

CHEMISTRY

SPRING 2020

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at UGA

Welcome from the Head

Greetings from the Department of Chemistry!

To someone who hasn't visited Athens in a while, the cityscape may appear almost unrecognizable. Similar to the city of Athens, the Department of Chemistry has experienced significant changes during the last decade. More than half of the faculty present in the department prior to my arriving in 2008 have either retired or moved on to other stages of their careers. With the new STEM buildings slated to open in the next few years, more change certainly awaits us, as our research groups transition into new state-of-the-art laboratory space. One thing that has remained constant over the last decade is Jon Amster. As our Head, Jon guided us through the storm for 10 years, and he is now enjoying a well-deserved return to dedicating his full attention to research and teaching. I only hope to achieve a similar degree of success during my stint as Head. We owe Jon a debt of gratitude for his exemplary service to our department. Jon reflects on his time as Head later on in this newsletter.



Prof. Gary Douberly

First phase construction of the interdisciplinary STEM building has been underway since spring of 2019. Planning for the second phase is ongoing, and funding for this project has been requested in Governor Kemp's latest budget proposal. Chemistry will occupy 60% of the space in these buildings, and the design is conducive to collaborations and interactions with Engineering faculty, who will occupy the remaining 40%. There is sufficient space for all our active research groups, along with space for several new hires. The first floor of STEM-1 will house the NMR, mass spectrometry, X-ray diffraction, and electron microscopy core facilities. As reported in this newsletter, Associate Professor Tina Salguero, co-director of the Georgia Electron Microscopy core facility, served as PI on a \$1M NSF grant that is bringing a new high-resolution electron microscope to UGA, which will be housed in STEM-1. It is becoming clear already that the STEM buildings will greatly impact our graduate student and faculty recruitment efforts, the lifeblood of our department.

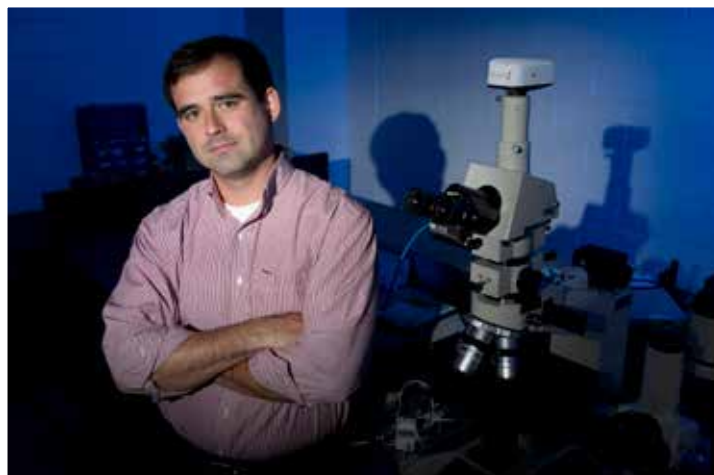
John Stickney, George Majetich, and Wesley Allen retired at the end of the 2019 academic year, and sadly, Chuck Kutal passed away in August. We highlight their career achievements in this newsletter. Two new faculty hires started their appointments in the Fall of 2019, Kelly Hines, an Assistant Professor in analytical chemistry, and David Crich, a senior-level organic chemist who holds a joint appointment in the College of Pharmacy. We were approved to hire an Assistant Professor in organic chemistry and an Assistant or Associate Professor

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Please Join us for the 2020 Alumni Weekend!

Alumni Lecture and Awards Banquet on Friday, April 17th
Golf Scramble at UGA Golf Course on Saturday, April 18th

Please note: Because of the coronavirus situation, UGA event schedules are presently uncertain. Please check with the Chemistry office at 706-542-1919 to confirm the status of these events.



The 2020 Chemistry Alumni Lecture will be given on Friday afternoon April 17 in the Chemistry Department by Prof. Jason Locklin from the University of Georgia. Following the 4:00 lecture in the Chemistry Building, there will be a social hour (6:00) and then the evening 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. Louis Renbaum (Ph.D. 1981 with Richard Hill). There is no charge for the lecture or banquet. On Saturday afternoon April 18, we will have the Chemistry Golf Scramble at the UGA course, followed by a barbecue at the golf course clubhouse. Please plan to join us for these fun weekend events. To make a reservation, please contact the Chemistry Department Head's Assistant Kelli Porterfield at 706-542-1919.

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WELCOME ...FROM PAGE 1

in computational chemistry. These faculty searches are ongoing and we will report their outcomes in next year's newsletter. Our faculty numbers are still low in comparison to a decade ago, as faculty hires have not kept pace with retirements. We aspire to hire at the pace of two new faculty per year over the course of the next few years.

Hiring new faculty is an expensive and competitive proposition, and identifying sources of these funds remains the biggest challenge in creating new faculty positions in Chemistry. Please consider making a donation that we can use for faculty recruiting, or for any other research, teaching, or training activity in which you may wish to invest. We are grateful for the generous donations that we receive from our alumni. 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 17th, the annual golf tournament on Saturday, April 18th, or for the Allinger Lecture this coming fall. ●



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A LUMNI WEEKEND ...FROM PAGE 1

Jason Locklin obtained both his B.S. in Chemistry (1999) from Millsaps College and his Ph.D. (2004) at the University of Houston under the direction of Rigoberto Advincula. In 2005, he moved to Stanford University as an Intelligence Community Postdoctoral Fellow in the laboratory of Zhenan Bao. In 2007, he joined the faculty at the University of Georgia as an Assistant Professor in the Department of Chemistry and Faculty of Engineering, where he is now Full Professor. He has been awarded the Central Intelligence Agency Young Investigator Award (2007) and the NSF CAREER Award (2010). He is the Director of the New Materials Institute at UGA and Center Lead in the Center for Advanced Polymers, Fibers & Coatings.



Locklin's research focuses on growing functional polymers from surfaces in a "grafting from" method using different surface-initiated polymerization techniques. Surface-bound initiators are tethered to a substrate (such as glass, metal, or plastic) and the polymer is grown directly from the initiator, resulting in the covalent attachment of polymer chains to the surface. In a densely packed environment, the polymer chains adopt an upright conformation, forming what are called polymer brushes. Irreversibly immobilized polymer chains have excellent long-term stability, even in adverse environments, which make them attractive for a wide variety of applications. Currently, the group is using ring-opening polymerization (ROP), Kumada catalyst-transfer polycondensation (KCTP), Stille catalyst-transfer polycondensation (SCTP), atom-transfer radical polymerization (ATRP) and conventional free radical polymerization to develop functional coatings for applications in stimuli responsive surfaces, photo-induced mechanical motion, sensors for biological arrays, antimicrobial coatings and enzymatic biofuel cells. ●



Michael Scarbrough and Prof. Geraldine Richmond

2019 Alumni Lecture and Banquet

The UGA Chemistry Department held its annual Alumni Lecture and Awards Banquet on Friday, April 26, 2018, at the UGA Georgia Center. The Alumni Lecture was presented by Prof. Geraldine Richmond from the University of Oregon on the topic of "Surf, Sink or Swim: Understanding Environmentally Important Processes at Water Surfaces."

Geraldine (Geri) Richmond is the Presidential Chair in Science and Professor of Chemistry at the University of Oregon where she has been since 1985. A native of Kansas, she received her undergraduate degree in chemistry from Kansas State University and her Ph.D. in physical chemistry from the University of California-Berkeley. Her research examines the chemistry and physics that occurs at complex surfaces that have relevance to important problems in energy production, environmental remediation and atmospheric chemistry. Using a combination of laser-based methods and theoretical simulations her most recent efforts have focused on understanding environmentally important processes at water surfaces. Over 200 publications have resulted from the studies conducted in her laboratory with undergraduate, graduate students and postdoctoral associates.

Richmond is a member of the National Academy of Sciences and a Fellow of the American Academy of Arts and Sciences. Awards for her scientific accomplishments include the National Medal of Science, the Priestley Medal of the American Chemical Society (ACS), the Linus Pauling Medal Award, the ACS Olin-Garvan Medal, the ACS Joel H. Hildebrand Award, and the American Physical Society (APS) Davison-Germer Prize in Surface Physics and the 2018 ACS Priestley Medal. She is a Fellow of the American Chemical Society, the American Physical Society, the American Association for the Advancement of Science (AAAS), the Association for Women in Science (AWIS), and the Society of Applied Spectroscopists (SAS).

