

# CHEMISTRY

# at UGA

Spring 2023

[www.chem.uga.edu](http://www.chem.uga.edu)

## Please Join Us for the 2023 Alumni Weekend!

### Alumni Lecture and Awards Banquet, Friday April 14

### Golf Scramble, UGA Golf Course, Saturday April 15

*Come early and get a tour of the new home of Chemistry in the I-STEM Complex*



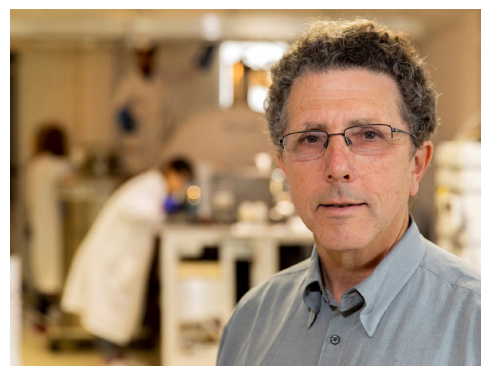
The 2023 Chemistry Alumni Lecture will be given on Friday, April 14, by Dr. Stefanie Milam from NASA Goddard Spaceflight Center. After the 4:00 lecture in the iSTEM-2 Auditorium, there will be a social hour (6:00) followed by the Alumni Awards Banquet (7:00) at the Trumps dining Room (South Milledge at the by-pass). It will include the presentation of student and faculty awards for the Chemistry Department as well as those for the Northeast Georgia Section of the ACS. The Distinguished Alumnus Award will be presented to Dr. Jeffrey Pilgrim (Ph.D. 1995 with Michael Duncan). There is no charge for the lecture or banquet. On Saturday April 15, we will have the Chemistry Golf

Scramble at the UGA course, followed by a barbecue at the golf course clubhouse. For reservations, please contact the Chemistry Department Head's Assistant Donna Spotts at 706-542-1919 or [donna.spotts@uga.edu](mailto:donna.spotts@uga.edu).

## Welcome from the Department Head

Greetings from the Department of Chemistry! It has been three years since our last edition of the newsletter, and there is a great deal to report. Our most significant news is the completion of our new home, the iSTEM building, with two wings, STEM-1 and STEM-2. These interdisciplinary buildings house almost all of the research groups of the Chemistry department, as well as a number of Engineering groups. Occupancy of STEM-1 began in October 2021, and the last groups moved out of our former building on Cedar Street and into STEM-2 in July 2022. The facilities are world-class and will help us recruit the best students and faculty to our department.

Capitalizing on the attraction of a new research building, we have continued to hire new faculty. Three assistant professors have been recruited since the last issue of the newsletter. Chris Newton arrived in 2020 and focuses on organic synthesis. Yifan Wang started in 2021 and is a bioinorganic chemist. Vladislav Klepov joined the faculty last fall, 2022, and is a synthetic inorganic chemist. You can read about our new faculty, and their background and research interests in the newsletter. Presently, we have six assistant professors, which is the largest number of junior faculty in this department in over 40 years. As a group, they are highly successful, quickly building research programs, training students, publishing papers and getting grants.



*Continued on Page 2*

# Welcome

*continued from Page 1*

Assistant professor Amanda Frossard, hired in 2017, is a recent recipient of a prestigious NSF Career Award based on her successful research in atmospheric and marine aerosol chemistry. Assistant professor Yifan Wang is a recent recipient of an NIH MIRA award in support of her metalloprotein studies. Our other assistant professors are also off to strong starts. Kelly Hines was recently awarded an NIH R01 grant to support her lipidomics projects. Melanie Reber received both NSF and DOD funding in the last year to support her work in frequency-comb spectroscopy. Chris Newton recently received a grant from the ACS Petroleum Research Fund.

Our more senior faculty are also being recognized for their excellence in research. UGA Foundation Professor Greg Robinson was recently elected to the National Academy of Sciences, one of the highest honors an American scientist can achieve. Regents Professor Mike Duncan was elected a Fellow of the American Chemical Society. Professor Vladimir Popik was selected as a Senior Member of the National Academy of Inventors. Further details are provided below.

A significant change in the operation of our department that has been transpiring over the last decade has been the recruitment of a professional corps of instructional faculty for teaching General and Organic chemistry. Through a steady stream of hires each year, we have assembled a group of nine lecturers and five academic professionals to teach these large-enrollment entry-level courses. Last year, we hired three lecturers, Drs. Eman Abdelrahman, Matthew Seivert, and Elliot Taffet. We have an active search going on right now and anticipate hiring two to three more lecturers by the end of this academic year. One of the benefits of having this large group of professional instructors is the capability to increase the number of sections that are offered, thus significantly reducing the class size. Sections that used to have 350 students now have fewer than 100 students. Our faculty are becoming experts in new active learning approaches to education, including classroom flipping and SCALE-UP (student-centered active learning environment with upside-down pedagogies). Overseeing the professional teaching corps is Dr. Sue Ellenberger, who was hired as a lecturer in 2017, and who has proven to be a capable administrator for our instructional efforts leading to her appointment as Director of General Chemistry Instruction.

The Department of Chemistry continues to make strong contributions to both the research and instructional missions of the University of Georgia. We are the only department in the Franklin College of Arts and Sciences that is consistently ranked in the top five for both external grant funds and for credit hour production. Our footprint in graduate education is quite substantial, with 160 graduate students enrolled, making us one of the largest departments for graduate education at UGA. The university continues to invest in us because of our success in both the research and instructional arenas. We hope to continue making successful assistant professor hires, ensuring the continuity of the department. However, the start-up funding required to attract top prospects is substantial. Here is

one area where you, our alumni, can help build a bright future. Please consider making a contribution that can be used to enhance the instructional or research missions of the Department of Chemistry.

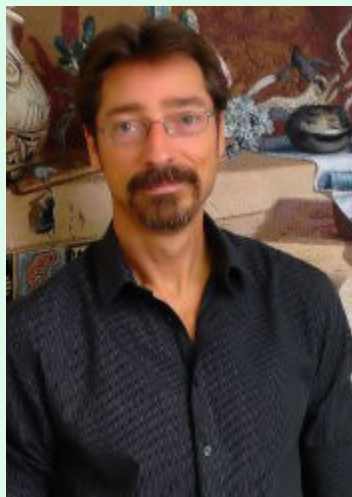
Please feel free to drop in and visit the Department of Chemistry whenever you are in Athens. I hope that you will consider visiting us for the Alumni Lecture & Banquet on Friday, April 14th, the annual golf tournament on Saturday, April 15th, or for the Allinger Lecture this coming fall.



*Instruction Faculty, Fall 2022*

*—Prof. I. Jonathan Amster, Head*

## 2023 Distinguished Alumnus Dr. Jeffrey S. Pilgrim



Dr. Jeffrey S. Pilgrim is President and founder of Vista Photonics, an optical instrumentation company located in Las Cruces, NM. He formed the corporation in June 2003 to develop and commercialize optical gas sensing technologies

and instrumentation. Before starting Vista Photonics, Dr. Pilgrim worked as a Senior Research Scientist in a similar research and development environment where he developed diode laser-based trace sensing techniques including wavelength modulated photoacoustic spectroscopy (PAS), frequency modulated resonance locked PAS, intracavity PAS, and phase modulated external cavity diode lasers (ECDL). He has invented several ECDLs for trace gas detection and telecommunications. While working in Tucson, Arizona, Dr. Pilgrim developed ultra-high sensitivity trace gas sensors based on intracavity laser spectroscopy using diode-pumped solid state (DPSS) laser systems. He has designed and built DPSS systems at near and mid-infrared wavelengths. From 1995-1997 he was a postdoctoral research associate at Sandia National Laboratories in Livermore, California where he worked in gas phase chemical kinetics. His work utilized direct absorption, frequency modulation, and multiple pass absorption techniques.

Jeff received his B.S. degree and his Ph.D. (1995) at UGA. In his Ph.D. research with Prof. Michael Duncan, Jeff worked with time-of-flight mass spectrometry and laser spectroscopy in supersonic molecular beams. He has authored 32 publications and holds 13 U.S. and 16 international patents.

## 2023 Alumni Lecture Speaker Dr. Stefanie Milam



Our 2023 Alumni Lecture speaker, Dr. Stefanie Milam, is a Planetary Scientist at NASA's Goddard Space Flight Center in Greenbelt, Maryland and serves as the James Webb Space Telescope Deputy Project

Scientist for Planetary Science. She works in the Astrochemistry Laboratory at the NASA Goddard Space Flight Center, and is an expert in rotational spectroscopy, observations, and laboratory modeling of astrochemistry and molecular astrophysics of the interstellar medium, evolved stars, star formation regions, and comets. Her observational focus is on the compositional studies of primitive bodies, namely comets and interstellar objects, and she uses ground- and space-based facilities to understand their connection to the formation and evolution of planetary systems. She also has a laboratory dedicated to simulate interstellar/cometary/planetary ices and detect trace species employing the same techniques used for remote observations to help constrain the chemical complexity of the ices, the amount of processing that occurs, and interpret past and present data from missions that observe ice features. Dr. Milam has been working on the James Webb Space Telescope (JWST) as Deputy Project Scientist for Planetary Science since 2014. In this role she has helped enable observations within our own solar system from Near-Earth Asteroids to the farthest reaches of the Kuiper belt and even the brightest objects in the infrared sky (e.g. Mars). She has also led the study team for solar system science for WFIRST. In 2021, she was honored when asteroid 40706 (1999 RO240) was renamed to 40706 Milam. She received the NASA Exceptional Scientific Achievement Medal in 2022 for her work on enabling Solar System Science with JWST missions that observe ice features.

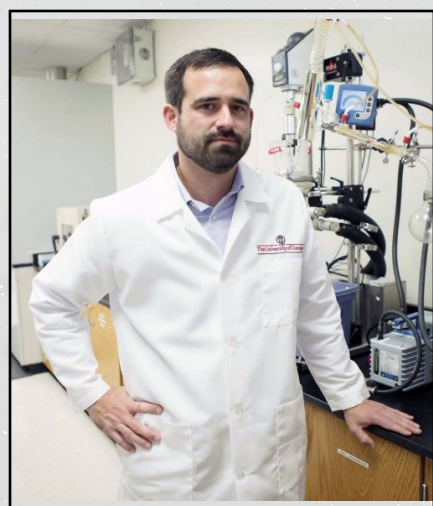
# 2022 Alumni Lecture and Banquet

After missing two years because of the covid pandemic, the UGA Chemistry Department held its annual Alumni Lecture and Awards Banquet on Friday, April 15, 2022, at the UGA Georgia Center. The Alumni Lecture was presented by Prof. Jason Locklin from the University of Georgia on the topic of “The Future of Plastics and the New Materials Institute at the University of Georgia.” Two awards were presented for Distinguished Alumni: Dr. Louis Renbaum won for 2021 and Dr. Tyler Curiel won for 2022.



Jason Locklin, Tyler Curiel, and Louis Renbaum

## 2021 Alumni Speaker: Dr. Jason Locklin



Jason Locklin is a Distinguished Faculty Scholar in the University of Georgia College of Engineering, and founder and Director of the UGA New Materials Institute, established in 2016 to focus research and teaching missions on green engineering principles and circular materials management. Locklin also serves as Site Director, overseeing UGA's collaborations, for the Center for Bioplastics and Biocomposites (CB2), a National Science Foundation Industry—University Collaborative Research Center. He is jointly appointed in the UGA Department of Chemistry and the UGA College of Engineering. Dr. Locklin obtained his B.S. degree from Millsaps College in 1999, his M.S. in Chemistry from the University of Alabama-Birmingham in 2002, and his Ph.D. from the University of Houston in 2004. He was selected in 2005 as a Director of Central Intelligence Postdoctoral Scholar at Stanford University, in the Department of Chemical Engineering. He joined the faculty at UGA in 2007. Dr. Locklin's accolades include the Central Intelligence Agency Young Investigator Award (2007), the NSF Early Career

Development Award (2010) and the Atlanta Magazine Groundbreaker Award (2011). He was named Chemist of the Year for Research in 2010 by the Northeast Georgia section of the ACS.

## 2021 Distinguished Alumnus: Dr. Louis Renbaum

Dr. Louis Renbaum graduated with a B.S. in Chemistry from Johns Hopkins University in 1976. He joined the UGA Chemistry Department as a graduate student and worked on his Ph.D. with Prof. Richard Hill. His dissertation involved synthesizing the ladybug defense pheromone, adaline. After graduating from UGA in 1981, Louis took a job for Mobay Chemical Co. in Baytown, TX as process improvement chemist in the isocyanate production facilities (HDI, MDI, TDI), chemical precursors to polyurethane (PU) foam. He was transferred in 1985–86 to Krefeld, Germany to study production and quality assurance at parent company Bayer AG. Returning to the U.S., Louis spent two more years in TX before being transferred to the Bayer USA Pittsburgh, PA headquarters to oversee the PU foam pilot plant and work on technical issues with isocyanate customers.



