chemistry BA
 Kerina Herard Chemistry BA
 Breanna Hoyt Biochemistry BS
 Kassie Jacobson Chemistry BS
 Tyler Parkhurst Biochemistry BS
 Laura Smith Chemistry BS
 David Snell Chemistry BS

Chemical Lab Technician, Crucible Industries in Solvay, NY.

May 2108

Kacy Baum Biochemistry BS
 Nicholas Carusone Biochemistry BS
 Brianne Comstock Biochemistry BS
 Erik Decker Biochemistry BS
 Edna Gennarino Lopez Chemistry BA
 Andrew Giromini Biochemistry BS
 Kyle Harbour Biochemistry BS
 Brianna Helfeld Chemistry BS
 Andrea Jemmott Biochemistry BS
 Ilayda Kelly Chemistry BS
 Gabrielle Kerr Chemistry BS
 Brandon Ladd Chemistry BS
 Kaitlyn McCue Biochemistry BS
 Alita Nichols Chemistry BA
 Vi Nguyen Biochemistry BS
 Nadelyn Pichardo Chemistry BA
 Kyle Pollicove Biochemistry BS
 Eynna Qian Chemistry BA
 Christopher Rodriguez Chemistry BA
 Joshua Roys Chemistry BS
 Alyssa Shoemaker Chemistry BS
 Ryan Smith Biochemistry BS
 Dillon Spall Biochemistry BS
 Kaleigh Tinker Chemistry BS
 Erin Tucholski Chemistry BA
 Darryl Webber Chemistry BS

PhD in Chemistry at Syracuse University

Doctor of Pharmacy at St. John Fisher School of Pharmacy

PhD in Biomedical Sciences at West Virginia University

MS in Chemistry at SUNY Oswego

Biologics Process Operator at Bristol Myers Squibb in Syracuse

MS in Biomedical Sciences at Long Island University

PhD in Chemistry at Purdue University

PhD in Chemistry at University at Buffalo

PhD in Biomedical Sciences at Upstate Medical

Doctor of Pharmacy at University at Buffalo School of Pharmacy

Teaching and Graduate Work with Blue Engine in NYC

Accelerated Bachelors at Utica College School of Nursing

PhD in Chemistry at Clarkson University

PhD in Chemistry at University at Albany

MS in Chemistry at SUNY Oswego

Manufacturing Leadership Program with WR Grace

PhD in Chemistry at Syracuse University

MS in Chemistry at SUNY Oswego



Conferences:

A number of students participated in the Rochester Academy of Science Fall Scientific Poster Sessions on November 11th at St. John Fisher College.

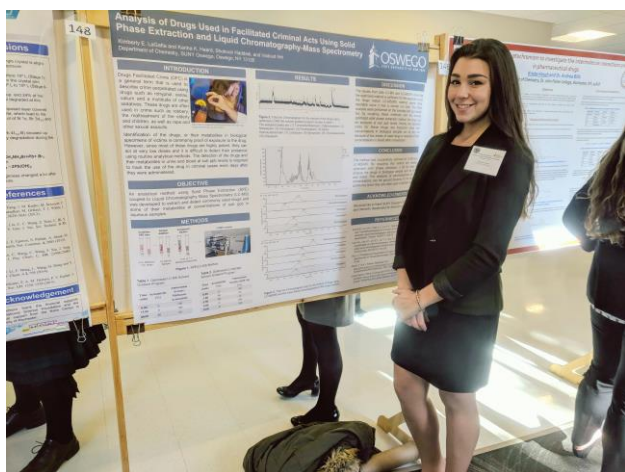
Poster presentations

“Evaluation of Pesticide Residue Contents in Fruits and Vegetables After Different Washing Treatments” by **Ilayda Kelley 18** (faculty sponsor Vadoud Niri)

“Analysis of Drugs Used in Facilitated Criminal Acts Using Solid Phase Extraction and Liquid Chromatography-Mass Spectrometry” by **Kimberly LaGatta 17/19** (faculty sponsors Niri and Shokouh Haddadi)

“Analysis of Higher Alcohols In Scotch Using Gas Chromatography” by **Shaun Henderson 16/18** (faculty sponsors Niri and Jeffrey Schneider)

“Picolinamides as Catalyst in Ullman Type Couplings” by **Xiadman Mahemuti 17** (faculty sponsor Fehmi Damkaci).