Richmond has held numerous leadership roles in the national and international scientific arena throughout her career. She is currently serving on the National Science Board (Obama appointee) and is Secretary of the American Academy of Arts and Sciences. She has recently served and as U.S. State Department Science Envoy to the SE Asian Lower Mekong River countries of Thailand, Myanmar, Cambodia, Vietnam and Laos (Kerry appointee) and is the recent president and Chair of the Board of the American Association for the Advancement of Science (AAAS). A strong advocate throughout her career for diversity in the scientific workforce, Richmond is the founding and current Director of COACH, a grass-roots organization formed in 1998 that has helped in the career advancement of over 20,000 women scientists and engineers in the U.S. and in over 20 developing countries in Asia, Africa and Latin America. Awards for these education, outreach and science capacity building efforts include the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring, the ACS Award for Encouraging Women in the Chemical Sciences, and the ACS Charles L. Parsons Award.

The Distinguished Alumnus Award winner for 2019 was Michael Scarbrough. Mike attended the University of Georgia as an undergraduate, where he received a B.S. degree in Chemistry in 1987. After graduating, he worked as a research chemist for Multi-Tech in Atlanta, and then went back to school for an MBA at Georgia State University (1991). After this he worked for Sonoco, Fundamental Business Solutions, FBO Systems, and Scovill, in a variety of roles involving accounting, software development, network and IT development, and strategic planning. He joined NexTraQ in 2005, where he served as COO/CFO and CEO.

Since 2015, Mike has served as the President and CEO of Nextech, a leading healthcare technology company, where he is focused on driving innovation and delivering solutions to help plastic surgeons, orthopedic surgeons, ophthalmologist, and other physicians to improve patient care and clinical operations. With more than 25 years of multi-faceted executive leadership experience, Mike leads Nextech's strategy to expand its product portfolio and leadership in the specialty physician market. He is also on the board of several private equity companies. He is passionate about the importance of connecting businesses with educational institutions, and is committed to carrying on UGA's mission "to teach, to serve, and to inquire into the nature of things." ●



Construction site for the STEM-I building as of February 14, 2020.

New STEM-I Building Under Construction

As mentioned in the last newsletter, the university has undertaken a large construction project to provide new research space for Chemistry and Engineering. Called I-STEM (Interdisciplinary Science, Technology, Engineering, and Mathematics), this project will entail the construction of two buildings, each of which will be 100,000 square feet in size. The two buildings will be adjacent to each other, with a skybridge joining them. The university began construction on the first phase of the project, called STEM-I, in January 2019. Presently, the basement of the building, a three-story parking garage, is under construction, and the research space will soon follow. The project is on schedule, and the building should be ready for occupancy in the summer of 2021.

Design of the second phase, STEM-II, has been underway for the last 8 months, and ground breaking will dovetail with the completion of STEM-I. The Department of Chemistry has been allocated 60% of

the space in I-STEM, and will move all its experimental research groups into these buildings. Core instrument facilities, such as NMR, mass spectrometry, crystallography, and electron microscopy, will occupy the ground floor of STEM-I, while the bulk of the research laboratories will be located on the second and third floors, and all three floors of STEM-II. Classrooms, teaching laboratories, and administrative offices will remain in their current space in the old Chemistry Building, while vacated laboratories will be renovated and assigned to other science departments.

The long-term plan for the university is to renovate all of the buildings on Science Hill, which were constructed in the 1950s and '60s. The move of our department into I-STEM will create the open space to begin the step-wise renovation project for the rest of the science departments. ●

Notes from the Outgoing Head of Chemistry, Jon Amster



John Amster

This past June 30th marked for me the completion of ten years of service as department head of Chemistry, and the end of my term as head. The transfer of leadership to our new head, Gary Douberly, has gone smoothly, and the department is in very capable hands. It has been an honor to serve in this capacity, and I am proud of some of the major accomplishments that occurred on my watch. A few of the most significant include:

Tenure stream faculty recruitment: Our university has consistently shown strong support for our department with regards to faculty recruitment, allowing us to hire a dozen new faculty members during my term as head. These include: Tina Salguero (2010), Shanta Dhar (2010), Jin Xie (2011), Norb Pienta (2012), Ryan Hili (2013), Sergiy Minko (2013, joint with Textiles), Eric Ferriera (2014), Melanie Reber (2016), Steven Wheeler (2016), Amanda Frossard (2017), Kelly Hines (2019), and David Crich (2019, joint with Pharmacy and Biomedical Sciences.) Balancing this influx of talent into our department has been the loss of faculty by recruitment to other universities (Tim Dore, Rich Dluhy, Butch Atwood, Ryan Hili, Shanta Dhar) and retirement (Jim Anderson, Jim de Haseth, Jim Prestegard, George Majetich, John Stickney, Norb Pienta, Wes Allen). Also, two faculty members passed away during the last decade (Paul Schleyer and Chuck Kutal). While it was sad to lose these colleagues and friends, I was personally inspired by these two scientists who remained active researchers until the end (Schleyer in computational chemistry and Kutal in STEM education). If you add up the numbers of incoming and outgoing faculty, you will see that we are actually down by two positions compared to 10 years ago. Fortunately, our new head has already secured support from the upper administration to recruit two new tenure-stream faculty this year.

New buildings: Two decades after the last construction project in Chemistry (the Chemistry Annex, occupied in 1995), the university has again invested in significant new space for teaching and research in Chemistry. In the fall semester of 2016, we moved our General Chemistry and Organic Chemistry teaching programs into the Science Learning Center, a building that we share with the Biological Sciences and Physics. This building provides new state-of-the-art teaching laboratories, lecture halls, and SCALE-UP classroom space, and has had tremendous positive impact on instruction in our large enrollment courses. Shortly after we moved into the Science Learning Center, the university proposed the construction of a new interdisciplinary research building to be shared by Chemistry and Engineering. Funding was approved the legislature in 2017, and construction is now underway for phase-I of a two-phase construction project that will provide two 100,000 sq. ft. buildings. Chemistry will occupy 60% of this space, sufficient for

all the experimental research programs in our department. STEM-I will be occupied in 2021, and STEM-II is slated for occupancy the following year.

Department management: Our department is a large and complex enterprise, and in the Franklin College, is consistently ranked in the top five departments in both credit-hour production and external funding for research. We also have one of the largest graduate programs on campus, with 150 doctoral students. The management of these combined operations is a challenge for a department head who is still expected to maintain an active research program and to participate in teaching. Three years ago, I proposed the establishment of a new staff position, Departmental Operating Officer (DOO), who would assume many of the head's time-consuming duties. Many top chemistry departments utilize this management scheme, to allow the head to focus on new initiatives rather than be bogged down by the minutiae of day-to-day department operations. Bob Scott, who had recently returned to the department after spending more than a decade as associate VP for research, led the effort to define the duties of this position, and to identify and hire our first DOO, Thomas Johnson. We are now in year two of this scheme of departmental management, and the benefits are already apparent. For example, the very recent transition between outgoing and incoming heads was considerably easier due to the continuity provided in department operations.

Throughout my time as head, I enjoyed the support of outstanding faculty and staff. I was particularly fortunate to have a highly proficient office manager, in the person of Kristie Huff, who managed the accounting staff and a very complex budget so that I never had to be concerned about the fiscal aspects of the department. Kristie retired shortly after I stepped down as head, and will be missed by all in the department. I would be remiss if I did not also mention the contributions of Geoff Smith, who served as a very capable associate head for most of the last decade, and made many important contributions to the management of the department. ●

Schaefer Receives Southern Chemist Award



Henry F. (Fritz) Schaefer

Professor Henry F. Schaefer, Director of the Center for Computational Quantum Chemistry at UGA, has been awarded the 2019 Southern Chemist Award by the American Chemical Society, in recognition of his accomplishments in the field of computational chemistry. This prestigious award honors outstanding researchers who are U.S. citizens, have worked in the South for at least 10 years, have actively participated in ACS events, and have brought unusual recognition to the South through their activities and accomplishments.