*Continued on Page 5*

## 2021 Distinguished Alumnus: Dr. Louis Renbaum

*continued from page 4*

In the early 90's, Bayer along with other foam chemical producers, became aware of the growing threat facing the industry if PU foam could not be recycled effectively. Louis represented Bayer on an SPI Task Group (PURRC) to study what possibilities existed or could be developed. At that time, carpet pad manufacturers were starting to use post-consumer material in their formulations, but the industry use was small and under-developed. Seeing a good opportunity, Louis left Bayer in 1992 to start his own PU foam collection operation, first in Atlanta, then expanding to the Baltimore-Washington area, and later to Florida. Continuing expansion over the years, there are now 13 collection locations serving the Central and Eastern U.S. collecting and sorting both post-consumer foam and carpet. The business was sold in 2011 to Wellman Advanced Materials, who use the collected post-consumer nylon carpet as a feedstock for their automotive resins business. Louis remains as an employee (now Pret Advanced Materials) overseeing the collection arm of the business.

As a graduate student at UGA, Louis met his wife Laura in the Chemistry Department. They have two daughters and three granddaughters. Daughter Lindsay, as well as her husband Jeremy Wolff, also received their Ph.D.'s in Chemistry at UGA.

## 2022 Distinguished Alumnus: Dr. Tyler Curiel



Dr. Tyler Curiel has just begun a position as the first Victoria Hall Gmelich 1991 and Justin G. Gmelich Professor in Cancer Immunotherapy at Dartmouth Cancer Center in Lebanon, NH. In this role, Curiel will provide leadership for the expansion of cancer immunotherapy research including in clinical trials. In addition to the Gmelich Professorship, he will hold an appointment as Professor of Medicine (Medical Oncology) at the Geisel School of Medicine at Dartmouth and in the Department of Microbiology and Immunology in the Graduate School. Immediately prior to his appointment at Dartmouth, Dr. Curiel served previously as Professor of Medicine and the Daisy M. Skinner President's Chair in Cancer Immunology Research at the University of Texas, San Antonio's Long School of Medicine.

Curiel is a nationally renowned physician-scientist and has conducted extensive research in human immunology seeking to understand the immunopathology of human disease. His most recent efforts have centered on understanding immune dysregulation in cancer leading to greater knowledge of cancer immunopathogenesis and

enabling the development of novel and impactful therapies for cancer, infections and autoimmunity. Dr. Curiel's work has led to many studies investigating T cell populations in the tumor microenvironment. His group has been continuously funded by the National Institutes of Health since 1987.

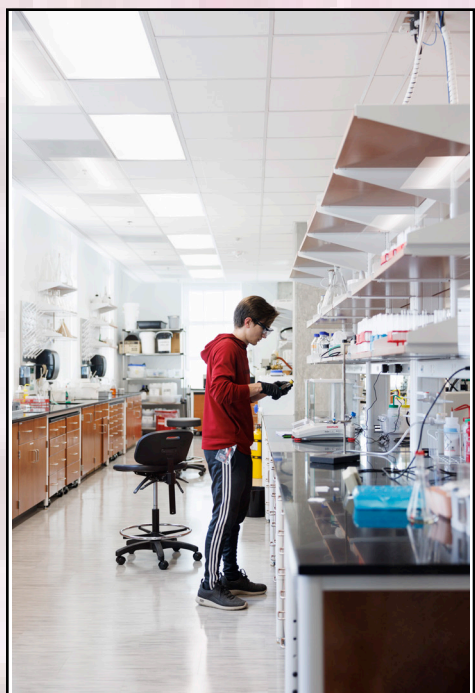
Curiel graduated summa cum laude from the University of Georgia, and earned a medical degree from Duke University School of Medicine with election into Alpha Omega Alpha Honor Medical Society. He completed a residency in Internal Medicine at Yale Medical School and Yale-New Haven Hospital, post-doctoral fellowships in Medicine and Infectious Disease at Harvard Medical School and the Massachusetts General Hospital, a post-doctoral fellowship in Medical Oncology at the University of Colorado Health Sciences Center and his Master of Public Health from Harvard University.

# New STEM-I and STEM-II Buildings Open



*Chemistry faculty at the STEM-1 Opening in November 2021*

The biggest recent news for the Chemistry Department is the long-awaited opening of the two new buildings, designated as the Interdisciplinary Science, Technology, Engineering and Math Complex, shortened to “I-STEM-1 and I-STEM-2,” or just STEM-1 and STEM-2. STEM-1 opened on November 30, 2021 and STEM-2 opened on August 24, 2022. The new buildings are connected via a breezeway, and share a three-level basement parking garage. They are located at the junction of East Campus Rd. and Cedar St., with a large shared yard separating them from the Davison Life Sciences Building. Both STEM buildings include a mixture of labs including engineering (40%) and chemistry faculty (60%). STEM-1 is 100,000 square feet of space, whereas STEM-2 is slightly bigger at 101,000 square feet. Over the last two years the chemistry faculty and graduate students have been packing up their chemicals and equipment and moving the two blocks down the hill to the new facilities.



The grand opening of STEM-1 on November 30, 2021 was a celebrated affair including President Morehead and Governor Kemp, as well as other local government officials (State Representatives Marcus Wiedower and Houston Gaines). It also included Dean Alan Dorsey (Franklin College of Arts and Sciences) and Dean Donald Leo (College of Engineering). The photo above was made of the Chemistry faculty attending the opening, in front of the entrance to STEM-1. STEM-2 had a similar, but smaller opening in August 2022. At both openings various faculty and students from chemistry and engineering spoke, giving special thanks to the governor and state leaders who made the funding of the facility possible. The cost for STEM-1 was \$79 million, while that of STEM-2 was \$64 million, coming from a combination of university and state funds.

Combining chemistry and engineering in the same buildings is designed to foster interdisciplinary research, which is already becoming more and more common on our campus. Both the chemists and the engineers use new instrumentation, like the high-resolution

*Continued on Page 7*

# New STEM-I and STEM-II Buildings Open

*Continued from Page 6*

electron microscope located in STEM-1. Mass spectrometry and NMR facilities are also part of the suite of instrumentation on the first floor of STEM-1. Both buildings are designed around an open-space concept, with some individual laboratory spaces for specialized instrumentation, but extensive areas of shared lab space for synthetic work on benchtops and in hoods. Graduate students also have large areas of shared office space. There are many small conference rooms for meetings, but individual faculty offices are smaller than in the old building. There is a large lecture hall for seminars, but no classrooms or undergraduate labs in the new buildings. This is because General Chemistry and Sophomore Organic classes and their labs were already relocated several years ago to the Science Learning Center. Some junior/senior level classes and labs will continue to meet in the “new” (1970’s) wing of the old Chemistry Building, which has already undergone partial



renovation. All-in-all, the new STEM buildings provide a spacious modern setting for science and an appealing workspace with which to attract new students and faculty.

The completion of the STEM buildings is the first step in a multipart plan to renovate science facilities all across South Campus, including the renovation of the Old Chemistry Building and the Biological Sciences Building. The vacated space in the “new” (1970’s) wing of the old building has already been partially renovated, creating several new large and small classrooms

and space for advanced undergraduate labs. The glass shop and Chemical Stockroom have also moved over into this space. The Annex continues to be occupied by the computational chemists. The “old” (1960’s) section of the chemistry building is now being completely gutted and renovated, and it will be occupied next by people from the Biosciences, who are vacating their old building. After a multi-step domino process, science facilities all over South Campus will be modernized, although the process will take several years to complete.



# New Research Faculty Hires



## Dr. Christopher Newton

Dr. Christopher Newton joined the faculty as an Assistant Professor of Organic Chemistry in August 2020. Dr. Newton came to UGA from the University of Adelaide in Australia, where his research focused on directly addressing the problem of step-economy through the development of new reactions and strategies that enable the rapid generation of molecular complexity.

Dr. Newton obtained his undergraduate degree from Victoria University of Wellington (New Zealand), and his Ph.D. from the Australian National University under the supervision of Prof. Michael Sherburn. He then moved to Lausanne, Switzerland to conduct postdoctoral research in the group of Prof. Nicolai Cramer, before returning to Australia in 2018 to begin his independent academic career at the University of

Adelaide. Dr. Newton is the recipient of several prestigious awards, including the 2018 Australian Research Council DECRA Fellowship, the 2017 Bayer Synthetic Organic Chemistry Postdoc Workshop, the 2016 EPFL Fellowship, and the 2015 Mander Award for Best Ph.D. Thesis in Organic Chemistry.

## Dr. Yifan Wang

The Department of Chemistry welcomed Dr. Yifan Wang to the faculty as an Assistant Professor in Bioinorganic Chemistry in the fall of 2021. Dr. Wang obtained her B.Sc. from Zhejiang Sci-Tech University (China) in 2015, and she spent Fall 2014 at the University of Liverpool (UK) as a visiting student. She then came to the States and joined Prof. Aimin Liu's research group as a Ph.D. student. Starting at the Georgia State University in Fall 2015, Dr. Wang relocated to the University of Texas at San Antonio with the Liu Lab in 2016 and completed her Ph.D. study there. During her study in San Antonio, she developed a keen interest in mechanistic enzymology, structural biology, and bioinorganic chemistry. Her research spans a wide range of subjects, covering heme and non-heme iron-dependent enzymes related to oxidative stress, amino acid metabolism, C-H/C-F bond cleavage, natural product biosynthesis, and protein cofactor biogenesis.



The Wang lab will study oxygen activation and C-H/C-C bond functionalization by metalloenzymes. To harness the oxidizing power of oxygen and manipulate biomolecules, iron-containing enzymes are frequently employed by aerobic organisms. Heme and non-heme iron-dependent oxygenases represent two of the most ubiquitous and potent natural catalysts, while the contribution of the ligand sets to oxygen activation and reaction outcome remains largely unknown due to the massive variations between heme and non-heme systems. The Wang lab aims to fill the knowledge gap through a comparative investigation of the biomedically essential oxygenases with specific ligand sets. Research in the Wang lab will leverage the understanding of iron-oxygen chemistry, inspire the design of biomimetic complexes and engineered biocatalysts, and advance the potential for biomedical treatments.



## Dr. Vladislav Klepov

Dr. Vlad Klepov joined the faculty of the Chemistry Department in the fall of 2022. He received his B.S. in Chemistry from Samara State University (Russia) in 2010 and his Ph.D. in Inorganic Chemistry from Samara University and Lobachevsky University of Nizhny Novgorod (Russia) in 2015. His graduate work focused on studying crystal growth and crystal chemistry of new uranyl acetate complexes. In 2013-2014, he worked for a year as a DAAD scholar at Forschungszentrum Juelich (Germany), where he learned solid state chemistry techniques and crystallography by growing crystals of new phosphate actinide compounds and solving their crystal structures with Dr. Evgeny Alekseev. After returning to Russia and defending his thesis, he taught for two years as a senior lecturer at Samara National Research University. In 2017, Dr. Klepov joined the research group of Prof. Hans-Conrad zur Loye at the University of South Carolina as a postdoctoral fellow. During this time, he studied crystal growth and magnetic properties of f element chalcogenides and fluorides. His work revealed a rare uranium fluoride,  $\text{Cs}_2\text{MnU}_3\text{F}_{16}$ , in which magnetic ordering is induced on uranium atoms by magnetic exchange with 3d transition metal ions. In 2021, Dr. Klepov joined the group of Prof. Mercuri Kanatzidis at Northwestern University, where he worked on the synthesis and device fabrication of new radiation detectors. He primarily focused on bulk crystal growth of  $\text{CsPbBr}_3$  halide perovskite and fabricating radiation detection devices with high energy resolution. During his time at Northwestern, he was appointed as an associate resident at Argonne National Laboratory, and worked as a part of Actinia startup company, which aimed at commercializing  $\text{CsPbBr}_3$  for radiation detection applications.



## Faculty Honors

### Gregory H. Robinson Elected to National Academy of Sciences



Prof. Gregory Robinson, UGA Foundation Professor in the Department of Chemistry, was elected to the National Academy of Sciences in spring of 2021. In making the announcement to Prof. Robinson's colleagues in the Chemistry department, Department Head Prof. Gary Douberly said "This is an incredible career achievement that is due to the spectacular science that has consistently come from his laboratory, along with his exemplary dedication to education and service to the scientific community." UGA's Provost, Dr. S. Jack Hu, noted of the new Academy members that "This is one of the highest honors a scientist can earn, and it reflects the far-reaching impact of their work and the high regard their peers have for them."

Robinson joined the Department of Chemistry faculty in 1995. He is the recipient of the Lamar Dodd Research Award and was named a University Foundation Professor. He is the lead faculty member coordinating UGA's participation in the Aspire Alliance IChange Network, a comprehensive effort to increase faculty diversity and the use of inclusive teaching practices in STEM fields.

Research conducted by Robinson and his team in the field of Organometallic Chemistry has advanced fundamental understanding of the structure, bonding and reactivity of elements such as aluminum, silicon, phosphorus and sulfur.