Graduate Student Kimberly LaGatta with her poster.

Guest Lecturers



Dr. Tom Brown, Dr. Carly Reed, Dr. Damkaci, and Dr. Casey Raymond.

Dr. Carly Reed from SUNY Brockport came to campus on Friday, December 1st to give in a talk in room 172 Shineman on "Inorganic Microwave Synthesis: From Quadruple Bonds to Metal-Organic Frameworks". Her talk focused on a series of multiply bonded dirhenium complexes which were synthesized via microwave irradiation. In all cases, the reaction times were reduced from hours to minutes and for many the yields exceeded those of the traditional synthetic pathways. The Chemistry Club sponsored a meet and greet lunch with Dr. Reed. Thank you to Dr. Thomas Brown for arranging her visit.

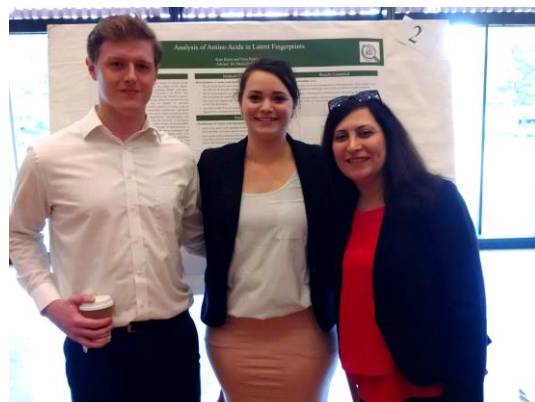
3 Biochemistry students were inducted into TriBeta:

Tribeta is a national honor society for collegiate students in the biological sciences field. On February 12th, SUNY Oswego's chapter was officially approved by the national board. Congratulations to Ali Khan, Chynna Chou and Katilyn McCue. They were inducted into Tribeta at a ceremony in Marano Campus Center on April 20th.

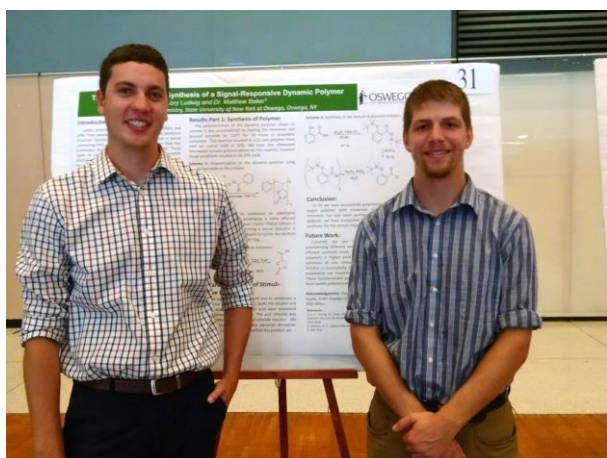


The 2017 Summer Scholarly and Creative Activities Symposium:

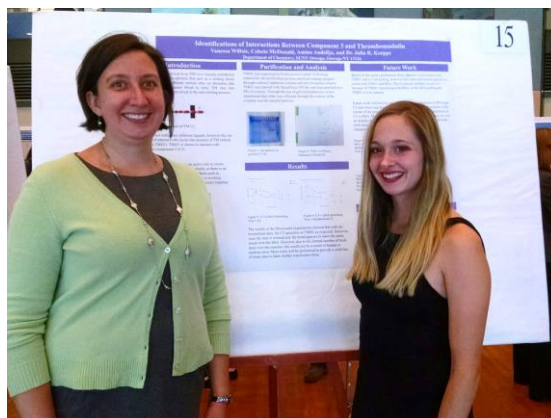
The symposium took place September 8th in the Hewitt Union Ballroom. It was a great opportunity for the community to check out student research and creative projects completed over the summer by Challenge Grant Recipients, Global Lab Students and other summer scholars at SUNY Oswego. Over 50 student projects were featured.