Schaefer obtained his Ph.D. in Chemical Physics from Stanford University under the supervision of John I. Brauman in 1969 for work with Frank E. Harris, and he started his academic career as an Assistant Professor at University of California, Berkeley in the same year. In 1987, he moved to the University of Georgia where he has since served as the Graham Perdue Professor of Chemistry. He is a fellow of the American Academy of Arts and Sciences, American Physical Society, American Association for the Advancement of Science, Royal Society of Chemistry, American Chemical Society, and an honorary fellow of the Chemical Research Society of India. His research group uses advanced computational hardware and theoretical methods to solve problems in molecular structure, bonding and spectroscopy.

Professor Schaefer will be honored at an Award Banquet in Memphis, TN this Spring. ●

Alanna Koritzke Awarded a Chateaubriand Fellowship



Alanna Koritzke

Alanna Koritzke, a graduate student in the lab of Prof. Brandon Rotavera, has been awarded the Chateaubriand Fellowship for 2020. The Chateaubriand Fellowship is a grant offered by the Embassy of France in the United States. It supports outstanding Ph.D. students from American universities who wish to conduct research in France for a period ranging from four to nine months. Chateaubriand fellows are selected through a merit-based competition, through a collaborative process involving expert evaluators in both countries.

Her fellowship is supported by the Science, Technology, Engineering, Mathematics & Biology-Health (STEM) division, and aims to initiate or reinforce collaborations, partnerships or joint projects between French and American research teams. This fellowship is offered by the Office for Science & Technology (OST) of the Embassy of France in partnership with American universities and French research organizations such as Inserm and Inria. It is a partner of the National Science Foundation's GROW program.

Alanna will be working with a colleague of Prof. Rotavera's, Dr. Andrea Comandini, at the Centre National de la Recherche Scientifique (CNRS-Orléans, France), one of the world's leading research institutions. Its scientists explore the living world, matter, the Universe, and the functioning of human societies in order to meet the major challenges of today and tomorrow. Internationally recognized for the excellence of its scientific research, the CNRS is a reference in the world of research and development, as well as for the general public.

Together with Dr. Comandini's research group, Alanna will be conducting shock tube experiments that utilize optical diagnostics and GC/MS to produce speciation measurements from high-temperature combustion of two biofuels: tetrahydrofuran and diethyl ether. Alanna's work at CNRS-Orléans complements her Ph.D. research at UGA in Prof. Rotavera's laboratory, which focuses on low-temperature combustion using a turbulent flow reactor equipped with a suite of advanced analytical diagnostics, including tandem gas chromatography mass spectrometry (GC/MS) and electronic absorption spectroscopy, and time-dependent Fourier Transform infrared spectroscopy. Alanna's physical chemistry research on biofuel combustion aims to support ongoing advances in sustainable transportation energy. ●

NSF Grant Funds New Electron Microscope

by Allyson Mann; adapted from a story in UGA Columns.



The Georgia Electron Microscopy team includes, from left, lab coordinator Mary Ard, lab manager Eric Formo, staff member Beth Richardson, and co-directors Tina Salguero and John Shields. (Photo by Dorothy Kozlowski/UGA).

A grant of nearly \$1 million from the National Science Foundation, with additional funding provided by the Office of Research and the Georgia Research Alliance, will bring a new electron microscope—the only one of its kind in Georgia—to the UGA campus. The project is a collaboration between Georgia Electron Microscopy, one of UGA's research core facilities, and several long-time GEM users. Tina Salguero, Associate Professor of Chemistry and director of GEM, serves as principal investigator for the project, which received \$997,499 in NSF funding.

"Our proposal identified 29 major users of the new microscope across 14 departments," she said. "The diversity of research interests represented highlights the broad demand for this microscope at UGA."

Salguero investigates two-dimensional nanomaterials for electronics and energy storage applications. The team also includes co-PIs Sergiy Minko, Professor of Chemistry, who develops organic/inorganic hybrid fibers for next-generation textiles; Aaron Thompson, Associate Professor of Environmental Soil Chemistry, who studies the complexities of soil chemistry; Ralph Tripp, Georgia Research Alliance Eminent Scholar of Vaccine and Therapeutic Studies, who is a leading expert in respiratory viruses and related diseases; and Jin Xie, Associate Professor of Chemistry, who studies nanomaterials for bioimaging and drug delivery.

"Finding the funds to keep expensive, high-end core facility equipment state of the art is a constant challenge," said David Lee, vice president for research. "It helps enormously when faculty are successful in attracting grants that cover at least a major portion of the cost, as in this case. I look forward to seeing what the team is able to accomplish with this remarkable equipment."

The microscope, a Hitachi SU9000EA, can image and analyze samples using a low-energy, "gentle" electron beam, unlike most transmission electron microscopes that use high-energy electron beams. "The main advantage is that the 'gentle' beam causes much less damage to samples, especially organic and biological samples," Salguero said. "This instrument will also allow us to collect elemental

information with a technique called electron energy loss spectroscopy, which previously has not been available at UGA." In addition to its applications in research, the microscope will also be used for class demonstrations and workshops, as well as to generate images and data to help develop unique, open-access curricular materials for K-12 STEM education.

The new microscope will be installed in March and housed temporarily in Barrow Hall, at GEM's current facility, until construction of the I-STEM Research Building is completed. Expected to open in summer 2021, the I-STEM facility is specially designed for equipment that is sensitive to vibrations and noise, like the new microscope. Placing the microscope in this location is expected to foster additional collaboration on campus, as well as enhancing joint projects with Hitachi and other industrial partners. ●

Kaitlin Luedecke Named Goldwater Scholar



Kaitlin Luedecke

Kaitlin Luedecke, an Honors major in the Chemistry Department, has been announced as one of four recipients of the 2019 Barry M. Goldwater Scholarship, one of the highest undergraduate honors in the United States. It reflects her outstanding academic achievement and commitment to pursuing a career in the STEM fields.

Katie conducts undergraduate research under the guidance of UGA Foundation Professor Gregory Robinson in his inorganic chemistry lab. She has made presentations at the Southeastern and National meetings of the American Chemical Society, the CURO Symposium, and UGA's Summer Undergraduate Research Opportunities Symposium. Her work has been published in the journal *Dalton Transactions*. She was an invited participant at the American Chemical Society's Inorganic Undergraduate Symposium. Her awards include the American Chemical Society's Undergraduate Award, the UGA Chemistry Undergraduate Student of the Year, and a CURO research assistantship at UGA.

In May of 2019, she studied abroad in Australia and New Zealand, examining ecosystems in these countries. She plans to pursue a doctorate in chemistry, specializing in Inorganic Chemistry with a focus on carbene chemistry, and thereafter teach at a research university. She hopes to develop mentorship and outreach opportunities for females in STEM at the sub-collegiate level. ●



Cynthia Tope

Cynthia Tope Wins 2020 Helen F. Holt Scholarship

Cynthia Tope, a graduate student in Chemistry, has been selected to receive the 2020 Helen F. Holt Scholarship for Early Career Women in Science by the American Association for the Advancement of Science (AAAS). The award, to a single recipient, recognizes an outstanding graduate

student who will be making a research presentation at the annual national AAAS meeting. The award includes funds to offset the cost of travel to the conference, held this year in Seattle, WA, conference registration, and AAAS membership. Ms. Tope will be presenting the results of her doctoral research, under the direction of Professor Jeffrey Urbauer, at the meeting.

Helen F. Holt was a biology professor at National Park College in Maryland and Greenbrier College for Women in West Virginia. She served for two years in the West Virginia House of Delegates and was later appointed to serve as Secretary of State of West Virginia. President Dwight D. Eisenhower, appointed her to the Federal Housing Administration as special assistant to the commissioner overseeing nursing homes in 1960, and she is well known for her efforts to professionalize eldercare. Her son, Rush D. Holt Jr., a physicist and former U.S. Representative from New Jersey, served as the CEO for the AAAS from 2015 until 2019. ●



Lori Wall

Lori Wall Wins Peggy Norman Award

Lori Wall has been chosen for this year's Peggy Norman Award for Staff Excellence. Lori joined UGA in November 2017 as the Chemistry Department Accountant, and was promoted in September 2019 to Senior Accountant.