*Continued on Page 10*

## Gregory H. Robinson Elected to National Academy of Sciences *continued from Page 9*

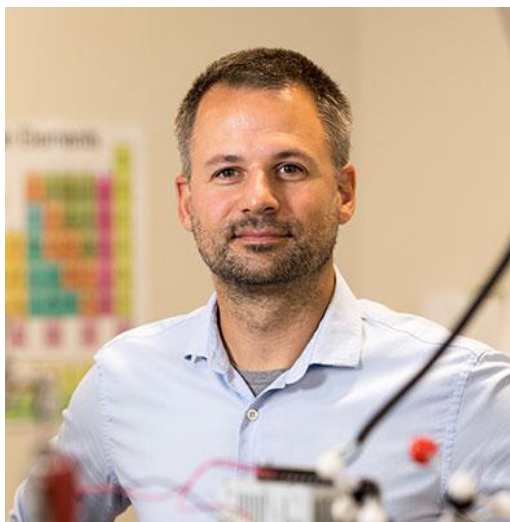
These elements are abundant on earth, and Robinson's work has shown that a number of them can perform some of the same commercially important chemical transformations as less abundant and more expensive elements.

Robinson's stellar career extends far beyond his work at the University of Georgia. He has been a consultant or panelist for the National Science Foundation and the Ford Foundation, sits on the editorial boards of seven chemistry journals, and has chaired panels at regional and national meetings of the American Chemical Society. In 2017, he was named a Fellow of the Royal Society of Chemistry, the largest organization in Europe for advancing the chemical sciences. He also has received the Alexander von Humboldt Research Award, the American Chemical Society's F. Albert Cotton Award in Synthetic Inorganic Chemistry, the National Science Foundation's Award for Special Creativity, the Percy L. Julian Award of the National Organization of Black Chemists and Chemical Engineers, and the SEC Faculty Achievement Award.

"I remain humbled by this most prestigious honor," Robinson said. "Being elected to the National Academy of Sciences brings substantial attention to the importance of fundamental chemistry research. Perhaps more so than any other time in recent memory, science must be valued and supported.

"Regarding my election to the NAS, such accolades are always team efforts, and I have been fortunate to have worked with some exceptional co-workers, most prominently Dr. Yuzhong Wang, senior research scientist, here at UGA. Moreover, my research program has always been greatly supported by the senior administration of the University of Georgia," he added.

## Prof. Brandon Rotavera Receives Fred C. Davison Early Career Scholar Award



Dr. Brandon Rotavera, an associate professor with appointments in the College of Engineering and the Department of Chemistry, is the recipient of the 2021 Fred C. Davison Early Career Scholar Award. Established in 2015 and named in honor of the University of Georgia's 18th President, this award recognizes outstanding accomplishment and evidence of potential future success in scholarship, creative work or research by an early career faculty member in the sciences.

Rotavera conducts fundamental studies to advance scientific objectives related to sustainable transportation energy for next-generation combustion systems and climate change. His research program bridges experimental measurements with computational modeling to solve basic science questions, including how reactions of new biofuels differ from those of conventional hydrocarbons, to understand how ignition occurs and how pollutants form during combustion. He has developed unique experimental spectroscopic methods to measure important chemical species and is a rising authority in the field of chemical kinetics and combustion, particularly biofuel oxidation. His research is transforming basic understanding of the gas-phase physical chemistry of biofuels and their impacts on combustion and atmospheric chemistry. His group aims to provide fundamental science to further advance the development of engines that operate in "low-temperature combustion" mode, which provides increased efficiency and reduced pollutant emissions.

*Continued on Page 11*

## Prof. Melanie Reber Honored as Innovation Fellow

Dr. Melanie Reber, assistant professor in the UGA Department of Chemistry, has been named one of two Innovation Fellows for Spring 2021. Launched as part of the University of Georgia's campus-wide Innovation District initiative, the semester-long fellowship helps faculty align their research activities with industry needs and bring their discoveries to the marketplace.

Dr. Reber is developing a cavity-enhanced, two-dimensional spectroscopy that uniquely combines precision management and ultrafast lasers for molecular-level examinations. Reber previously participated in UGA I-Corps, exploring potential applications and markets for her technology including quantum computing.

"In my lab, I work on building massive laser-based instruments to study the fundamental quantum mechanics of molecules and we often develop new types of lasers or laser technology to do so," Reber said. "With this fellowship, I am excited to pursue corporate partnerships and other ways to bring these technologies closer to commercialization."



## Prof. Todd Harrop Receives 2021 UGA Graduate School Outstanding Mentoring Award

Prof. Todd Harrop of the UGA Department of Chemistry was selected to receive the 2021 UGA Graduate School Outstanding Mentoring Award in the Life and Physical Sciences. This student-driven award recognizes excellence in a variety of mentoring functions to encourage and reward innovation and effectiveness in mentoring graduate students during their educational experience. Included in the criteria for nomination are excellence in research/scholarship guidance, positive impact on students individually and as a group, and assistance in career decision-making and advancement. Dr. Harrop was nominated by present and former Ph.D. students from his lab for his encouragement, inspiration, and positive

influence on their experience at UGA and beyond.

Dr. Harrop teaches upper-level and graduate courses in inorganic chemistry, served until fall 2022 as the department's Graduate Coordinator, and is active in bioinorganic chemistry research. Dr. Harrop also is part of the Center for Metalloenzyme Studies, a centralized collaboration of UGA scientists interested in the role that metal ions play in key biological processes. He is the first faculty member from the Department of Chemistry to receive this award since its inception in 2006.

## Prof. Vladimir Popik Selected as National Academy of Inventors Senior Member

Professor Vladimir Popik was one of three UGA faculty recently selected as a 2022 Senior Member by the National Academy of Inventors (NAI). NAI Senior Members are active faculty, scientists and administrators with success in patents, licensing and commercialization and have produced technologies that have brought, or aspire to bring, real impact on the welfare of society.



*Continued on Page 12*

## Popik Selected as National Academy of Inventors Senior Member *continued from Page 9*

Senior Members also foster a spirit of innovation within their communities through enhancing an inventive atmosphere at their institutions, while educating and mentoring the next generation of inventors.

A leading researcher in organic photochemistry, Popik studies metal-free “click chemistry.” This type of chemistry focuses on the use of simple, high-yielding reactions for modifying various substrates. His research has led to 15 invention disclosures and six issued U.S. patents. These inventions cover the development and applications of two novel light-directed ligation techniques, as well as the most popular and the most reactive click-reagents on the market. Popik is also the author of more than 100 peer-reviewed papers.

The National Academy of Inventors® (NAI) is a member organization comprising U.S. and international universities, and governmental and non-profit research institutes, with over 4,000 individual inventor members and Fellows spanning more than 250 institutions worldwide.

## Prof. Kelly Hines Recognized for Work in Mass Spectrometry



Dr. Kelly M. Hines, assistant professor in the Department of Chemistry, was recently featured as an “Emerging Investigator” by the Journal of the American Society for Mass Spectrometry (JASMS). According to the JASMS, “the goal of the Emerging Investigators Focus is to showcase some of the exciting independent work that is being performed by early career researchers who have already demonstrated their potential to make important contributions to their respective areas of research and have the potential to become future leaders within the field.” The recognition is based on recommendations from prominent mass spectrometrists, including members of the Editorial Board of JASMS and the ASMS Board of Directors, as well as peer-reviewed articles by the researchers.

Dr. Hines graduated cum laude from the University of Florida, completed her Ph.D. in Chemistry at Vanderbilt University, and did post-doctoral work in the Mayo Clinic Regional Metabolomics Core and the University of Washington School of Pharmacy. She joined the faculty of the UGA Department of Chemistry in 2019, where her lab is developing high-throughput IM-MS methods to study human health concerns at the molecular level.

## Prof. Amanda Frossard Receives NSF Career Award

Assistant Professor Amanda Frossard received a CAREER award from the National Science Foundation (NSF) in February 2023. This five-year grant will support both research and educational activities led by Frossard in her lab. Her project focuses on characterizing the chemical composition of surfactants in atmospheric aerosol particles and their influence on the ability of particles to uptake water and grow into cloud droplets. This work will involve sampling in the field as well as instrumentation development in the laboratory. Additionally, as part of the educational outreach component of the project, Dr. Frossard will work with local schools to expand the air quality sensor network in Athens. The Faculty Early Career Development Program is the most prestigious award program for young faculty members given by NSF. The CAREER Award recognizes and supports early career faculty who excel as both researchers and teachers.



## Other Faculty News Items

Professor **Gary Douberly** stepped down from his role as Department Head of Chemistry and took on the new job of Associate Dean for the Franklin College of Arts and Sciences (Biological Science Division) in the fall of 2022. Professor **Jon Amster** has taken on the role of Chemistry Department Head.

Former Professor **Tim Dore** (now Adjunct) just moved to Andover, MA. He was on sabbatical last fall from his position at New York University-Abu Dhabi and he and wife Lisa lived in their Vermont house, while Tim did some consulting for a start-up drug discovery company. They invited him to join, and he did. The company is Matchpoint Therapeutics and it's in Cambridge, MA. Tim now manages a large chunk of the discovery platform and also contributes to the medical chemistry and computational programs. It's exciting work and he is doing a lot of what he planned to do at NYU-AD, but there was no will at the top there to build early stage drug discovery. Tim still has his lab and team at NYU-AD, but is winding that down at the end of the summer, trying to get the last manuscripts out the door.

Professor **Michael Duncan** was selected as a Fellow of the American Chemical Society, and received his award at the fall Atlanta ACS meeting in August of 2021. Duncan served the ACS as Senior Editor of the Journal of Physical Chemistry from 1998 to 2015. He was Chair of the ACS Physical Chemistry Division in 2019.

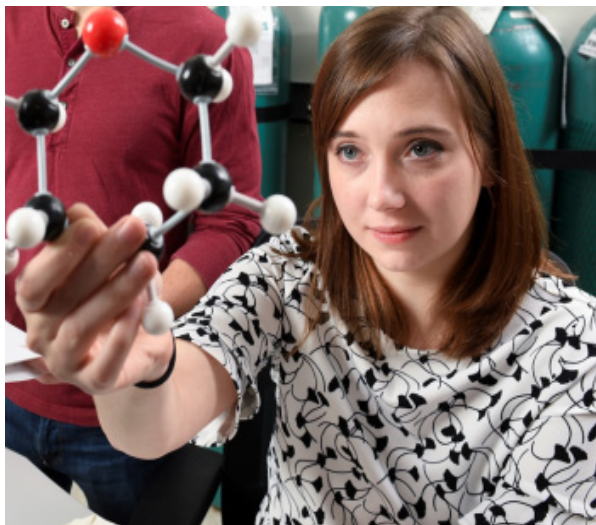
Dr. **Nicholas Llewellyn** will be faculty-in-residence for a UGA Junemester study abroad program in Oxford, UK in June 2023. He will be teaching a History and Philosophy of Chemistry course.

# Student Honors

## Ana Doner Earns Department of Energy Graduate Fellowship

Anna Doner, a Ph.D. student in the Department of Chemistry, was one of 78 graduate students nationwide selected for the 2021 Department of Energy's (DOE's) Office of Science Graduate Student Research (SCGSR) program fellowship. The program provides supplemental funds for students to conduct part of their thesis research at a host DOE laboratory in collaboration with a DOE laboratory scientist. Awardees were selected from a diverse pool of graduate applicants from institutions around the country, based on merit peer review by external scientific experts. Ms. Doner is a graduate student under the supervision of Prof. Brandon Rotavera. With the SCGSR Fellowship, Ms. Doner is working with Dr. Judit Zádor at the Combustion Research Facility at Sandia National Laboratories

(Livermore, CA) on automated potential energy surface exploration of cyclic ether radical chemistry.



## Christian Freeman Named 2021 ARCS Scholar

Christian Freeman, a Ph.D. candidate in Chemistry, is among seven University of Georgia doctoral



students who were recently named 2021 ARCS Scholars by the Office of Research. Recipients of the faculty-nominated award, which is given to students pursuing degrees in science, engineering, and medical research who excel in science communication, will receive \$8,000 each for the next three years to support their dissertation research.

Mr. Freeman, a student in the Hines Lab under the direction of Dr. Kelly M. Hines, is currently analyzing the phospholipids present in *Staphylococcus aureus*, a strain of bacteria known for growing in antibiotic-resistant infections each year. He hopes to bridge the connection between phospholipid composition, membrane fluidity, and membrane-active antibiotic activity.

In a recent article from UGA Research, Mr. Freeman commented: "Establishing the purpose of membrane fluidity in antibiotic resistance would shift the playing field for drug delivery

in many existing treatments today," Freeman said. "Being a 2021 ARCS scholar will propel me forward into a new group of researchers who strive to better the world each day. Not only will I be able to dive deeper into external programs that require excess funding, I'll also be a part of a like-minded group of individuals in which I can grow and communicate to accomplish a better outlook for our future."