Dr. Sue Haddadi with Tyler Parkhurst (17) and Kate Bailie (18)



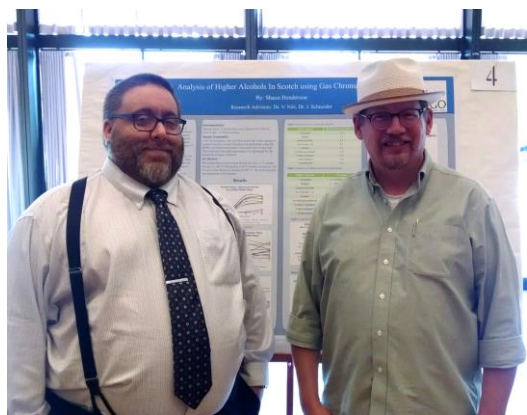
Dr. Matthew Baker and Cory Ludwig (18)



Dr. Julia Koeppel with Vanessa Wiltsie (19)



Dr. Fehmi Damkaci with his students Brittany Colon (19) and Francesco Papa (19)



Dr. Jeff Schneider with Shaun Henderson (18)

Alumni visits

Dr. Jeff Evans (BS 85/MS 88) Chief Executive Officer of PharmAssist Inc, came to campus on October 12th to present "Life as a Scientist in Industry" in 114 Marano Campus Center. He met with students and staff afterwards over lunch to talk about career opportunities at PharmAssist Inc. The company was founded 28 years ago and it is an analytical support company for the drug industry. They have 36 employees and hope to have 65 employees in the next few years. He stressed to the students the importance of regulations, good science, and quality work in the industry. Dr. Richard Shineman was Dr. Evan's general chemistry professor. Their visit was sponsored by the Center of Experiential Learning and Career Services.

Congratulations to **Shaun Henderson (BS 16/MS 18)** who was recently hired there as an Analytical Chemist.



Photo by Jim Russell: Left to right: Joe Glaser, Xiadman Mahemuti, Tayo Osinuga, Dr. Matt Baker, Jeff Evans, Subash Gamage, Ali Khna, ? Will Brooks, Gyeongryeong Park, Kyle Harbour

Thank you to **Ethan Green (BS 17)** from attending our Fall Career Fair on campus. Ethan is an Analytical Chemist with PharmAssist. Shown here at the career fair is Ethan with their HR Director of Frances Nucero.

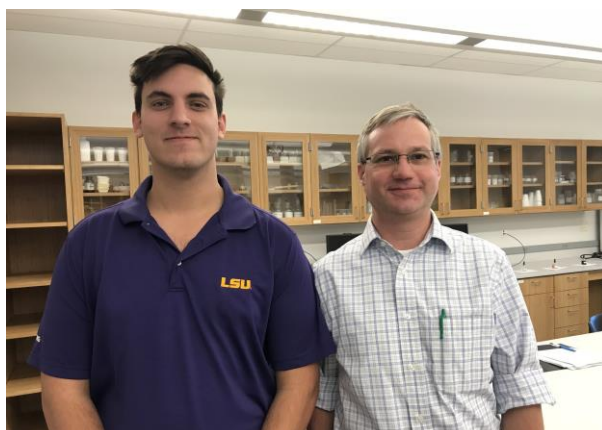


Dr. Peter Bocko (BS 75) made a visit to campus on October 6th. He stopped by Shineman Center to meet with our students that were supported by his summer research endowment program. The students updated him on their projects over lunch. The endowment was established last year by Peter and his wife and Andrea Bocko (Class of 1973). Thank you Peter and Andrea!



Back row: Vi Nguyen, Gabrielle Kerr, Jillian McGrath, Alyssa Shoemaker, Brianna Helfeld, Kim LaGatta, Time Jones, and Kyle Harbour

Thank you **Josh Malone (BS 14)** for visiting us in October and giving back to our current chemistry students. Josh mentored our first year students in CHE 110 about life as a graduate student at LSU.



Award Winning Faculty

2018 Provost's Award for Scholarly and Creative Activity

Dr. Vadoud Niri was named the 2018 recipient of the Provost's Award for Mentoring in Scholarly and Creative Activity. He will receive the honor during a recognition ceremony at this fall's Academic Affairs Retreat. He also was promoted to Associate Professor this year. Congratulations Dr. Niri on your well-deserved accomplishments!