She handles a variety of assignments, including tracking federal grant funds and getting monthly reports to the faculty in charge of these. She has worked with special efficiency and patience during the last year in the conversion to the new "One Source" accounting system on campus, including training the faculty and other staff in its use. She also took on extra work in the orientation of the two new staff in the accounting group this year. Before coming to UGA she worked for 15 years in the Real Estate industry as an Advertising Specialist and Business Manager. Lori lives with her husband and four children in Jefferson, GA.

This award is given in honor of Ms. Peggy Norman, who worked in various capacities within the department for 35 years before her retirement in 2004. Peggy was one of the most hard-working and well-loved staff members the Department ever had. Her colleagues and friends were deeply saddened at her untimely death from cancer in September 2007, just a short time after her retirement. ●

Spring 2019 Graduation



L-R, front row: Nathan Dominique, Hannah Johnson, Graham Thornhill, Caitlin Bellora, Mackenzie Pargeon, Song Lee, Corbin Farr, Katheryn Carter, Joseph Musiol. Second row: Amelia Reid, Zach Tolchin, Bradley Morse, Emily Sabo, Tad Paulsel. Third row: Ben Crawford, Jacquelyn Mottern, Megan Kleinert, Kyle Stanley. Fourth row: Ryan Maynard, Rebecca Maynard, Zachery Bennett, Trent Cassidy, Justin Rave.

The Chemistry Department hosted a graduation reception on Friday, May 10 in the Science Learning Center. 25 of the 33 graduates for this year's class were in attendance. This year's class included three students who graduated *Summa Cum Laude* (GPA>3.9), six who graduated *Magna Cum Laude* (GPA>3.7) and 10 who graduated *Cum Laude* (GPA>3.5). The members of the 2019 graduating class are listed below, with the *Summa Cum Laude* graduates listed in bold.

Caitlin Cyrillia Bellora

Zachary Nicholas Bennett
Katheryn Lelu Carter
Trent Daniel Cassidy
Diana Larios-Coxaj
Benjamin Williams Crawford
Nathaniel Lawrence Dominique

Amy Corbin Farr

Mikaela A. Gay
Hannah Marie Johnson
Agbai Eberechi Kalu
Thomas Dean Kerekes

Megan Amelia Kleinert

Deena Jane Kablaoui Lanier
Song Yi Lee
Rebekah Caitlin Maynard

Ryan Kristopher Maynard
Bradley Bedell Morse
Jacquelyn Sabrina Mottern
Xinyi Mu
Joseph Robert Musiol
Mackenzie Elise Pargeon
Thaddeus Quentin Paulsel
Mohammed Rezwan Racin
Justin Alexander Rave
Amelia Grace Reid
Emily Theresa Sabo
Javery Brian Santwire
Kyle Harrison Stanley
Graham Michael Thornhill
Zachary Alexander Tolchin
Justin Raymond Vickers
Lillian Ngo Vu



John Stickney

Prof. John Stickney retired at the end of the 2019 academic year, after nearly 35 years as a member of the chemistry faculty. John started his academic career at Georgia in 1985 as an assistant professor, and quickly rose through the ranks, becoming a Full Professor in 1997. He served very capably as Head of Chemistry from 2003 to 2009. He brought in \$6M dollars in external grants during his career, and supervised more than 40 doctoral and Masters students. His research in electrochemistry and surface science achieved worldwide recognition, for which he was recognized with the Electrodeposition Research Award from the Electrochemical Society in 2009. Locally, John was the recipient of a Creative Research Medal in 1993, and earned the status of Distinguished Research Professor in 2013. John was born and raised in California, so it should come as no surprise that he has chosen to retire there. He and his wife, Vicki, now live in Sea Ranch, California, 120 miles north of San Francisco, and the Pacific Ocean can be seen from the deck of their home. John is a talented woodworker, and has set up a shop at his home. He produces wood art, which he shows in galleries and art shows around northern California.



Regina Davis, Kristie Huff and Lori Wall at Kristie's retirement party.

Kristie Huff retired at the end of October 2019, after 20 years on the staff of the Chemistry Department. A reception in her honor was held in the Chemistry Department on October 29. Kristie began her career at UGA in 1989 working in a temporary position at the Georgia Center. In 1990, she transitioned to a full-time position as an accountant in the University Computing and Network Services (UCNS), which was the precursor of the present EITS. She joined the Chemistry Department as a Senior Accountant in November of 1999, and was promoted to Office Manager in 2003. In this position, she handled external grant accounts, purchasing, personnel appointments and payroll. She also managed the full team of staff for the department, as well as serving as the interface with Campus Facilities and the Physical Plant. In recognition of her outstanding job performance, Kristie received the inaugural Peggy Norman Award for Staff Excellence in 2009 and the UGA Franklin College Staff Excellence Award in 2011. Kristie is presently working part-time at the Complex Carbohydrate Research Center, and stops by the department occasionally to keep up with all her friends in Chemistry.



Wesley Allen

Wesley Allen retired at the end of the 2019 academic year, after 24 years as a member of the chemistry faculty. Professor Allen moved to the Center for Computational Chemistry at the University of Georgia in 1995 to accept a research position. In 2005 this position was formalized as Senior Research Scientist. Allen also served as an Adjunct Professor and Graduate Faculty Member in the Department of Chemistry from 2005-2008. Finally, in 2008 he migrated to an Associate Professor position in the Department of Chemistry, while still remaining a principal investigator in the Center for Computational Chemistry.

Professor Allen pursued a wide range of research interests and international collaborations in the general area of *ab initio* molecular quantum mechanics. In 2009 he was the recipient of the Creative Research Medal at the University of Georgia, in recognition of his development of multireference coupled cluster methods, as well as his collaborative work published in *Nature* on the elusive hydroxymethylene molecule and its remarkable tunneling dynamics. [See commentaries and news articles in *Nature* (Vol. 453, p. 862), *Chemistry World* (July 2008, p. 23), and *Angewandte Chemie* (Vol. 47, p. 2).] Professor Allen published over 130 research articles.



George Majetich

Prof. George Majetich retired at the end of the 2019 academic year, after almost 38 years as a member of the chemistry faculty. George started his academic career at Georgia in September of 1981 as an Assistant Professor, and rose through the ranks to Full Professor in 1992. He taught sophomore Organic Chemistry as well as graduate course in synthesis and reaction mechanisms. His research program in the area of natural products synthesis produced over 130 published articles. George is recognized for being the first to use microwave oven excitation to enhance the rates of certain organic reactions.



Chuck Kutal

Prof. Charles R. "Chuck" Kutal passed away Friday, August 30, 2019 at his home in Athens from complications following heart surgery. Chuck was born August 9, 1944 in Chicago, IL to Charles George Kutal and Mildred David Kutal. He married Judy Gombos in April 1974, and they celebrated their 45th wedding anniversary together recently.

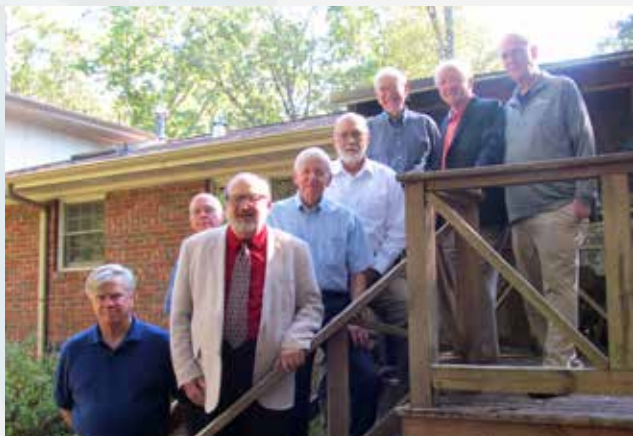
He graduated cum laude with a major in Chemistry from Knox College in 1965, and received his Ph.D. degree in Chemistry in 1970 from the University of Illinois, working with Prof. John Bailer. He then spent two years as a postdoctoral associate at the University of Southern California with Prof. Arthur Adamson. He met Judy during this time in California. He then spent one year as a National Research Council Associate at the Aerospace Research Laboratory, Wright-Patterson Air Force Base. He joined the faculty at UGA in 1973, appointed initially as an Instructor, and later rising through the ranks.