*Continued on Page 15*



## ACS Names Jessica Budwitz Outstanding Senior Organic Chemistry Student

The American Chemical Society's (ACS) Division of Organic Chemistry named UGA Chemistry major Jessica Budwitz as an ACS Division of Organic Chemistry Outstanding Senior Organic Chemistry Student for academic year 2021-22. This award is intended to recognize senior students who have displayed a significant aptitude for organic chemistry as evidenced by their formal coursework as well as their research accomplishments during the course of their undergraduate studies, and recognizes the student's desire to pursue a career in chemistry.

Jessica is now a graduate researcher in the Newton Research Group of the UGA Department of Chemistry. She began her work at UGA as an undergraduate student in Professor Jose Reyes

de Corcuera's food laboratory, before finding herself drawn to organic chemistry and transferring to the Newton group.

## Jana Carpenter Named 2022 ARCS Scholar

Jana Carpenter, a Ph.D. candidate in Chemistry, is among five University of Georgia doctoral students who were recently named 2022 ARCS Scholars by the Office of Research. Ms. Carpenter will receive \$7,500 for the next three years to support their dissertation research. UGA hosted the 30th annual ARCS Awards Ceremony on November 17th. At the event, the scholars were able to meet donors and ARCS leadership, as well as connect with other scholars from across the state.

Ms. Carpenter, a third-year Ph.D. student in bioanalytical chemistry, is a member of the Hines Lab under the direction of Dr. Kelly M. Hines. She is exploring the relationship between bacterial metabolism and antibiotic resistance. Her goal is to determine phenotypes of resistance in antibiotic-resistant *Staphylococcus aureus*, a type of germ that up to 30% of people carry in their noses, which will advance understanding of these pathogens and predict outcomes in drug therapies.

"My immediate reaction to being named an ARCS Scholar was just overcome with joy," Carpenter said. "I was just really glad to know that what I do is important, and that I get to be a part of a community of other scholars who make research like this a priority."

The ARCS Foundation is a nationally recognized nonprofit started and run entirely by women. To address the country's need for new scientists and engineers, the foundation provides unrestricted funding to help the country's brightest Ph.D. students create new knowledge and innovative technologies.



# 2021 Student, Faculty and Staff Awards

*Although the Chemistry Department did not have its awards banquet in 2021, the usual student and faculty awards were presented. The award winners are listed below.*

## Department of Chemistry Student Awards 2021

### **Pamela Ann Henkel Award**

*Elizabeth Winders*

Awarded to the most outstanding undergraduate student in Organic Chemistry.

### **Alfred W. Scott, Sr. Award**

*Lucy Liu*

Awarded to the most outstanding rising senior ACS certified Chemistry major student.

### **L. B. "Buck" Rogers Award**

*John Conner Blais*

Awarded to the undergraduate student that performs the most outstanding research in Chemistry over the last year.

### **Martin Reynolds Smith Award**

*Jonathan Quirke*

Awarded to the graduate student who published the best research paper in a refereed journal.

### **Kenneth W. Whitten Awards**

*Jordan Holland, Nathan Thacker, Cynthia Tope*

Awarded by the Chemistry Department to the graduate students who are our best Graduate Laboratory Assistants.

### **Spark Awards**

*Constance Sullivan, Lucy Liu*

## American Chemical Society Northeast Georgia Section Awards 2021

### **NEG-ACS Chemist of the Year for Research**

*Dr. Yuzhong Wang, University of Georgia*

For pioneering main group dithiolene chemistry.

### **NEGS-ACS Chemist of the Year for Service**

*Robert Woods, UGA Complex Carbohydrate Research Center*

For his distinguished service to the section as past chair.

### **George Philbrook Award, Outstanding Undergraduate Teaching**

*Nicole Hollabaugh, Department of Chemistry and Biochemistry, UNG (Gainesville)*

For her excellence in teaching General and Organic Chemistry courses over the past seven years with extremely positive peer and student evaluations.

*Continued on Page 17*



## 2021 Student, Faculty and Staff Awards

*continued from Page 16*

### **NEGS-ACS Award for Outstanding High School Teacher of the Year**

*Haley Fleming, Jackson County Comprehensive High School, Jefferson, GA*

For excellent and passionate teaching of: AP Chemistry, Honors Chemistry and 1B Chemistry in addition to regular chemistry classes providing creative learning experiences for her students

### **NEGS-ACS Outstanding Graduate Students of the Year**

*Lily Brix and Mathew Seivert, Department of Chemistry, UGA*

### **NEGS-ACS Outstanding Undergraduate Students of the Year**

*John Conner Blais, Jessica Budwitz, Ariana Deegan, Jackson Wysocki*

## 2022 Student, Faculty and Staff Awards

*The annual presentation of student and faculty awards was held on Friday April 15, 2022 at the Chemistry Alumni and Awards Banquet in the UGA Georgia Center. Awards were presented from the Chemistry Department and also from the Northeast Georgia Section of the American Chemical Society. The award winners are listed below.*

## Department of Chemistry Student Awards 2022

### **Pamela Ann Henkel Award**

*Olivia Sanders*

Awarded to the most outstanding undergraduate student in Organic Chemistry.

### **Alfred W. Scott, Sr. Award**

*Abby Hobbs*

Awarded to the most outstanding rising senior ACS certified Chemistry major student.

### **L.B. "Buck" Rogers Award**

*Jessica Budwitz*

Awarded to the undergraduate student that performs the most outstanding research in Chemistry over the last year.

### **Martin Reynolds Smith Award**

*Phuong My Tran*

Awarded to the graduate student who published the best research paper in a refereed journal.

### **Kenneth W. Whitten Awards**

*Casey Rowe, Gabrielle Dwyer, Erika Mitchell*

Awarded by the Chemistry Department to the graduate students who are our best Graduate Laboratory Assistants.

*Continued on Page 18*

## Department of Chemistry Student Awards 2022

*continued from Page 17*

### **Outstanding Teaching Assistant Awards**

*Eman Abdelrahman, Walker Jones, Shrey Patel, April Rains, Karen Ramirez Quintero*

Awarded by UGA to outstanding Teaching Assistants on campus.

## American Chemical Society Northeast Georgia Section Awards 2022



*Dr. David Himmelsbach and Prof. Amanda Frossard*

### **NEG-ACS Chemist of the Year for Research**

*Prof. Amanda A. Frossard, Department of Chemistry, UGA*

### **NEGS-ACS Chemist of the Year for Service**

*Dr. Maurice Snook*

For his distinguished service to the section as past chair and long-term service to the section.

### **George Philbrook Award, Outstanding Undergraduate Teaching**

*Dr. Rupa Gokal, Department of Chemistry, UGA*

### **NEGS-ACS Award for Outstanding High School Teacher of the Year**

*Carrie Herring, Westminster Christian Academy, Watkinsville, GA*

### **NEGS-ACS Outstanding Graduate Students of the Year:**

*Gustavo Aroeria, Department of Chemistry, UGA*

*Phuong My Tran, Department of Chemistry, UGA*

*Robert V. Williams, Department of Chemistry, UGA*

### **NEGS-ACS Outstanding Undergraduate Students of the Year:**

*Addison Bralick, Department of Chemistry, UGA*

*Bailey Bullard, Department of Chemistry and Biochemistry, UNG-Dahlongega*

*Hayden Dempsey, Department of Chemistry and Biochemistry, UNG-Dahlongega*

*Douglas J. Kellar, Department of Chemistry, UGA*

# Graduation May 2021

The Chemistry Department hosted a graduation reception on Monday, May 17, 2021. Because of the covid pandemic, the reception was held virtually via zoom, but nevertheless all students were still happy to be graduating. The following students graduated Spring semester. The BSCHEM\_CHEM degree is certified by the American Chemical Society.

Queen Abure	BS_CHEM	Cum Laude
Angela Bae	BSCHEM_CHEM	Summa Cum Laude
Rashi Bhatnagar	BSCHEM_CHEM	Magna Cum Laude
Michael Connors	BSCHEM_CHEM	
Arianna Deegan	BSCHEM_CHEM	Cum Laude
Richard Dolder	BSCHEM_CHEM	Summa Cum Laude
Brigitte Emmons	BSCHEM_CHEM	
Abigail Gibbons	BS_CHEM	
Austin Itson	BS_CHEM	
Dillon Joiner	BSCHEM_CHEM	Cum Laude
Alexis Kalu	BS_CHEM	Cum Laude
Kelsey Locke	BS_CHEM	
Sydney Mai	BS_CHEM	Cum Laude
Halle Mastronardo	BS_CHEM	Cum Laude
Malcolm Neal	BSCHEM_CHEM	Magna Cum Laude
Alexander Newell	BSCHEM_CHEM	
Arnie Page	BSCHEM_CHEM	
Brandon Peterson	BS_CHEM	
John Ring	BSCHEM_CHEM	Cum Laude
Madeline Robinson	BS_CHEM	
Joshua Thedford	BSCHEM_CHEM	Magna Cum Laude
Shane Vahjen	BS_CHEM	Summa Cum Laude
Anthony VanDieren	BS_CHEM	Summa Cum Laude
Nicole Waudby	BSCHEM_CHEM	
Anya Claire Wegryn	BSCHEM_CHEM	
Camryn Wzientek	BS_CHEM	Cum Laude

# Graduation May 2022

The Chemistry Department hosted a graduation reception on Friday May 13, 2022 in the Science Learning Center. The members of the 2022 graduating class are listed below. The BSCHEM\_CHEM degree is certified by the American Chemical Society.

John Allen	BSCHM_CHEM	Cum Laude
Trevor Abbott	BS_CHEM	
Jeremy Altman	BS_CHEM	
Jacob Baker	BSCHEM_CHEM	Summa Cum Laude

*Continued on Page 20*

# Graduation May 2022

*continued from Page 19*

Marshall Bellando	BSCHEM_CHEM	
John Conner Blais	BSCHEM_CHEM	Summa Cum Laude
Addison Bralick	BSCHEM_CHEM	Cum Laude
Jessica Budwitz	BSCHEM_CHEM	Summa Cum Laude
Niki Chen	BS_CHEM	Summa Cum Laude
Ketelyn Cha	BS_CHEM	
Alexander Deltchev	BS_CHEM	Magna Cum Laude
Miles Demings	BS_CHEM	
Nadia Dowlatkah	BS_CHEM	
Aysiah Gibbs	BSCHEM_CHEM	Magna Cum Laude
Jack Gillespie	BS_CHEM	
Yuwen Huang	BS_CHEM	
Christine Ho	BS_CHEM	
DJ Kellar	BSCHEM_CHEM	Summa Cum Laude
Erin Kirsits	BS_CHEM	
Linda Le	BS_CHEM	
Lucy Liu	BSCHEM_CHEM	
Kelsey Locke	BS_CHEM	
Jacob Lorusso	BS_CHEM	
Tabitha Lowe	BS_CHEM	
Jack McClain	BS_CHEM	Magna Cum Laude
My Nguyen	BS_CHEM	Magna Cum Laude
Stephanie Paulson	BS_CHEM	Summa Cum Laude
Andrew Perciaccante	BS_CHEM	Summa Cum Laude
Ansley Pinigis	BSCHEM_CHEM	
Sara Roberts	BS_CHEM	
Rachel Rose	BSCHEM_CHEM	Magna Cum Laude
Elisa Sacchetti	BS_CHEM	Magna Cum Laude
John Scanlon	BS_CHEM	
Randall Schwartz	BS_CHEM	
Talon Shaw	BS_CHEM	
Madeleine Stoffle	BSCHEM_CHEM	Summa Cum Laude
Constance Sullivan	BSCHEM_CHEM	Summa Cum Laude
Parsa Torabi	BS_CHEM	Cum Laude
Daisia Walters	BS_CHEM	
Sydney Wenger	BSCHEM_CHEM	
Ting Xu	BSCHEM_CHEM	
Maclane Zant	BS_CHEM	



# Summer Undergraduate Research Program



*SURO Group 2022: Jack Johnson, Abby Hobbs, Laura Denton, Mariah Castillo, Uyen Ta, Amanda Frossard (coordinator), Brandon Rotavera (coordinator).  
Not pictured: Andy Jiang.*

In Summer 2022, we had six undergraduate students from multiple universities in Georgia participate in Chemistry Summer Undergraduate Research Opportunity (SURO) program. The program, organized by Profs. Amanda Frossard and Brandon Rotavera, was nine weeks long, and each student worked closely with a faculty member on their own research project in different areas of chemistry.

Abigail (Abby) Hobbs (University of Georgia) worked in the laboratory of Prof. Amanda Frossard building an aerosol optical tweezers instrument. Mariah Castillo (Georgia Institute of Technology) and Uyen Ta (University of Georgia) worked with Prof. Melanie Reber on ultrafast laser spectroscopy. Uyen Ta collected data during the program that contributed to a publication from the Reber group, on which she is a coauthor. Andy Jiang (Georgia Institute of Technology) worked with Prof. Henry Schaefer on computational chemistry. John (Jack) Johnson (Georgia Southern University) worked with Prof. Gregory Robinson in the field of inorganic chemistry. Laura Denton (University of Georgia) worked with Prof. Michael Duncan on a computational study of cation- $\pi$  bonding in  $Al^+$ (acetylene) complexes.