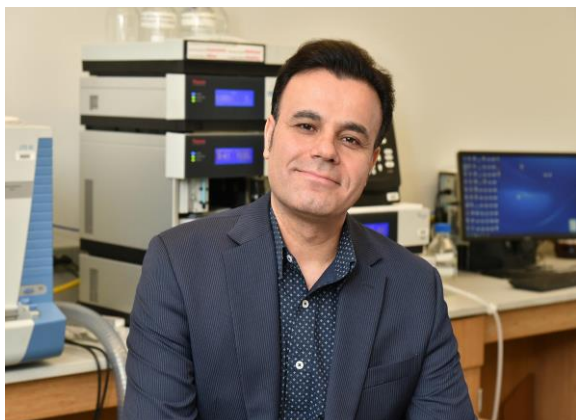


Photo by Jim Russell

2018 SUNY Oswego President's Award for Teaching Excellence

Dr. Fehmi Damkaci was named the 2018 recipient of the President's Award for Teaching Excellence. He will receive his award at the college's annual Teaching and Learning Awards Ceremony luncheon in the fall. Congratulations Dr. Damkaci on your well-deserved award!



Photo by Jim Russell

Alumni Visits cont.

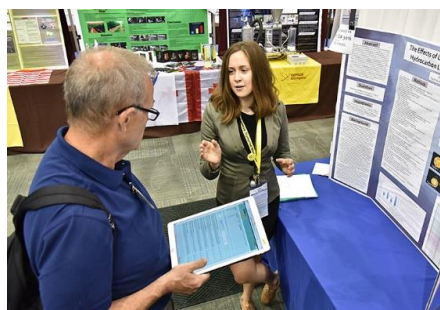
Special thank you to **Ashley Glassford (08)** for coming back to campus on May 1st and teach our students all about her career at Q² Solutions as the Supervisor of the Wet Chemistry Lab. Q² Solutions is a Contract Research Organization located in Ithaca, NY. Ashley along with two of her colleagues; Alex Drelick and Philip Joyce presented on the history of the company, the chemistry they do, and the type of employees they are looking to hire. They treated the students to a delicious lunch afterwards where they were able to talk informally about their careers. During their stay they were given a tour of the Chemistry Department and met with Tina Buckingham and Mallory Bower in Career Services.



Front row: Alex Drelick, Ashley Glassford, Philip Joyce
Back row: Professor Larry Fuller, Ryan Smith, Flemmie Tyson-Jones, Dr. Vadoud Niri, Stephany Pincay, Tim Jones, Dr. Jeff Schneider, Fran Papa, Dr. Casey Raymond, and Shaun Henderson

Genius Olympiad:

This summer marked the 8th year of the GENIUS Olympiad at SUNY Oswego, an international high school project competition about environmental issues (<https://geniusolympiad.org/>). In 2018, it hosted 1300 students and mentors from 75 countries and 39 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.



Alumnus Peter Bocko (Class of 1975) judging at the science fair. Photo by Jim Russell

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.

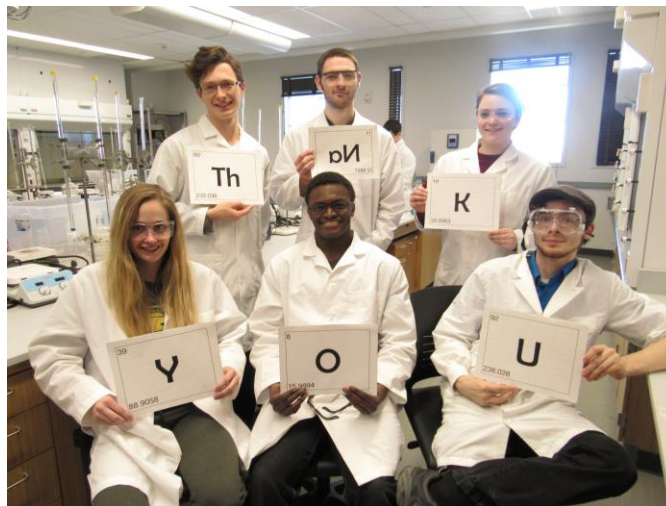
Our address is:
SUNY Oswego
Department of Chemistry
296 Shineman Center
30 Centennial Drive
Oswego, NY 13126

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.

Linked in



Back row left to right: Kyle Pollicove (18), Richard DeMaddis (19), Kate Bailie (18)
Front row left to right: Vanessa Wiltsie (19), Edgar Ekure (18), Kyler Andreson (19)

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.



Summer 2018 Chemistry Research Students & Faculty Members