Kutal spent his entire professional career at UGA. He served as department head for seven years, Associate Dean of the Franklin College of Arts and Sciences for 14 years, and was Founding Director of the UGA Office of STEM Education. He authored over 100 publications dealing with the photochemistry of inorganic

and organometallic compounds and co-edited three books. He described his research in over 200 presentations. His research was funded by several federal agencies (NSF, DOE, DOD), private foundations, and industry. In recent years, his scholarship was focused on increasing and sustaining higher education faculty involvement in efforts to improve STEM education. He served as co-PI on NSF education related grants funded for over \$36 million. Recognition for his teaching include the Undergraduate Teaching Award of the Northeast Georgia Section of the American Chemical Society, the Lothar Tresp Outstanding Honors Professor Award from the UGA Honors Program, selection as a UGA Senior Teaching Fellow, and induction into the UGA Teaching Academy. In 2012, the Princeton Review named him as one of the 300 Best Professors in America.

He is survived by his wife: Judy Gombos Kutal; a sister: Mildred Shaver of Edwards, IL; nieces Laura and Anita and a nephew Johnny.

A memorial service was held in the Chemistry Building on Friday October 4. Over 200 people attended, including Chuck's wife Judy, faculty and staff from Chemistry and other departments, administrators that Chuck worked with in his roles as Department Head and Associate Dean, former students, and three of his former classmates from Knox College. Speakers included Chemistry faculty colleagues Michael Duncan, Michael Johnson and Jon Amster, former graduate student Cynthia Sanderson, the Dean of the Franklin College Alan Dorsey, a colleague from the UGA STEM program Tim Burg, and family friend John Vogt. All recounted the significant impact that Kutal had on their lives. ●



Tom Bradberry, Martin Stewart, Larry Johnson, Ken Spencer, Dale Ledford, Professor Dick Hill, Mark Bock and David Ladner.

Richard Hill Research Group Reunion

The graduate students of Professor Dick Hill's research group from the 1970's and their spouses held a reunion on October 10, 2019 in Athens, GA. The group met at Dick Hill's house for a social gathering, toured the Department of Chemistry building in the late afternoon, and then held a dinner at the Porterhouse Grill on Broad Street. Former graduate students (without spouses) pictured from bottom to top of the steps: Tom Bradberry, Martin Stewart, Larry Johnson, Ken Spencer, Dale Ledford, Professor Dick Hill, Mark Bock and David Ladner. Prof. Hill turned 91 on his birthday on June 1, 2019.

Other News Items:

Professor Michael Duncan was Chair of the Physical Chemistry Division of the American Chemical Society in 2019. In 2020, he will complete his rotation through the officers, serving as Past Chair.

Professor Gary Douberly was appointed a Fellow of the Royal Society of Chemistry on June 25, 2019. His name appeared in the list of Fellows in The Times newspaper on the 25th of June. This appointment was in recognition for his work on the spectroscopy of hydrocarbon radicals in liquid helium droplets.

Dr. Suzanne Ellenberger has been appointed Director of General Chemistry Instruction. In 2019 after the retirement of Prof. Norbert Pienta, she was appointed Interim Director of this program. Prior to that, she had been a Lecturer in Chemistry at UGA since 2017. Before coming to UGA, Sue was Science Department Head at Tri-County Technical College in Pendleton, SC.

Ms. Renea Martin was appointed Administrative Assistant for the General and Organic Chemistry programs. She will be the lead administrator for first- and second-year chemistry education, reporting jointly to Prof. Richard Morrison, Director of Organic Chemistry Instruction, and Dr. Suzanne Ellenberger, Director of General Chemistry Instruction.

Ms. Kistie Manders was appointed Office Manager for the Chemistry Department, replacing Kristie Huff in this position. Kistie worked previously as an accountant in Chemistry (2012 – 2017) and then worked at the Board of Regents for two years before returning to Chemistry.

Ms. Regina Davis left the Chemistry Department to take an accounting position in the New Materials Institute, also on the UGA campus.

Ms. Lori Wall was promoted to Senior Accountant, replacing Regina Davis.

Ms. Tanya Boyd was appointed Accountant, replacing Lori Wall. Tanya worked previously on campus in the Office of Global Programs in the College of Agricultural and Environmental Sciences, where she was an accountant since 2007.

Ms. Amanda Cross was appointed Graduate Program Assistant following the departure of Lauren Bowman.

Ms. Terri Tillman was appointed Data Custodian for the Chemistry Department, following the retirement of Ms. Genet Kibreab.

Inorganic Chemist Professor Todd Harrop was promoted to Full Professor effective July 1, 2019.

The 32nd Annual Charles A. Coulson Lecture was presented by Prof. Laura Gagliardi from the Department of Chemistry at the University of Minnesota on Tuesday, March 19, 2019. Her topic was "Accurate Quantum Chemical Methods for Excited Electronic States and Transition-Metal Compounds."

The 12th Annual Norman L. Allinger Lecture was presented by Professor Gary Douberly from the Department of Chemistry, University of Georgia, on Tuesday, August 20, 2019. His topic was "Infrared Spectroscopy of Alkyl Radicals in Helium Droplets and Solid para-Hydrogen."

The 36th Annual Robert S. Mulliken Lecture was presented by Prof. Elfi Kraka from Southern Methodist University on Tuesday, September 10, 2019. Her topic was "Performing Chemical Experiments on the Computer – Past, Present and Future."

The Tenth Annual R. Bruce King Lecture was presented by Professor Philip P. Power from the Department of Chemistry at the University of California at Davis on Tuesday, October 15, 2019. His topic was "Bonding in Heavier Group 14 Element Multiple Bonded Species: London Dispersion Force Effects and Charge-Shift Character."

The 33rd Annual Charles A. Coulson Lecture was presented by Professor Anne B. McCoy from the Department of Chemistry at the University of Washington on Tuesday, January 21, 2020. Her topic was "Stories that are Encoded in Vibrational Spectra: Obtaining Insights into the Spectroscopy of Water from Studies of Ion-Water Complexes."

The 2020 Paul Schleyer Lecture was given on Tuesday, February 11, 2020 by Prof. Daniel Singleton from the Department of Chemistry at Texas A&M University. His topic was "Dynamic Effects and Machine-Learning Transition State Theory."

The 37th Annual Robert S. Mulliken Lecture was presented by Prof. Stefan Grimme from the University of Bonn on Friday February 14, 2020. His topic was "Computational Spectroscopy with Efficient Quantum Chemistry Methods." ●

Department of Chemistry Student Awards 2019

The annual presentation of student and faculty awards was held on Friday April 26, 2019 at the Chemistry Alumni and Awards Banquet. 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.

Pamela Ann Henkel Award – for the most outstanding undergraduate student in organic chemistry:

Adanze Nnyagu

Alfred W. Scott, Sr. Award – for the most outstanding rising senior ACS certified Chemistry major:

David Durden



Amelia Reid and Prof. Richard Morrison

L.B. "Buck" Rogers Award – for the undergraduate student that performs the most outstanding research in Chemistry over the last year:

Amelie Reid

Outstanding Undergraduate Student in Inorganic Chemistry

Katie Luedecke



Alanna Koritzke and Prof. Richard Morrison

Martin Reynolds Smith Award – for the graduate student who published the best research paper in a refereed journal:

Alanna Koritzke

Kenneth W. Whitten Awards – for the graduate students who are our best Graduate Laboratory Assistants:

**Rachel Bramblett, Gustavo Aroeira,
Veronica Zhang**

Outstanding Graduate Teaching Assistants
Awarded by the UGA Center for Teaching and Learning

**Tung Dinh, Yongwook Kin,
Michell Lahm, Christopher Molnar,
Nathan Thacker, and Aarya Venkat**

Northeast Georgia Section, American Chemical Society Awards 2019

Presented by Dr. Joe Grubbs

NEGS-ACS Chemist of the Year for Service

Joe Grubbs

New Materials Institute, UGA

For his distinguished service to the section as past chair.

NEG-ACS Chemist of the Year for Research

Richard Morrison

Department of Chemistry (New Materials Institute), UGA

For his research on the development of synthesis methodologies of active pharmaceutical ingredients, including specific recognition for a patent for the decarboxylation of natural and synthetic amino acids utilizing microwave promotion to yield bioactive amines.

**George Philbrook Award for
Outstanding Undergraduate Teaching**

Wayne Suggs

Department of Chemistry, UGA

For his superior teaching style in multiple levels of undergraduate courses and transitioning the freshman chemistry program from the traditional lecture order to an atoms-first approach.