Abby, Andy, Jack, and Laura applied and were accepted to the Chemistry Ph.D. program at UGA. All three were accepted to multiple graduate programs around the country and will be deciding soon where they will attend graduate school. Mariah and Uyen are second and third year students and plan to apply to graduate schools in the future.

During the program, each student hosted a laboratory tour describing their work. At the end of the nine-week research program, the student gave formal presentations of their work to faculty and peers in a half-day research symposium. Other summer undergraduate students attended the symposium and presented their work as well.

The summer 2023 program will run June 5 to August 4. For more information on the program, visit <https://www.suro-uga-chem.org/> or contact the coordinators Prof. Amanda Frossard and Prof. Christopher Newton at [chem-suro@uga.edu](mailto:chem-suro@uga.edu).

# Retirements



## Michael Johnson

Dr. Michael Johnson, one of the top bioinorganic spectroscopists in the world, retired at the end of 2020. Prior to coming to UGA, he was a faculty member at LSU. During his 34 year career at UGA, Johnson made seminal contributions in the development of spectroscopic techniques to probe metal centers in biological systems with particular emphasis on understanding the assembly, repair, and functions of iron-sulfur clusters. The importance of his research stems from the fact that oxidative degradation of iron-sulfur clusters is linked to the aging process, neurodegenerative diseases such as Parkinson's and Alzheimer's, and other diseases known to be associated with oxidative stress such as cancer and atherosclerosis. He published 248 original research papers and reviews and edited three books. The impact of his research can be gauged by his impressive citation record and H-index (average of 54 citations per article with an H-index of 62). He has presented more than 141 invited lectures on his research at national or international conferences and at universities or corporate research centers in the US, Europe, Asia and

Australasia. In addition, Dr. Johnson or his research group contributed 117 presentations at regional, national or international conferences. During his career, Johnson was the recipient of more than \$12.7M in external funding for his research program with almost \$11M coming from sole PI grants from NIH and NSF. He has a remarkable record of 36 years of continuous NIH support including a prestigious MERIT award and of never having to submit a revised NIH or NSF proposal on which was the sole PI. His research accomplishments and expertise have been recognized by an Alfred P. Sloan Fellowship (1986-88), several named, plenary or keynote lectures, the UGA Creative Research Medal (1995), the UGA Distinguished Research Professorship (1998-2016), the UGA Regents Professorship (2016-present), serving on the NSF Biophysics Grant Panel (1990-1994), and serving as an ad hoc member or chair of eight NIH study sections. He has also successfully mentored the research activities of 11 postdoctoral students, 33 Ph.D. students, 11 M.S. students and 18 undergraduate students. Moreover, he was an exemplary departmental citizen throughout his career and an outstanding teacher at both the undergraduate and graduate levels. Johnson brought great distinction to the University of Georgia and played a major role in establishing UGA as a center of excellence for the study of Metals in Biology.

# In Memoriam



## Norman “Lou” Allinger

Norman L. Allinger or “Lou,” as he was known to his friends, was born on April 6, 1928, in Alameda, California. From the age of nine on he was always employed in some fashion, first at the age of nine selling magazines and newspapers, then later as an ice-man, a part-time mail carrier, an apricot-picker, a butcher’s apprentice, and a warehouseman, loading tin cans onto railway cars. As a boy and then as a teenager Lou was a member of the local Boy Scout troop in Alameda, California. As a Life Scout, he continued to appreciate and support the organization throughout his life.

Allinger enlisted in the U.S. Army in 1946 and was stationed in Fairbanks, Alaska. He received an honorable discharge after his term of enlistment and used the GI Bill to attend the University of California in Berkeley. He received his B.S. degree in chemistry there in 1951. He went on to receive his Ph.D. from the University of California, Los Angeles, under the direction of Nobelist Donald Cram in 1954. He then moved to Harvard University for one year of postdoctoral research with Paul Bartlett. He was on the faculty at Wayne State University (1956-1969) before joining the University of Georgia as Research Professor. He was the first Editor of the *Journal of Computational Chemistry*, serving in this capacity from 1980 through 2001. Professor Allinger is honored for his pioneering work in computational chemistry, his seminal contributions to the development of the molecular mechanics series of force fields, their widespread application to the fundamental understanding of molecular structure and energetics, and their implementation as a significant tool for practicing chemists. He is the senior author of the MM2, MM3, and MM4 molecular mechanics software packages.

Allinger received an Alfred P. Sloan Foundation Fellowship (1958), the ACS Herty Medal (1982), the Arthur C. Cope Scholar Award (1988), the ACS James Flack Norris Award (1989), the ACS Florida Award (1993), the Chemical Pioneer Award from the American Institute of Chemists (1994), the American Chemical Society Computers in Chemistry Award (1996), and the Schrodinger Medal of the World Association of Theoretical and Computational Chemists (1996). He was elected to the National Academy of Sciences in 1991, and in 2002 he received the Benjamin Franklin Medal of the Franklin Institute. Professor Allinger is one of the most highly cited chemists in the world. His 1977 paper on the MM2 method has been cited 5152 times and his 1989 MM3 paper 3774 times (Google Scholar, 2-16-2023).

In addition to his work in the field of chemistry, Dr. Allinger was a longtime and well-respected professional musician who played both the piano and tenor banjo and performed in multiple bands in and around Los Angeles, Detroit, and San Francisco. His preferred style of music was New Orleans Jazz, and he appears on two albums with a band called The Sundown Stompers. He retired from playing music in 2008. He was also a devoted philatelist with a very large collection specializing in used (canceled) stamps from all over the world. Dr. Allinger maintained a lifetime love of baseball and became a staunch Atlanta Braves fan once he had moved his family to Georgia.

Dr. Allinger is survived by his wife of twenty-eight years, Irene; three of his four children, Alan, Ilene, and James (“Gus”); his three step-children, Maritza, Vilma, and Aida; nine grandchildren, and one great-grandchild.

His work literally changed the world, as he was instrumental in the development of the field of Computational Chemistry. Dr. Allinger was much beloved and is already sorely missed by all who knew and loved him.

*Continued on Page 24*



## Winfield “Skeets” Baldwin

Dr. Winfield Morgan (Skeets) Baldwin, Jr., 95, joined his beloved wife of 69 years, Virginia Sue (Jinx) Rosemond Baldwin, 1929–2020, his parents, Winfield Morgan Baldwin, Sr., 1900–1975, Florence Vivian Merritt Baldwin, 1911–2005, and his sister, Carolyn Baldwin Sheffield, 1936–2021, in the hereafter on September 29, 2021. He was surrounded by his family at the time of his passing.

Baldwin, an Eagle Scout, volunteered on July 12, 1943, for service to his country in the Navy. He was an Iwo Jima survivor after landing on the beach on the afternoon of February 20 and being relieved on the afternoon of February 22, 1945. On April 1, his ship, the USS Mellette APA156 experienced Kamikaze attacks off the coast of Okinawa. He was in Tokyo Bay and observed the surrender proceedings on the Missouri on September 2, 1945, and later with Marines at Nagasaki for occupation duty. He was discharged on April 9, 1945, after 33 months of service with the rating of

Signalman First Class.

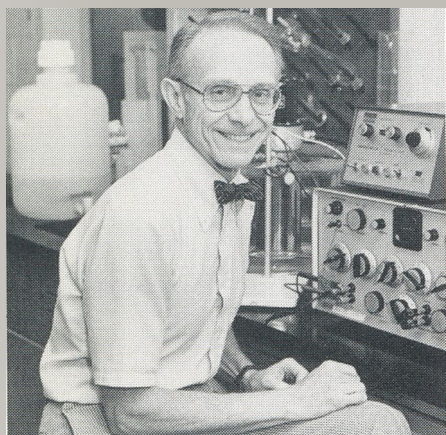
Thanks to the GI Bill, he attended the University of North Carolina at Chapel Hill and received his B.S. Chemistry/Professional ACS degree and later earned the Ph.D. degree with a major in Organic Chemistry and minors in Physical and Analytical Chemistry. He was a member of Alpha Chi Sigma Professional Chemistry Fraternity, NC Delta chapter of Sigma Phi Epsilon Social Fraternity and the Society of the Sigma Xi Research Fraternity.

Dr. Baldwin had a broad career professionally beginning as a Development Chemist with Tennessee Eastman (Kodak) from 1955–1961. In 1961, he became Branch Manager in the Atlanta office of the Instrument Division of the Perkin-Elmer Corporation where he was responsible for seven Southeast states. In 1967, he joined the Faculty of the University of Georgia in Athens and finally found his calling in teaching. He estimates that he was privileged to have taught some fifteen thousand or more students mainly Organic Chemistry. He was happy to see many of his former students go on to professional areas of medicine, veterinary medicine, dentistry, nursing, pharmacy, agriculture and environmental sciences, etc. He served for many years as Graduate Coordinator of Chemistry, recruiting and advising many graduate students. He retired in 1994 as Associate Professor of Chemistry Emeritus.

Dr. Baldwin loved his teaching and his hobbies of flying, golf and fishing. He flew in Kingsport, TN, Atlanta and Athens, GA where he owned planes. He enjoyed this hobby with his son, Bob, who soloed himself at the age of 16. He loved golf and his golfing buddies, where he was known as “Bull.” He also owned a boat and loved fishing with his friends on various Georgia lakes. Baldwin also enjoyed many great Summers and Christmas vacations with his family at Wild Dunes (Isle of Palms, SC) where the family enjoyed the beach, seafood and going into Charleston.

He is survived by his son, Robert M. Baldwin of Mt. Pleasant, S.C. his daughter, Susan A. Baldwin of Athens, Ga., his daughter-in law, Lynell Baldwin and two grandchildren, Kathryn Baldwin Hecker of Decatur, GA, and Robert Morgan (Robbie) Baldwin, Jr. of Mt. Pleasant SC; Nicholas Hecker, Grandson-in-law and two great-grandchildren, Anne Hecker and Theodore Hecker, all of Decatur, GA.





## Francis J. Johnston

Dr. Francis J. Johnston, 97, of Athens, passed peacefully on Saturday, February 26, 2022. He was an adored husband, father, grandfather, and a friend to all who knew him. During over 40 years of teaching, he shared his wisdom and charm with thousands of students.

Francis was born on September 20, 1924 to Effie Johnston and Stanley Wild in the small town of Ferryville, Wisconsin. He always cherished his memories of growing up with his family and friends by the train tracks on the banks of the Mississippi River. In 1944, at age 19, Francis joined the Army's First Division and fought in the Battle of the Bulge. He was among the first Allied service members to cross the

Rhine on a pontoon bridge in Remagen, Germany in March 1945. He was wounded twice in the war and honorably discharged with two Purple Hearts in 1946.

He attended the University of Wisconsin in Madison, graduating with a B.S. in 1947 and Ph.D. in Chemistry in 1951. He and Joyce Domke met there in the library one day, and they were married for 70 years. After graduation, Francis worked at Argonne National Laboratory, at the Savannah River Laboratory, and on the chemistry faculty at the University of Louisville. They moved to Athens in 1960 to work at UGA.

At UGA, Francis conducted research in radiochemistry and taught physical chemistry until retiring as Professor Emeritus in 1992. He received the Philbrook Award for outstanding undergraduate teaching. For all his life he taught and shared life advice with everybody who asked (and many did). Francis and Joyce both loved Athens and the UGA community. Francis always enjoyed the outdoors, mowing the lawn, and exercising - especially swimming. He was an artist who loved painting portraits of his family, friends, and boxers of the 19th and 20th centuries. Most of all, he loved his family.

Francis was predeceased by his wife Joyce and his brother Stuart. He is survived by his son Michael, Michael's wife Cheryl, grandsons Dan and Ben, Ben's wife Adri, and nieces and nephews.

## Allen D. King

Prof. Allen Dupree King, 87, passed away on Sunday, July 3, 2022 in Athens, GA. Born in Philadelphia, he was the son of the late Dr. Allen Dupree King, Sr. and May Loeffler Keech King. He is survived by his wife of 63 years, Suzanne Hofmann King; his sister, Ernestine Loeffler King, Frankfurt, KY; his daughter, Suzanne King Jackson (Stan), Aiken, SC; his son, Stephen Allen King, Aiken, SC; his son, Peter Morton King, Lexington, GA; and two grandchildren: Ashlan Dupree Jackson, Nashville, TN; Conner Stephen King, Estill Springs, TN.

Allen attended Wilmington Friends School in Wilmington, Delaware where he played varsity football and baseball. He received his B.A. in Physics from Colgate University in 1956 where he was a member of Kappa Delta Rho fraternity. He earned his Ph.D. in Physical Chemistry from the University of Texas, Austin in 1961. There he met his bride-to-be, artist Suzanne Hofmann.

Dr. King began his career with Texaco, Inc. in Beacon, New York in 1961. There their first child Suzanne was born. He decided to pursue a career in research and teaching and received the R.A. Welch Postdoctoral



Continued on Page 26

## In Memoriam - Dr. Allen King (continued)

*continued from Page 25*

Fellowship at the University of Texas, Austin. He accepted a position as an assistant professor of chemistry at the University of Georgia in 1963. Here he enjoyed decades as a dedicated, popular member of the faculty. During his tenure he received the ACS Student Affiliate Undergraduate Teaching Award in 1983 and served as graduate coordinator from 1984 until his retirement. He taught his last chemistry course at the age of 78. He retired as Emeritus Professor of Chemistry.