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

Alecia Frizzell

Union County High School, Dahlonega, GA

For excellence in teaching all levels of chemistry, serving as the STEM Academy director bringing chemistry alive in her students.

NEGS-ACS Outstanding Graduate Student of the Year

Kasey Leigh Yearty

Department of Chemistry, UGA

For the development of many new organic experimental methodologies and for her excellence in education research.

NEGS-ACS Outstanding Undergraduate Student of the Year

Christina Cortes

Department of Chemistry, UGA

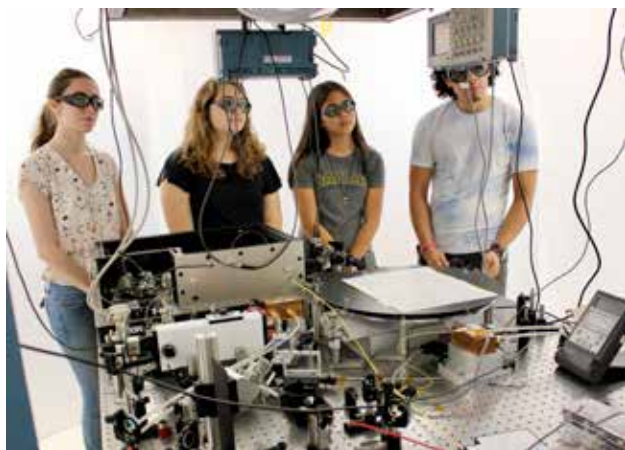
For her experiment development in the undergraduate organic chemistry instructional laboratories in addition to developing an interdisciplinary experiment wherein organic chemistry students synthesize azo dyes subsequently used in the identification art pigments.

Summer Undergraduate Research Program



Prof. Brandon Rotavera, Erick Martinez, Katherine (Kate) Rojas, Olivia Murtagh, Ana Deegan, Giang (Jessie) Le, Xena Mansoura, Prof. Amanda Frossard.

This summer, we had six undergraduate students from multiple universities participate in Chemistry's 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, including physical, organic, inorganic, and analytical.



Ariana Deegan, Olivia Murtagh, Kate Rojas and Erick Martinez during the visit to the laser lab.

Ariana Deegan (University of Georgia) worked in the laboratory of Prof. Amanda Frossard doing Analytical Chemistry of atmospheric aerosols. Giang (Jessie) Le (St. Olaf College) worked in the lab of Prof. Jon Amster doing Fourier transform mass spectrometry. Eric Martinez (Emory University) worked in the lab of Prof. Michael Duncan doing laser desorption mass spectrometry. Xena Mansoura (University of Georgia) worked in the lab of Prof. Richard Morrison doing Organic synthesis. Olivia Murtagh (Mississippi State University) worked in the lab of Prof. Robert Phillips doing Organic Chemistry. Katherine (Kate) Rojas (Baylor University) worked in the lab of Prof. Jeffrey Urbauer doing NMR spectroscopy.

At the end of the nine-week research program, each visiting student hosted a visit to their lab, where they described the work that they had done. A day-long research symposium, attended by students and faculty, gave each student a chance to do a more formal lecture presentation on their project.

For more information on the program, visit <https://chem.franklin.uga.edu/undergraduate-research-summer> or contact the coordinators Amanda Frossard and Brandon Rotavera at chem-suro@uga.edu. ●

1949 Witherington, Roy. Sarasota, FL. B.S.

After many years as Head of the Urology Section at the Medical College of Georgia, Roy has retired and is living in Sarasota, FL. He set up a nice endowment this year to support the activities of the UGA Chemistry Department and the faculty.

1980 Bibber, John W. Batavia, IL. Ph.D. with Bruce King.

John worked at UGA with R. B. King in the area of phosphenes, where he received his Ph.D. in Inorganic Chemistry. His first position after graduating in 1980 was a teaching and research position at the University of Oklahoma. Since then he has been Laboratory and Research Director at "Sanchem, Inc.", 1600 South Canal, Chicago, IL. It is a rather small company that produces all kinds of corrosion resistant and/or conversion coatings. John is presently the Chairman for the Subcommittee on Conversion Coatings for the American Society for Testing and Materials. He has over thirty patents on the surface treatment of metals and their alloys, and has published a number of articles on the surface treatment of metals.

John recently published a book through Cambridge Scholars Publishing that may be of interest in the "Materials Science" area. Its title is "Conversion Coatings," and it can be found on Amazon in their book section. The ISBN for the book is: 978-1-5275-3850-4.

1989 Taylor, Tracy. Florence, SC. M.S. with Mike Duncan.

Tracy is Quality Control Manager at Patheon by Thermo Fisher Scientific in Florence, SC. The CRMO (contract research and manufacturing organization) site makes active pharmaceutical ingredients for both large and small pharma clients. He and wife Becky have two sons, Spencer (19) and Mitchell (15). Becky is a pharmacist at Walmart.

Tracy visited the Chemistry Department in October 2019 for the Chuck Kutal memorial service, when he spent time catching up with faculty members and fellow former students Ken Willey and Deb Leister Willey.

1991 Zhang, Ji-Hu. Cambridge, MA. Ph.D. with Don Kurtz.

Ji-Hu is still working with the Novartis Institutes for BioMedical Research, in the new lead discovery area. It is exciting when once in a while a compound from a hit they discovered a few years back becomes an Investigational New Drug (IND) or goes on to a clinic trial. In recent years he is working mostly on immuno oncology targets, which is a very exciting medicinal area. At other times they have the freedom to investigate some related assay technologies. He has been with the same company now for 1.8 decades.

The kids have grown up and started working on their own thing. The family had no big traveling trips this year, just occasionally the routine excursions to the Cape or the White Mountains or the Maine coast.



Ken Willey, Tracy Taylor, and Deb Willey during their visit to Chemistry in October 2019.

1993 Willey, Ken. Schwenksville, PA. Ph.D. with Mike Duncan.

1991 Willey, Deborah Leister. Schwenksville, PA. Ph.D. with Chuck Kutal.

Ken and wife Deb visited the Chemistry Department in October 2019 for the Chuck Kutal memorial service, when they spent time catching up with faculty members and fellow former student Tracy Taylor.

1993 Yeh, Chen-Sheng. Tainan, Taiwan. Ph.D. with Mike Duncan.

Yeh has recently been promoted to the Head of the Chemistry Department and Vice Director of the Nanomedicine Center of National Cheng Kung University. This year they also have a new chemistry building and are planning to move in February. All these activities are keeping him very busy.

1995 Huang, Michael. Rockville, MD. Ph.D. with John Stickney.

1996 Lei, Paula. Rockville, MD. Ph.D. with Jon Amster.

Paula and Michael are married, and have two sons, Jack and Jesse. Jack graduated from Harvard in 2016, and is currently enrolled in the MD/MBA program at the University of Pennsylvania. Jess is a Biochemistry major in his senior year at the University of Maryland. Michael is a Senior Director at Apollomics, and Paula is a Director of Analytical Development at the National Institutes of Health.

1996 Brock, Lori. Ipswich, MA. Ph.D. with Mike Duncan.

Lori's biggest news for 2019 is that she started a new job in November. She was at OSRAM for over 21 years, but they planned to close their global corporate innovation division which she led in the U.S. When she got that news she started looking around. She wound up at Rogers Corporation, about 20 miles up the road from OSRAM. She is Site Director of the Innovation Center at Rogers, working on completely new technology fields such as dielectric resonator antennas for radar applications, materials for energy storage (batteries), and magnetodielectric materials. She is really enjoying working for a U.S.-owned technology company. The culture is a lot different (less rigid, more fun) than German OSRAM.

Her sons are growing up quickly. Ambrose is 14, in 9th grade High School, and is very much into video games. He built his own computer. He also plays trumpet in band and piano for fun. He started his first paying job as a counselor in the elementary school's after school program. Perry is 13, in 7th grade, and into theater and music. He had a lead in the Middle School play, is a fantastic violinist, plays piano, and takes ballet lessons. He also won the school's Geography Bee. Perry inspired the family to go see *The Nutcracker* at the Boston Opera house.