In addition to his teaching and research in the chemistry department at UGA, he consulted with Brookhaven National Labs in 1980, with Lester Laboratories, Atlanta 1979-1985, and Enzymatic Deinking Technologies (EDT), Atlanta from 1994 to 2006. His research focused on fundamental chemical research related to areas of coal and other energy sources, nuclear physics, textiles and dyes, and pharmacology. He held significant research grants and was responsible for several patents. He also published numerous papers and articles with a focus on colloid and surface chemistry.

Dr. King was passionate about teaching, research and his students. He often left social events early to tend to an experiment in his lab or to oversee the progress of his graduate students. But he pursued other passions as well. His childhood on the family farm in Wilmington, Delaware instilled in him a love of farming and a lifelong concern for all creatures great and small. Wild and domestic animals took up with him at his home on historic Woodlawn Avenue, a house he and Suzanne purchased in the early 1960s. His family grew to include two sons as his expansive garden in his backyard grew in the production of vegetables and flowers, all shared with friends in his tight-knit Five Points neighborhood and beyond. He and Suzanne combined their creative talents in a partnership of “farm to table” meals enjoyed by all on their back porch as wildlife and house dog looked on. He had a great love of family. Humble to the end, he was modest about his accomplishments and quirky in his sense of humor.

His professional and community affiliations included the American Chemical Society, Sigma XI (president), American Institute of Physics, Athens Country Club, Historic Athens, and First Presbyterian Church of Athens. Memorial services were held Wednesday, July 13, 2022, at 2:00 pm, at First Presbyterian Church of Athens.



### John J. Kozak

John J. Kozak of Chicago died peacefully on January 13, 2021 at age 80. Beloved husband of Catherine (née Michuda) for 51 years. Father of Jennifer Ferry (Joe), Joseph (Liz), and Gregory (Emily). Brother to Jeanne Kozak. Preceded in death by his parents Joseph and Valeria and brother James Kozak. Grandfather of Zachary, Nicholas, and Vincent Ferry; Josephine, Hazel, Penn, and Liam Kozak.

John was a dedicated professor of chemistry at DePaul University, even teaching a class the day before he passed. Born in Cleveland, Ohio, John was a first generation college student and went on to a remarkable career in academia that provided him with more than a dozen major awards and commendations from both American and international universities, as well as a lifetime of friendships forged with peers around the globe. His many roles included executive vice president for academic affairs at DePaul; provost at Iowa State University; dean of the Franklin College of Arts and Sciences and professor of chemistry at the University of Georgia, Athens; and multiple roles at the University of Notre Dame, including professor of chemistry and associate dean of the College of Science. He proudly published over 200 papers, coauthored with his esteemed colleagues. A graduate of Case Western Reserve University, John received his Ph.D. from Princeton University in 1965. In addition to his passion for teaching and research, John loved traveling, reading, running, his Polish and Slovak heritage, music, art, studying languages, a good rocking chair, a great meal with his family, and Notre Dame football.



### **Kenneth W. Whitten**

Kenneth W. Whitten, 88, passed away suddenly on April 8, 2020. He was born February 4, 1932 in Collinsville, Alabama to the late George Andrew and Mary Magnolia (Hawkins) Whitten. He was raised on a farm as the oldest of seven children in northeast Alabama. Ken's parents instilled in him a strong work ethic that served him well growing up on the farm and throughout his career.

Ken received his A.B. in Chemistry at Berry College, his M.S. in Chemistry at the University of Mississippi and a Ph.D. in Inorganic Chemistry at the University of Illinois. He taught at Tulane, the University of Southwestern Louisiana, the Mississippi State College for Women and the University of Alabama before joining the University of Georgia faculty as the Coordinator of General Chemistry, a position which he held from 1967 until 1998. During

his tenure at UGA, he rose to the rank of full professor, served on many campus committees, and won many awards for teaching including the General Sandy Beaver Award. He was most proud of the chemistry textbook that he coauthored with Dr. Kenneth Gailey and Dr. Raymond Davis, *General Chemistry with Qualitative Analysis*. The textbook and its accompanying manuals went on to be widely used in the United States and internationally, and was published in 10 editions. His passion for and gift of teaching left a mark on thousands of freshman chemistry students. He found great joy in following his student's future successes in their chosen fields.

Outside the classroom, he loved raising cattle with his brother Pete in Alabama and worked diligently each spring and summer in his backyard garden in Athens. Sharing vegetables from his summer garden with friends and neighbors brought him much joy over the years.

Ken was so proud of his family. He is survived by his two children - Andy Whitten and wife Pilar of Guitiriz, Spain and Kathryn Whitten Bohmer and husband Jim of Charlotte, NC; five grandchildren, Oscar Durden, Sarah and Danny Whitten-Losada and Matthew and Sam Bohmer; five brothers and sisters- Peggy Lindsey of Durham, North Carolina, Carolyn Crawford of Fort Payne, Alabama, Pete Whitten and his wife Brenda of Fyffe, Alabama, Katy Woodall and her husband Bobby of Fyffe, Alabama, and Sandra Nolan and her husband Skip of Oklahoma City, Oklahoma; sister in law June Brewer and her husband Buddy; and many nieces and nephews. He was preceded in death by his brother G. A. Whitten and his former wife Betty Jones Whitten.

Ken established the Kenneth Whitten Award to recognize the most outstanding Teaching Assistants at UGA each year and provided funding to endow these awards.

## Obyne Armour

Beulah Obyne Armour, 84, of Hull, died on Sunday, March 15, 2020. Born in Virginia to the late Melvin Mullins and Cyble Spears Mullins, Obyne worked in security at the FBI right after graduating high school. She then worked in the Lincoln County school system in West Virginia before moving to Georgia, where she worked for Georgia Southern and the University of Georgia. She retired from UGA after twenty-five years as the office manager for the Chemistry Department. Obyne was a member of East Athens Baptist Church and a proud foster parent. She and her husband, Jerry, adopted three children. Along with her parents, she was preceded in death by her son, Steve Woodall and daughter, Wendy Snow, and six siblings. Obyne is survived by her husband, Jerry Armour; children Thomas Craig Woodall, Isaiah Christopher Armour, Ian Armour, Carrie (Adrian) Nash, Jared Benjamin Armour, and Renee Durie; son-in-law Roger Snow; grandchildren Jonathan Woodall, Logan Woodall, Lucas Woodall, Sarah Woodall, Emily Woodall, Danielle Snow, and Noah Snow; great-grandchildren Jeremy Sheridan and Isabella Sheridan; and two brothers, Curtis Mullins and Mack Mullins.



## Shawn Stephens Calloway



Shawn Stephens Calloway, 58, of Winterville, GA died on Tuesday, February 4, 2020. Born in Athens to the late Frank Thornton and Betty Faulkner Thornton, Shawn grew up in Center and graduated from Commerce High School. She attended Grove Chapel Holiness Church and retired from the University of Georgia Chemistry Department, where she was assistant for many years for Prof. Lou Allinger. Shawn is survived by her husband, Nelson Calloway; sister, Sandra McDevitt; and brother, Scott Thornton. Shawn's first beloved baby was her dog, Taco. She is also survived by her human children Travis (Lauren) Calloway, Hannah (Bucky) Garrison, and Kayla (Justin) Thomason; grandchildren: Maverick Calloway, Aspen Calloway, Remington Garrison, and Branson Garrison; nieces and nephews: Elvis McDevitt, Brian Flanagan, Joshua

Flanagan, Anthony Thornton, Sheana Thornton, Zachary Thornton, Rose Thornton, John Thornton, Danielle Thornton, and Delanie Thornton; several great-nieces and great-nephews; Uncle George (Janice) Faulkner, and many friends.



### Linda Rowe

Linda Sue Rowe, 77, of Athens, died on Tuesday, January 25, 2022. Born in Cynthiana, Kentucky on December 9, 1944 to the late Johnny Saddler and Dorothy Medley Saddler, Linda worked as a lab and x-ray tech in Greenfield, OH. After moving to Georgia, she worked in the UGA Chemistry Department for many years, including terms as department head secretary for Prof. Buck Rogers and as Senior Scientific Administrator at the Center of Computational Quantum Chemistry, working for Prof. Fritz Schaefer, where she worked until her retirement in 2011. Linda was extremely kind and friendly to everyone she encountered. She would have given the shirt off her back for anyone. She was a loving wife, mother, grandmother, and soon to be great-grandmother who was active in all her family's activities, including football

games, baseball games, gymnastics meets, and school affairs. She and her husband were married for 59 years and very proud of it. Along with her parents, Linda was preceded in death by her daughter, Kimberly Lynn Rowe; son, Christopher Daryl Rowe I; brothers: Donald Saddler, Johnny Saddler Jr., and Richard Saddler; and sisters Dorothy Ford and Bonnie Sparks. She is survived by her husband, Dr. Daryl E. Rowe I; children: Lynette (Sue) Rowe and Daryl (Patricia) E. Rowe II; sisters Jackie (Dennis) Daniel and Ruby (Robert) Gonzalez; and three grandchildren, Anthony J. "AJ" Rowe, Madison Rowe, and Christopher (Amanda) Rowe.

### Robert Smith

Robert Lee "Stick" Smith, age 71, of Athens, GA passed on January 28, 2021.

Survivors include: wife, Brenda Smith; daughters, Pereshanda Smith, Brittany Smith, Vanessa Williams and Bonita Edwards; son, Derek Jackson; sisters, Nellie Barnett and Angela Asbell; 19 grandchildren; four great grandchildren; and a host of cousins, relatives and friends.

Robert ran the Chemistry Stockroom at UGA for many years, and was always cheerful and helpful in locating chemicals, filling orders, and everything that went with this. He also joined in regularly with faculty and graduate students on the Chemistry intramural basketball team.





### Doug Stinnett

Douglas Michael Stinnett died in early December 2021 at his home in Athens of an apparent cardiopulmonary arrest. He was born September 17, 1974 in Kansas City, Missouri. In 1993 Doug graduated from Shawnee Mission East High School, Prairie Village, KS., where he was an avid debater. He was the first Kansan to medal in the U.S. Academic Decathlon in Phoenix, AZ. in 1993.

During his college years at Emory University, he interned for Kansas Senator Nancy Landon Kassebaum. Doug received a Ph.D. from the University of Illinois and accepted an assistant professorship in the Political Science Department at the University of Georgia. Teaching and especially student advising were his passions. He was employed by UGA most of his career. He was academic advisor for the sciences in the Franklin College of

Arts and Sciences, providing guidance for many Chemistry majors. The Franklin Advising Office is placing a plaque to honor Doug's memory in Brooks Hall. Colleagues observed that "he used his intelligence and his vision to help his students avoid potential problems and help guide them through dangerous waters. He helped thousands of students."

Doug is survived and sorely missed by his mother, Linda Stinnett; his brother David and sister-in-law Judy; aunts and cousins. His father, James Daniel Stinnett, predeceased him.



# Alumni Notes

## **1966 Keith, Larry. Monroe, GA. Ph.D.**

Larry Keith, 83, died at his home in Monroe, GA on Feb. 16, 2022. He was an internationally known environmental chemist, and worked throughout his career at the Athens branch of the Environmental Protection Agency (EPA). Larry was one of the founding members of the Northeast Georgia Section of the ACS in 1968, and served as Section Secretary, 1968-69 and Councilor, 1971-76. He was an ACS Fellow with more than 200 publications, served on several advisory boards, and earned numerous honors, awards, and recognitions for his work. While working at the EPA, Larry was an environmental consultant, expert witness, teacher, editor, writer, reviewer, and publisher and developed expert systems for antiterrorism. In addition, Larry played the drums, sailed, skied, loved to travel, and was known for his calm, laid-back demeanor and for his dedication to his family and friends. Larry is survived by his wife Virginia, his daughter Emily, his son Jack and three grandchildren.

## **1967 Darden, John. Gainesville, GA. B.S.**

John came back to campus in August of 2021 to compete in the Chemistry Golf Scramble with teammates Charles Coleman (1969), Vendie Hooks (1970) and Charlie Green (1970). He received his medical degree from the Medical College of Georgia and specializes in General Surgery.

## **1968 Nelms, Leonard. Houston, TX. B.S.**

Len and wife Brenda attended the Chemistry Alumni Lecture and Banquet in April 2022. He grew up in Hull, GA, and visited family there while in the neighborhood.

## **1969 Christie, Dudley. Perry, GA. B.S.**

Dr. Dudley B. Christie, 75, died at his home in Perry on April 19, 2022. Dudley was born in Jesup, Georgia, and grew up in Griffin, where he went to Griffin High School and was a member of the golf team. After attending UGA, Dudley went on to further his education in Memphis at Southern College of Optometry. In 1973, he graduated from SCO and in 1976, he moved to Perry and began practicing in Middle Georgia as Christie Eye Care, gradually opening optometric locations in Perry, Cochran, Warner Robins, Dublin, Milledgeville, and Fort Valley. Dr. Christie was a long-time member of the American Optometric Association, as well as the Georgia Optometric Association, and served for four years as President of the Georgia State Board of Optometry, to which he was appointed by the Governor.

During the 1980's, Dr. Christie became one of the major investors of Athens Cellular, the original cell phone provider in Athens, Georgia, which was purchased by Pacific Telesis and eventually acquired by Bell Atlantic Mobile. That experience gave him the knowledge and means to become one of the principal owners of the Cellular One franchise in South Carolina in the early 1990's, which was also acquired by Bell Atlantic Mobile at which time was combined with other properties to form Verizon. Dr. Christie then helped to found International Communication Group, of which he was President, and secured the license to provide wireless phone service throughout the Republic of Uzbekistan. That business venture was owned by the Government of Uzbekistan (49%) and International Communication Group (51%), and the cellular company was called Uzdunrobita, where Dr. Christie was the Chairman of the Board. Uzdunrobita was eventually sold to MTS, a Russian cellular operation with nearly six million subscribers. Dr. Christie

*Continued on Page 32*

continued his optometry practice in 2002, and worked full-time since then seeing patients until his health began to decline in the last few months.

His love of the game of golf and the skills he developed through the years led him to encourage his children to play from a young age. Dudley was thrilled when his daughter Whitney accepted a scholarship at University of Georgia to be on the Women's Golf Team. He followed her the four years that she was a Lady Dog, walking the courses with her as often as possible, and supporting her to the SEC and the National Championships in 2001.

In recognition of his many accomplishments, Christie was awarded the Distinguished Alumnus Award by the UGA Chemistry Department in 2012.

Left to cherish the memories they made with Dudley are his loving and devoted wife of over fifty years, Linda Heathcott Christie of Perry; his children, Dr. D. B. "Benjie" Christie, III (Dr. Amy) and Cole Christie (Anna), both of Macon, and Whitney Christie Mantooth (Jon) of Watkinsville; his grandchildren, Griffin, Blair, Amelia, Mixon, and Mimi; his brother Dr. Hugh Christie (Jan) of Griffin; his sister-in-law, Lisa Heathcott Hondlenk (Duane) of Orlando, FL; and three nieces and their families.

## **1969 Coleman, Charles. Augusta, GA. B.S.**

Charles came back to campus in August of 2021 to compete in the Chemistry Golf Scramble with teammates Jahn Darden (1967), Vendie Hooks (1970), and Charlie Green (1970). Charles received his medical degree from the Medical College of Georgia and is a Urologist.

## **1970 Green, Charlie G. Augusta, GA. B.S.**

Charlie came back to campus in August of 2021 to compete in the Chemistry Golf Scramble with teammates Charles Coleman (1969), Jahn Darden (1967) and Vendie Hooks (1970). Charlie received his medical degree from the Medical College of Georgia. He is an internist in Augusta, Georgia and is affiliated with Charlie Norwood Veterans Affairs Medical Center.

## **1970 Hooks, Vendie. Augusta, GA. B.S.**

Vendie came back to campus in August of 2021 to compete in the Chemistry Golf Scramble with teammates Charles Coleman (1969), Jahn Darden (1967) and Charlie Green (1970). Vendie received his medical degree from the Medical College of Georgia. He is a colorectal surgery specialist.

## **1975 Berry, (William) Russell. Albany, GA. B.S.**

Russell and wife Dacia attended the Chemistry Alumni Lecture and Banquet in April 2022. He is a dentist in Albany, GA and they come to Athens regularly for football games.

## **1980 Bibber, John W. Chicago, IL. Ph.D. with R. Bruce King.**

After completing his Ph.D. with Bruce King, John had a teaching/research position at the University of Oklahoma. Since 1986 he has been the Research and Laboratory Director at Sanchem, Inc., a company producing corrosion-resistant and conversion coatings. He has been active in research, and has been the Chairman of the subcommittee on Conversion Coatings of the American Society for Testing and Materials (ASTM). He has recently written a book entitled Conversion Coatings (ISBN 978-1-5275-3850-4) published by Cambridge Scholars Publishing.



**1982 Crouch, Dr. Floyd, Jr. Harlem, GA. Ph.D. with Buck Rogers.**

Dr. Floyd Crouch died at his home in Harlem, GA after a battle with Parkinson's disease. After receiving his Ph.D. with Buck Rogers, Floyd spent a year teaching at Berry College, then did postdoctoral work at the University of Kansas in pharmaceutical science. He worked at several pharmaceutical firms in the Winston-Salem, NC area. Floyd is survived by his wife Carolyn, three sons, and six grandchildren.

**1987 Crocker, Bradley. Houston, TX. B.S.**

Brad Crocker, CEO of materials provider Ensilyte, was awarded the inaugural PLASTICS William R. Carteaux Leadership Award in a presentation that took place as part of the Plastics Hall of Fame Gala in Chicago on May 2, 2022. The award, named after the late CEO of PLASTICS, Bill Carteaux, recognizes unity, dedication, perseverance, and selflessness, and is intended for an industry professional who has achieved distinction working for the betterment of the plastics industry.

After eight years as CEO of American Styrenics LLC, Brad was appointed CEO of Ensilyte in August of 2020.

**1999 Kirschner, Karl. Sankt Augustin, Germany. Ph.D. with Philip Bowen.**

Karl married a German woman and has been living and working in Germany for many years. He is a Research Associate at the Department of Computer Science at the University of Applied Sciences Bonn Rhein-Sieg. He is active in the COMP Division of ACS, where he administers their awards to graduate students.

**2003 Grieves, Greg. Atlanta, GA. Ph.D. with Michael Duncan.**

Greg and wife Carla visited UGA in August 2022 and brought their two kids to see the Duncan lab. Graham (5) and Jillian (3) had fun with molecular models, and Graham really liked seeing the lasers in action.

Greg is still working at Nexidia, a software company providing vital agent and customer behavioral data found in contact center interactions from sources including audio, chat, SMS, e-mail, surveys and social media. The company was bought by a big multinational company called NICE Ltd. and is undergoing massive upgrades in processes and technology. Greg was promoted to Team Lead over the Monitoring group. His team's role is to ensure they are capturing key metrics on the operations of the software and determining conditions that indicate when there are failures or interruptions.

**2004 Jaeger, Todd. Flowery Branch, GA. Ph.D. with Michael Duncan.**

After working for several years for Heraeus in Atlanta, Todd moved to a new position as Senior Sales Director - Americas with Coherent Lasers. He and wife Heather still live in Flowery Branch, GA, a suburb of Atlanta.

**2005 Newsome, G. Asher. Washington, DC. B.S.**

Asher is presently a research Physical Scientist at the Smithsonian Museum Conservation Institute in Washington, DC. He recently visited UGA and presented the Analytical Chemistry Seminar entitled "Sampling, Ambient Mass Spectrometry, and the Philosophy of Damage in a Museum Setting," on February 8, 2023.

## Alumni Notes *continued from page 33*

### **2005 Walters, Elizabeth M. Wilmington, NC. Ph.D. with Michael Johnson.**

Elizabeth was recently promoted to Senior Lecturer in the Department of Chemistry and Biochemistry at UNC-Wilmington. She teaches mainly General Chemistry, but also does a senior-level Inorganic synthesis lab. When the need arises, she has also taught an Organic instrumentation and spectroscopy lab.

She and husband Richard (Ph.D. from UGA in 2005 with Michael Duncan) have two sons Richard (17) and Michael (15) and they are starting to plan for college for Richard. Richard senior is still working on a uranium isotope enrichment project, which was owned by General Electric but more recently was bought out by Global Laser Enrichment.

### **2006 Jaeger, Jared. Springfield, MO. Ph.D. with Michael Duncan.**

After nine years at Quest Diagnostics, Jared is now Clinical Science Liaison for Ortho Clinical Diagnostics.

### **2010 Jaeger, Heather. Franklin, PA. Ph.D. with H. F. Schaefer.**

Heather took a new job (March 2022) with Komatsu Mining, Co., where she does electrical modeling and state estimation at the Battery Center of Excellence.

### **2012 Bandyopadhyay, Biswajit. Hillsboro, OR. Ph.D. with Michael Duncan.**

Biswajit was working at Xerox, in Portland, OR, but switched to Intel in June 2021 where his wife Anandi was already working. They welcomed baby Rishaan on April 1, 2019. Rishaan in Bengali means “good human being.” It is also another name of the Hindu God Shiva. Rishaan will be called “Zeke” at home by his chemistry parents, named after “zero electron kinetic energy” spectroscopy!

### **2012 Nekongo, Emmanuel. Waltham, MA. Ph.D. with Vladimir Popik.**

Emmanuel is a Senior Scientist with Molecular/Viral Vector Biology ElevateBio.

### **2013 Brathwaite, Antonio. Atlanta, GA. Ph.D. with Michael Duncan.**

Antonio is Instructor of Chemistry at Emory University. He is teaching Physical Chemistry and the Physical Chemistry labs. Antonio and Tamika had a daughter Liana Camille Brathwaite who was born on March 27, 2020 and a son Michael David Brathwaite who was born September 30, 2022. Antonio received the 2022 Emory Williams Distinguished Undergraduate Teaching Award from Emory.

### **2014 Gilliard, Robert. Charlottesville, VA. Ph.D. with Gregory Robinson.**

Robert was Assistant Professor of Chemistry at the University of Virginia from 2017 to 2022. He was awarded an NSF Career Award in 2021 for his work on Boracycles with Unusual Bonding as Creative Strategies for Main-Group Functional Materials. Gilliard spent time in the MIT Department of Chemistry as the 2021-2022 Dr. Martin Luther King Visiting Professor. Among his honors are a 2021 Packard Fellowship, and the 2023 Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator. In January 2023, Robert moved from Virginia to take a faculty appointment at MIT, where he is now Novartis Associate Professor.

### **2014 Shirley, Caitlyne. Hattiesburg, MS. M.S. with Jason Locklin.**

After three years as Technical Service Representative with Mississippi Polymer Institute, Caitlyne is now CTO and Co-Founder of G. I. Jean, a company developing healthcare products for women in the military.

*Continued on Page 35*

**2014 Sokolov, Alexander. Columbus, OH. Ph.D. with H. F. Schaefer.**

Alex is Assistant Professor of Chemistry at The Ohio State University. He was awarded an NSF Career Award in 2021 for his work on Efficient and Reliable Electronic Structure Theories for Spectroscopic Properties of Strongly Correlated Systems.

**2016 Akin, Scott. Duluth, GA. Ph.D. with Michael Duncan.**

After a little over 5 years in the Bay Area working with Spectra-Physics, Scott and Laura decided it was time to move back to Georgia. He took an Optical Engineer position with Nichia (LED company that invented the blue LED), and the family moved back at the end of the summer in 2022. They all enjoy being closer to family, and their son (Noah, age 4) gets to see his grandparents and cousins much more often.

**2016 Sutton, Dewey. Augusta, GA. Ph.D. with Vladimir Popik.**

Dewey is a Research and Development Supervisor at AmbioPharm, in Augusta, GA.

**2017 Mauney, Daniel. Charlotte, NC. Ph.D. with Michael Duncan.**

After three and a half years as a software developer at Nascent Technology, Dan took a position as Salesforce Developer at The Hunley Group in July of 2021.

**2017 McNitt, Chris. Stony Brook, NY. Ph.D. with Vladimir Popik.**

Chris is a Senior Scientist at Adesis, Inc., in Stony Brook, NY.

**2018 Beckham, Jacob. Houston, TX. B.S. Undergraduate research with Michael Duncan.**

Jacob began graduate school in Fall 2019 at Rice University. He is majoring in Physical Chemistry and working with Prof. James Tour. Jacob was awarded an NSF Graduate Research Fellowship in March 2020.

**2018 Day, Elizabeth. El Paso, TX. Ph.D. with Norbert Pienta.**

After completing almost three years of postdoctoral work at the University of Michigan, Elizabeth began work as an Assistant Professor of Chemistry at the University of Texas, El Paso in June of 2021.

**2018 McDonald, David. Rochester, NY. Ph.D. with Michael Duncan.**

David and Michelle welcomed baby Tobias in December of 2019. He moved from his position at the Air Force Research Lab at Kirtland, AFB in Albuquerque to a new job with Toptica Photonics in Rochester, NY in the summer of 2021. In August 2022, David moved to Boston, where he took a new position with Bruker Instruments (Life Sciences Division).

**2018 Nguyen, Nick Albuquerque, NM. M.S. with Tina Salguero**

After receiving his master's degree in 2018 and working in the teaching labs at UGA for several years, Nick relocated to Albuquerque, NM. Nick is coming up on one year at Kairos Power where he works as the lead characterization engineer. At Kairos Power, Nick is aiding in the establishment of materials and salt chemistry characterization capabilities in support of the development of Kairos Power's molten salt reactor. He is enjoying his time in the high desert of Albuquerque, NM where the sun shines brightly, and the humidity is low enough to hang-dry clothes.