Lori's husband Warren has been happily retired for eight years or so, and is the President of the Board of Directors of a local art association. He is very much into art. He picks up a large share of the schlepping of the kids to the various activities. They still live in the same house in Ipswich. It is nice on the edge of the salt marsh (except for the bugs in the summer).

They just got back from a holiday vacation in Morocco, where they enjoyed the markets of Marrakech, the foods, the High Atlas Mountains, and the Camel riding. But not the filth, pollution, traffic, lack of potable water, and poverty of Casablanca.

1999 Tim Garrett. Gainesville, FL. B.S. Undergraduate research with Jon Amster.

Tim is currently an Associate Professor in the Department of Pathology, Immunology, and Laboratory Medicine at the University of Florida. He was recently promoted to Director of Experimental Pathology.

2000 Agar, Jeffrey. Boston, MA. Ph.D. with Mike Johnson.

Jeff is an Associate Professor at Northeastern University, where he has designed and implemented hybrid online-lab classes for FDA-equivalent drug evaluators in 21 countries in the new Biopharmaceutical Analysis Training Laboratory. Jeff's wife Nathalie is an Associate Professor at Harvard Medical School and together they received over \$7M from the State of MA last year for capital equipment. They are also proud grandparents!

2001 Keith Johnson, N. Chelmsford, MA. Ph.D. with Jon Amster

After receiving his doctoral degree in 2001 at UGA, Keith relocated to Massachusetts where he joined the Analytical Research and Development group at Wyeth BioPharma, which became Pfizer in 2009. 2020 marks Keith's 19th year at the company. The group is responsible for the analytical support for bioprocess and formulation development from the discovery stage to commercial licensing of biopharmaceuticals. Keith manages a group of seven scientists, is involved in identification and implementation of new technologies, and he remains active in the field of protein characterization by mass spectrometry.

2002 Saad, Jack G. Norcross, GA. B.S.

Jack is Associate Scientist and Global Technical Training & Support Manager for Micromeritics, Instrument Corp. Micromeritics is a custom manufacturer of scientific analytical instruments and laboratory equipment used for the physical characterization of small particles. Instruments are available for evaluation of particle size, porosity, material density, surface area and catalyst characterization. Industries served include pharmaceuticals, catalysts, nanotechnology, paints, pigments, food science, ceramics, textiles, geological science and polymer science. Jack is on campus at UGA occasionally working with the College of Pharmacy. He attended the memorial service for Chuck Kutal, who influenced him significantly during his undergraduate years.

2005 Anfuso, Chantelle. Winder, GA. B.S. Undergrad research with Mike Duncan.

Chantelle received her Ph.D. in Physical Chemistry at Emory University in 2012 working with Prof. Tim Lian. After Emory, she joined the faculty at Georgia Gwinnett College, where she is presently Associate Professor and Interim Chair of Studies. She is teaching General Chemistry and Physical Chemistry, as well as the Physical Chemistry Lab. Chantelle and her husband had their first child, a son Vincent (Vinnie), in June of 2019.

2005 Walters, Elizabeth Mengelt. Wilmington, NC. Ph.D. with Mike Johnson.

2005 Walters, Richard. Wilmington, NC. Ph.D. with Mike Duncan.

Elizabeth is Senior Lecturer in Chemistry at the University of North Carolina-Wilmington, where she is also the Coordinator of General Chemistry. She teaches general, organic, and inorganic chemistry. She also serves as the alternate councilor for the Eastern North Carolina ACS section and was at SERMACS in Savannah for the regional board meeting. She received the Discere Aude Award for Outstanding Mentoring from the Center of Teaching Excellence at UNC-W in 2019.

Richard is a Research Scientist with General Electric in Wilmington. He came to campus last April for the Chemistry Golf Scramble, and his team won the event (see back page).

Elizabeth and Richard have two sons, Richard (15) and Michael (13).

2006 Ayers, Tim. Carrollton, GA. Ph.D. with Mike Duncan.

Tim is Regional Manager in the SE Region for RH2O Engineering, Inc. where he has been employed for five years. They specialize in maintaining cooling water/boiler water systems utilized in production processes, while also providing production chemistry support (improving production quality/production efficiency). Additionally, they provide sustainability assessments, recommendations, and engineer facility improvements. Tim is still staying active in the teaching world follow his nine years at the University of West Georgia. He will be co-teaching an industrial chemistry course in the future at Mississippi State University and recently gave a talk there regarding his field work.

Tim and his wife, Elizabeth, celebrated three years of marriage this past June. They have a son, Everett, age two, and welcomed a daughter Maggie into the world in April of this year. They have found peace living out in the country on a dead-end road near Carrollton, GA, and are slowly building up a small farm that they're very proud of...blueberries and raspberries so far. Tim will be building a chicken coup this January if anyone would like to help. Their son also really enjoys watching our neighbor use his pasture as an airstrip (the cows oddly don't seem to mind).

2006 Hernandez-Barry, Hilda. San Francisco, CA. M.S. with Jon Amster.

Hilda recently celebrated her fifth year of employment at Genentech Corporation in South San Francisco. She is a member of the mass spectrometry group in the Biochemical and Cellular Pharmacology department, where she works on developing new analytical workflows for next generation pharmaceuticals. In her spare time, she continues to compete at long distance running, and ran in the Berlin marathon last year.

2007 Pillai, Dinesh. Singapore. Ph.D. with Mike Duncan.

Dinesh and his family are still in Singapore and he is now with Amazon Web Services (AWS) – the Cloud Computing arm of Amazon where he heads up Training and Certification for Southeast Asia. He's probably the one student who moved away as far as possible both geographically and subject matter wise from UGA days. He is usually in the U.S. 2-3 times a year but mostly in the Seattle area visiting the Amazon headquarters.

On the family front, Dinesh and his wife have two boys now, Joshua and Joseph, who is now two years old. His wife is still with Agilent working as an applications engineer in liquid chromatography.

2007 Molek, Karen Sinclair. Pensacola, FL. Ph.D. with Mike Duncan.

2007 Molek, Chris. Pensacola, FL. Ph.D. with Nigel Adams.

Karen and Chris have two children (Franklin David is 3.5 years old and Lillian McKinney is 3 years old). They live in the Pensacola area where she is now Chair of Chemistry and Associate Professor of Chemistry at the University of West Florida and Chris is a Senior Research Chemist at the Air Force Research Lab at Eglin AFB. They are both doing fantastic professionally.

Karen (PI) and her team have secured more than \$3M in NIH and NSF grant funding to support students engaged in undergraduate research and planning to pursue a Ph.D. She has mentored more than 65 undergraduate research students since starting at UWF in 2010 and more than 75% of those who have graduated have gone on to a Ph.D. program. In 2016 she won the Zaida C. Morales-Martinez Prize for Mentoring from the American Chemical Society in recognition for her dedication to mentoring underrepresented chemistry students.

Chris and his team (with him as PI) have secured more than \$4M in AFOSR funding and recently won STAR Team status for his cutting-edge results in investigating how material microstructure influences the initiation of explosives. STAR team status is reserved for the top 10% of all intramural AFOSR work. His team is the second to earn this distinction in the history of the Munitions Directorate. This work serves as a foundation for a DoD Multidisciplinary University Research Initiative (MURI) topic - "Microstructurally-Aware Continuum Models for Energetic Materials" - that was recently funded through AFOSR. He has received four internal awards for scientific achievement and been invited to give plenary talks. His most recent publication will appear in an invitation-only special issue for Propellants, Explosives and Pyrotechnics.

2008 Carnegie, Prosser. Greenville, SC. Ph.D. with Mike Duncan.

Prosser and his wife Currie have moved to Greenville, SC where he is now Vice President of Operations at Gossett Concrete Pipe Co. This is the family-owned company of Currie's Dad, who is retiring, and so Prosser and his brother-in-law are joining forces to help run the family business. They manufacture reinforced concrete pipe and precast concrete products for storm water drainage. Currie started her own business, called "C.O.R.E. Grow Strong" in late 2018. It currently is a boutique athletic apparel store located

in downtown Greenville, but she is looking to expand its offerings very soon. Prosser and Currie have two boys, Logan (five) and Lucas (two).

2008 Huang, Xiayu (Stacy). Shanghai, China. Ph.D. with Bob Scott.

Stacy moved back to China in early 2015. She is now working in Shanghai at Johnson & Johnson Pharmaceutical Company as a bioinformatics scientist handling the next generation sequence data of patients. Her husband is working at Tongji University as faculty member in the Chemistry Department.