# Alumni Notes

*continued from page 35*

**2018 Wagner, Philipp. Tübingen, Germany. Postdoc with Michael Duncan.**

Philipp is doing Habilitation at the University of Tübingen in the area of matrix isolation spectroscopy of radical intermediates in atmospheric chemistry. He and new wife Marie were married in August of 2022 and are expecting a baby in summer 2023.

**2018 Ward, Tim. Rio Rancho, NM. Ph.D. with Michael Duncan.**

Tim continues to work for Intel, but was transferred from Portland, OR to their fabrication plant just outside of Albuquerque, NM in May of 2020. He and wife Abby had their second child, Liam Lee Ward, who was born March 29, 2020. They visited Athens in May and Tim toured the new STEM-1 building.

**2019 Lin, Nannan. Ronkonkoma, NY. Ph.D. with Vladimir Popik.**

Nannan is Principal Scientist at Alfa Chemistry in Ronkonkoma, NY.

**2019 Liu, Xiangji (Mane). Exton, PA. Ph.D. with Michael Duncan.**

Mane took a new job in July 2021 at Frontage, a pharmaceutical company. He is working for the bioanalytical team, doing LC-mass spectrometry. He and his wife had a baby girl named Arielle on September 24, 2021.

**2019 Niedermaier, Henry. Columbia, MD. Ph.D. with Jeff Urbauer.**

Henry is a Field Service Engineer for Bruker BioSpin since 2019. He recently married Cynthia Tope, also a Ph.D. graduate from the Urbauer group.

**2019 Sutton, Masha. Athens, GA. Ph.D. with Vladimir Popik.**

Masha moved from AmbioPharm to Purisys in Athens, GA as an Analytical Scientist in August of 2022.

**2019 Woodard, Melissa. Akron, OH. Ph.D. with Michael Duncan.**

Melissa and husband Sean have been living in Akron, OH, where she was working as an analytical chemist at Bridgestone Tire Co. She got tired of the cold Ohio winters, and just accepted a new position with Ascend Performance Materials in Pensacola, FL. She will be a Senior Analytical Chemist doing microscopy and some spectroscopy. Melissa and Sean had baby girl number two in September 2022.

**2020 Edwards, Macie. Macon, GA. B.S.**

Macie is in medical school at Mercer School of Medicine.

**2020 Grubbs, Jennifer. Auburn, AL. B.S.**

After graduating with a double major in Chemistry and in Music, Jennifer is now in Pharmacy School at Auburn University.

**2020 Hawkins, Jaci. Athens, GA. B.S.**

Jaci is working as a Physical Science Technician at the U.S. Department of Agriculture Labs in Athens. She is part of the Toxicology & Mycotoxin Research Unit at the U.S. National Poultry Research Center.

*Continued on Page 37*

# Alumni Notes

*continued from page 36*

**2020 Wang, Kun. Exton, PA. Ph.D. with Vladimir Popik.**

Kun is Senior Scientist at the Frontage Laboratories in Exton, PA.

**2021 Marks, Joshua. Honolulu, HI. Ph.D. with Michael Duncan.**

Josh is a postdoc at the University of Hawaii working with Prof. Ralf Kaiser on reaction dynamics relevant for interstellar chemistry.

**2021 Niedermaier, Cynthia (Tope). Baltimore, MD. Ph.D. with Jeff Urbauer.**

Cynthia recently married Henry Niedermaier, also a UGA graduate from the Urbauer group. She is now the director of the 'Molecular Characterization and Analysis Complex' (MCAC) at the University of Maryland-Baltimore County. The MCAC is dedicated to developing cutting edge analytical techniques in order to solve modern problems while providing a stimulating learning environment and exposure to research for both undergraduate and graduate students. It houses approximately 20 different instruments with a variety of capabilities including chromatography, mass spectrometry, NMR and spectroscopy.

**2022 Molnar, Chris. Chapel Hill, NC. Ph.D. with Vladimir Popik.**

Chris just started a postdoc position at the UNC Chapel Hill School of Medicine.

**2022 Patel, Shrey. Suwanee, GA. M.S. with Vladimir Popik.**

Shrey is studying in the College of Osteopathic Medicine at Suwanee, GA.

**2022 Ren, Zichun (Zach). Ronkonkoma, NY. Ph.D. with Vladimir Popik.**

Zach is a Project Manager at Alfa Chemistry in Ronkonkoma, NY.

**2022 Rittgers, Brandon. Tunnel Hill, GA. Ph.D. with Michael Duncan.**

Brandon recently took a job with Mohawk Industries in Chattanooga in September 2022.

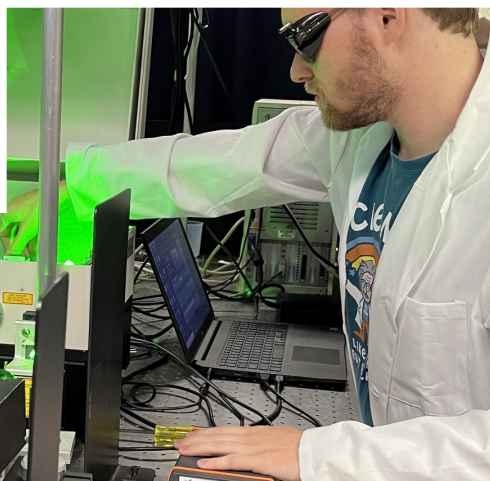
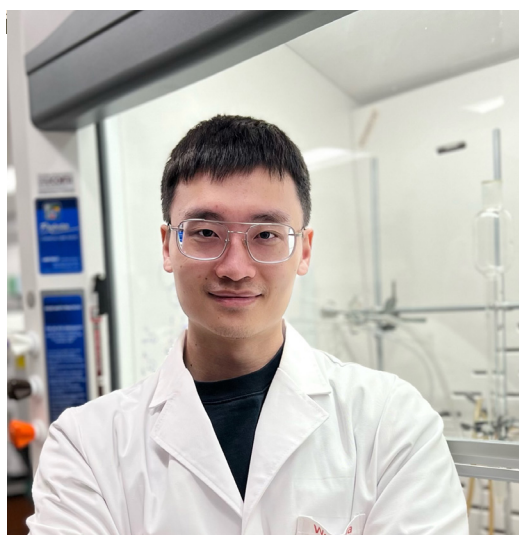
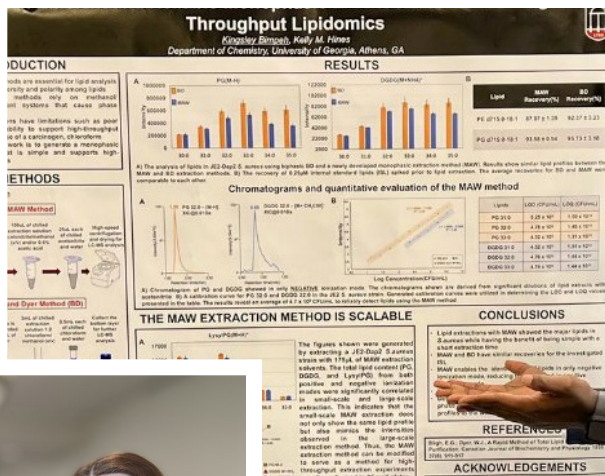
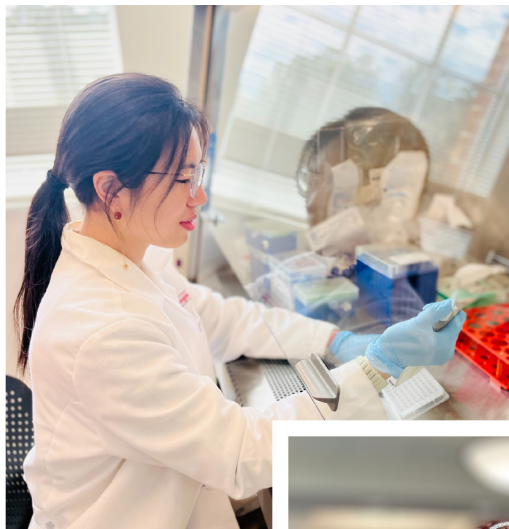
**2022 Sharma, Shubham. Cranbury, NJ. Ph.D. with Vladimir Popik.**

Shubham is a Senior Research Engineer at J-STAR Research, Inc.

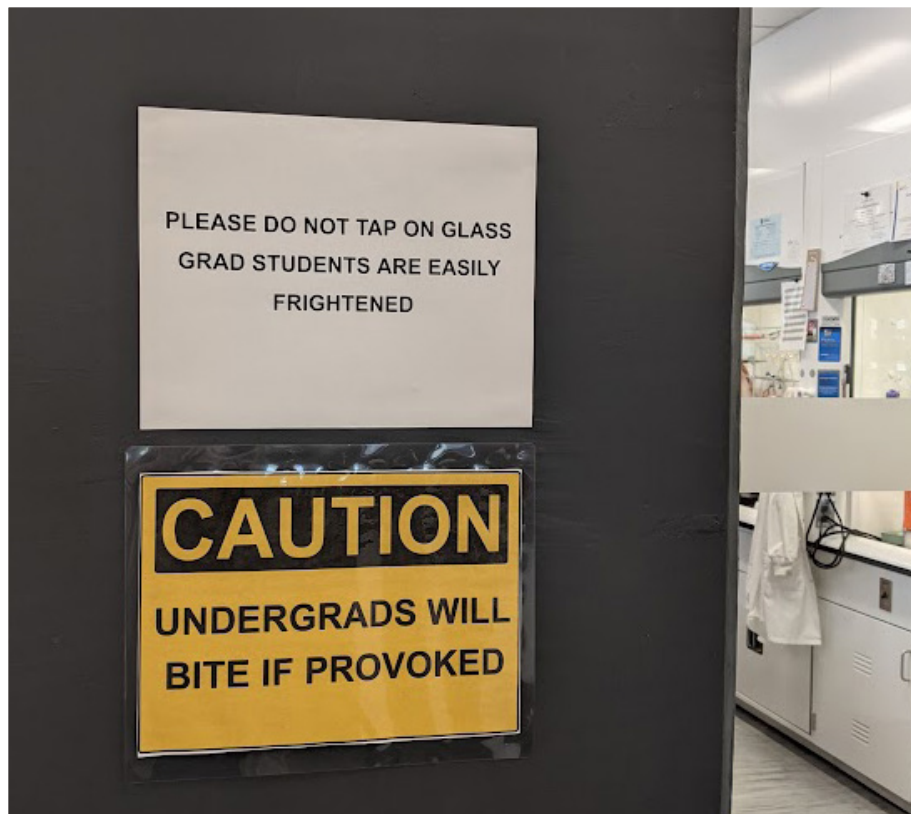
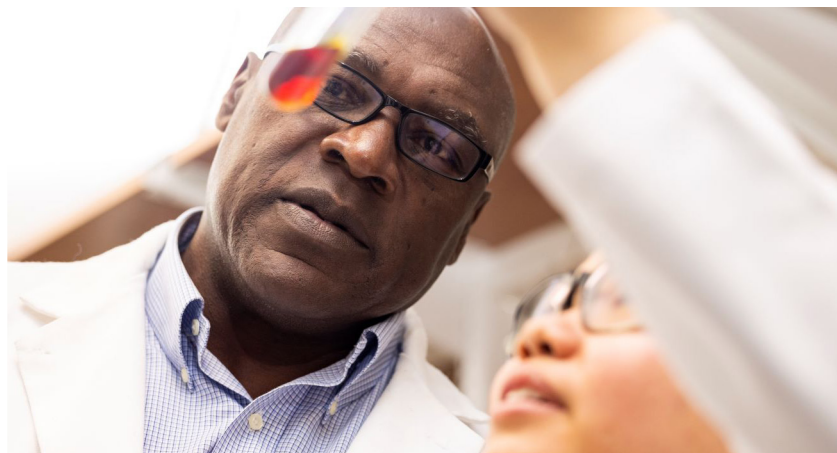
**2022 Zhao, Chen. Ronkonkoma, NY. Ph.D. with Vladimir Popik.**

Chen is a Senior Scientist with Alfa Chemistry in Ronkonkoma, NY.

# We are proud of our UGA Chemistry students!



# STEM Life





*I am proud to support...*

## **The Chemistry Department, University of Georgia**

I would like my gift of: \$ \_\_\_\_\_ to benefit The Chemistry Department Fund.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone/Email: \_\_\_\_\_

*Please make checks payable to: The UGA Foundation and write "Chemistry Fund" in the "For:" section*

Mail your gift to:  
University of Georgia Foundation  
Attn: Office of Gift Accounting  
Athens, GA 30602

To make a gift online, visit:  
[gail.uga.edu/chemistryfund](http://gail.uga.edu/chemistryfund)

**Please charge my gift of \$ \_\_\_\_\_**

\_\_\_\_ VISA                      \_\_\_\_ American Express  
\_\_\_\_ MasterCard              \_\_\_\_ Discover

Name on card: \_\_\_\_\_

Card Number: \_\_\_\_\_

Card Expires: \_\_\_\_ / \_\_\_\_

Signature: \_\_\_\_\_