2010 Ricks, Allen. Sunnyvale, CA. Ph.D. with Mike Duncan.

Allen has just accepted a position as Head Scientist at Oxigraf, Inc. Oxigraf is a manufacturer of laser absorption spectroscopy sensors for oxygen gas measurement and analysis.

2012 Bandyopadhyay, Biswajit. Hillsboro, OR. Ph.D. with Mike Duncan.

2016 Bandyopadhyay, Anandi Roy. Hillsboro, OR. Ph.D. with Jason Locklin.

Biswajit is working at Xerox and Anandi is working at Intel in Portland. Anandi just changed her position to Intel R&D lab from one in the manufacturing fabrication labs. 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 Morrison, Alex. Parrish, FL. Ph.D. with Gary Doublerly.

Alex is a sales manager at NKT Photonics now, responsible for the southeast US. NKT makes the seed laser for IPG pump lasers, used to pump OPOs. This is a good job and he's finally getting paid some real \$\$\$! He travels around 75% of the time and UGA is a client on his list. NKT Photonics also has a number of folks at UGA who are customers, including Prof. Melanie Reber.

2013 Brathwaite, Antonio. Atlanta, GA. Ph.D. with Mike Duncan.

Antonio is Instructor of Chemistry at Emory University, where he began in the fall of 2017. He is teaching Physical Chemistry and renovating the Physical Chemistry labs. Antonio and Tamika bought a house last year and are settling into life in the Atlanta area. He was also appointed as an Adjunct Professor in the UGA Chemistry Department to facilitate his ongoing work in the summers in the Duncan research group. He was just elected as Member-at-Large on the ACS Physical

Chemistry Division Advisory Committee, and was honored with the ACS Young Chemists' Committee Leadership Development Award.

2016 Todd, Trever. Irvine, CA. Ph.D. with Jin Xie.

Trever recently became a Clinical Scientist at Allergan plc, in Irvine, CA.

2017 Agyekum, Isaac. Gainesville, GA. Ph.D. with Jon Amster.

After graduation, Isaac was a postdoctoral fellow in the laboratory of Kristina Hakansson at the University of Michigan. He recently joined the faculty of the University of North Georgia – Gainesville campus, where he is an Assistant Professor of Chemistry.

2017 Carillo, Jose. College Station, TX. B.S.

Jose decided to attend graduate school at Texas A&M, and started there in August of 2019. He joined the research group of Prof. Sarbajit Banerjee, and will be working on the inorganic and physical properties of perovskite materials.

2017 Chen, Hongmin. Xiamen, Fujian, China. Postdoc with Jin Xie.

Hongmin Chen is Assistant Professor of Chemistry at Xiamen University, China. He recently received the Thousand Young Talents Award and the Minjiang Scholarship.

2017 Mauney, Dan. Charlotte, NC. Ph.D. with Mike Duncan.

Dan is working as a Software Developer for NASCENT Technology in Charlotte, NC.

2017 Niedermaier, Henry. Baltimore, MD. Ph.D. with Jeff Urbauer.

After graduating, Henry accepted a postdoctoral position at the Complex Carbohydrate Research Center at UGA performing NMR analyses of small molecules in conjunction with the Analytical Services and Training Lab. In 2018, he accepted a position with Bruker Instruments (Bruker BioSpin) as a Field Service Engineer. He is responsible for installation and servicing of high field NMR spectrometers for much of the Northeast U.S.

2017 Zhao, Yuejie. Rahway, NJ. Ph.D. with Jon Amster

After receiving her doctoral degree in 2017 from Amster lab, Yuejie moved to Rahway, NJ to join the Analytical group within Pharmaceutical Sciences at Merck. Her main responsibilities are to develop innovative analytical methodologies and to support drug product development for both solid and sterile formulations.

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

Jacob began graduate school in the fall of 2019 at Rice University. He will be majoring in Physical Chemistry and has joined the research group of Prof. James Tour.

2018 Broussard, Hayley. Englewood, NJ. Ph.D. with Norb Pienta.

Hayley graduated in 2018, and shortly thereafter accepted a position with InVitro Cell Research, LLC, where she manages laboratory operations. The company focuses on the prevention and detection of age-related diseases, as well as high-throughput screening of potential interventions.

2018 Copan, Andreas. Royston, GA. Ph.D. with Fritz Schaefer.

Andreas became an Assistant Professor at Emmanuel College in August 2019.

2018 Farr, Corbin. Houston, TX. B.S.

Corbin began graduate school in the fall of 2019 at Rice University. She has joined the research group of Prof. Tony Mikos (Bioengineering Department) and will work on a joint project with Prof. James Tour (Chemistry). She will be investigating conductive, biocompatible tissue engineering scaffolds that mimic the bioelectric environment of native tissue.

2018 Gokal, Rupal. Athens, GA. Ph.D. with Richard Morrison.

After graduating in December of 2018, Rupa worked in a temporary position, teaching in the General Chemistry program at UGA for Spring 2019. She accepted a full-time Lecturer position here beginning Fall 2019. She teaches in both the Organic Chemistry and General Chemistry programs.

2018 Hoobler, Preston. Lookout Mountain, GA. Ph.D. with Fritz Schaefer.

Preston started work as an Assistant Professor at Covenant College in August 2019.

2018 McDonald, David. Albuquerque, NM. Ph.D. with Mike Duncan.

David is working at the Air Force Research Lab at Kirtland, AFB on gas phase ion chemistry relevant to the atmosphere. He and Michelle welcomed a new baby, Tobias Joachim McDonald on December 18, 2019. Tobi was born at 19.5 in. and 5 lb. 15 oz. He and the family are doing great!

2019 Brice, Joseph. Portland, OR. Ph.D. with Gary Douberly.

Joe is working at Intel where he is a part of the team responsible for chip fabrication. He met many of the UGA crowd in Ringgold, GA in December for the Brandon Rittgers wedding.

2019 Brown, Alaina. Spartanburg, SC. Ph.D. with Gary Douberly.

Alaina completed her first semester as an Assistant Professor at the University of South Carolina-Upstate. She has inherited an instrument using matrix isolation spectroscopy and is beginning to build up her own lab. She met many of the UGA crowd in Ringgold, GA in December for the Brandon Rittgers wedding.

2019 Estep, Marissa. Purcellville, VA. Ph.D. with Fritz Schaefer.

Marissa started as an Assistant Professor in Chemistry at Patrick Henry College in Purcellville, VA.

2019 Sun, Leon. Bethesda, MD. Ph.D. with Fritz Schaefer.

Leon started work in September of 2019 as a Postdoc at NIH working with Dr. Evan Bolton (UGA Alumnus from 1995).

2019 Weins, Avery. New York, NY. Ph.D. with Fritz Schaefer.

Avery has gone to New York to work as an IT "Superwoman."

2019 Woodard, Melissa. Akron, OH. Ph.D. with Mike Duncan.

Melissa and husband Sean are settled into living in Akron, OH, where she is working as an analytical chemist at Bridgestone Tire Co. She is the only person in her group who knows any spectroscopy! She is doing infrared and TEM measurements of polymer materials, and plans to buy a new Raman instrument soon. She met the UGA crowd in Ringgold, GA in December for the Brandon Rittgers wedding.

2020 Bowman, Michael. Upland, IN. Ph.D. with Fritz Schaefer.

Michael has accepted a position as Assistant Professor at Taylor University. ●

2019 Chemistry Golf Scramble



Golf winners Richard Walters, Bob Scott, Tad Whiteside, and Mike Duncan

The Chemistry Golf Scramble took place at the UGA Golf Course on Saturday afternoon April 27, 2019. Six teams competed, with five alumni golfers (Mia Ji, Gary Douberly, Richard Walters, Tad Whiteside and Jonny Mosley). The winning team of Richard Walters, Bob Scott, Tad Whiteside, and Mike Duncan shot an impressive score of 57, which is the lowest score yet recorded for this event. They were followed by the second-place team of Jon Amster, Ted Mayer, Carl Terns and Kevin Liao at a score of 61. Following the golf, barbecue, beer, prizes and fellowship were enjoyed by all at the UGA Golf Course Clubhouse. ●

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