I am delighted to report that our department has made significant progress in all areas of our work since last year. In the area of undergraduate education, we continue to witness a record number of enrollments in our lectures and laboratories (for instance, on a typical Tuesday starting from spring 2015, our Gen Chem lab begins at 7:50 am and ends at 9:30 pm). We now offer three new courses to our undergraduate students: Introduction to Forensic Chemistry (ACHM 250), Bioanalytical Chemistry (ACHM 344) and Computational Chemistry I (ACHM 411/511). Opening these new courses is the direct result of the addition of new faculty members to the department (in the last three years, 8 new faculty members joined the department). As you will see in this newsletter, we proudly introduce three new faculty who joined us this fall and a new staff member. We are currently interviewing candidates in the areas of synthetic and medicinal chemistry for two more positions to strengthen the neurodegenerative disease research. We also welcomed 17 new graduate students this fall. All of them are currently doing research rotations. Our faculty have had a productive year in terms of the number of grants awarded and papers published (see detail in the faculty accomplishment). Furthermore, we have recently endowed the AMRI-Chemistry Lecture series – thanks to the generosity of Albany Molecular Research Inc. All of these exciting developments are the results of excellent work by our faculty and staff. We are also grateful to our friends and alumni who have supported our work. As we continue to meet challenges ahead, we strive to reach new heights in building better and richer research and educational programs for our students.

Enjoy reading the newsletter.

— Li Niu, Professor & Department Chair
The Department of Chemistry

Chem-E-News: “E” Stands for Environmental Sustainability

The biggest challenges of the 21st century will undoubtedly involve addressing societal oversights from the 20th century. There will be an urgent need to develop economically viable sources of renewable energy, to develop “green” chemistry processes that minimize pollution at the molecular level, and create effective methods to remediate past releases of hazardous chemicals into the environment. Clearly, chemistry will play a key role at each step of this transformation, and the Department of Chemistry must be prepared to meet these evolving educational and research needs. A significant portion of the future ETEC building (see page 14) is specifically reserved for renewable energy research by Department of Chemistry faculty. Every of the existing Organic Chemistry teaching labs has been upgraded to include solvent reclamation apparatus, reducing the environmental impact of our instructional labs. Furthermore, a new course offering entitled “Chemistry and Sustainability” is currently in the advanced planning stage by Prof. Alex Shekhtman, targeting non-science majors who are interested in learning about the chemical underpinnings of topics such as renewable energy, environmental protection, food and water supply and safety, and global healthcare. Stay tuned for future developments!

— Alan Chen

Department Highlights

The Department recruited 17 graduate students who started from fall 2014.

Three new faculty members joined the department from Princeton, Caltech, and Manchester Metropolitan at UK.

On August 22, the Department had a BBQ party to welcome our new faculty, graduate and undergraduate students with a huge turnout. Several raffle prizes were awarded.

In late April, the Department hosted 13th Henry Kuivila Lecture. The speaker, Professor Barbara Imperiali from MIT, presented a lecture on chemical approaches for the study of complex biological systems.

In the May commencement, Dr. Leslie Sultan who received his BS in Chemistry in 1980 from UAlbany gave an inspiring speech describing how undergraduate training in chemistry prepared him well to face professional and personal challenges in life. Dr. Sultan, DMD, DDS has been in private practice in the Sultan Center for Oral Facial Surgery in Fort Lauderdale, Florida. We were honored to have him back.

The Shelton Bank plaque has been mounted on the wall in the hallway near the department office. We are thankful to our alumni whose generous donations have made this possible.

Dr. Niu, the Chair of Chemistry, hosted a visit by a leadership team from Albany Molecular Research, Inc. in May 2014. The Department and AMRI have agreed to strengthen their partnership by developing internship opportunities for UAlbany undergraduate and graduate students at AMRI.

The annual Life Sciences Research Symposium will be held in early December this year. Professor Mehmet Yigit will co-organize this meeting. This is a great forum for graduate students and postdoctoral fellows to present their research results (12 min talk, plus 3 min Q/A).

Next summer, the 2015 Albany: the 19th Conversation will be held from June 9 to June 13 at UAlbany. Two Nobel Laureates, Phillip Sharp (MIT) and Martin Karplus (Harvard) will be keynote speakers. As usual, Dr. Ramaswamy H. Sarma, a Professor Emeritus of Chemistry, will host the meeting.

Former members from the 2013 World of Chemistry L-LC have formed a Chemistry Club to enrich their undergraduate learning experience. The Department will provide $300 annually to the Chemistry Club for club activities.

The Department gave out 6 travel awards to graduate students.
Department Highlights continued

Three new courses are now on the book: *Introduction to Forensic Chemistry* (ACHM 250), taught by Prof. Lednev, discusses the role of chemistry in modern forensic science. *Bioanalytical Chemistry* (ACHM 344), taught by Prof. Fabris, discusses principles and techniques in characterizing biomolecules. *Computational Chemistry I* (ACHM 411/511), taught by Prof. Chen, covers practical applications of quantum chemistry calculations for chemical research.

A new, permanent-track position for an Instructional Support Associate has been approved. This position begins Jan 1, 2015.

The Department spent about $30,000 to begin replacing balances in the Gen Chem and Analytical Labs.

The Department designed a new graduate study recruitment flyer and also an undergraduate research flyer, both readily available in the department office.

Faculty Accomplishments During 2013-2014

Paul Agris received several collaborative grants from the NIH, NSF, and SUNY-RF. These awards support the engineering of novel peptide nucleic acids to bind to mRNAs, to investigate the mechanism of a tRNA modification enzyme necessary for decoding fidelity, and to develop novel antibiotics against drug resistant gram positive pathogens such as MRSA.

Eric Block was named a Fellow of the American Chemical Society, inducted at the 248th National ACS Meeting in San Francisco, for which he gave a Fellow Webinar entitled “Garlic and Other Alliums: The Lore and the Science.” He also presented the lead talk at the 2014 Gordon Conference on Plant Volatiles, and the first of several upcoming joint papers on olfaction coauthored by Block and colleagues was published in *Biophysical Journal*.

Alan Chen reported the first de-novo folding of an RNA tetraloop to sub-Angstrom resolution using all-atom molecular dynamics simulations. This work was published in PNAS along with a special commentary by Kathleen Hall.

This year, Professors Alan Chen and Jia Sheng are serving as faculty advisors for the World of Chemistry Living-Learning Community. Graduate student Jina Lawardi is serving as a graduate assistant to these programs. Dr. Chen, Dr. Sheng and Jina meet weekly with our students – this year there are 18 freshman chemistry majors enrolled in these programs.

The Department started curriculum review and revision. The initial focus is to improve Forensic Chemistry curricula and augment lower-division Gen Ed and “21st Century” course offerings.

The Quantitative Analysis lab curriculum was redesigned to include more independent student inquiry based experiments. For the lab, the department put in $20,000 to upgrade instrumentation and equipment.

Each of the Gen Chem Lab sessions (ACHM 124 and ACHM 125) will begin offering a recitation session in the same lab but before experiments begin.

Alan’s newly formed group is extending this technology to investigate how non-standard nucleotides affect the 3D folding of RNA aptamers.

Evgeny Dikarev published an Edge Article in the Chemical Science on low-temperature preparation of the most common cathode material in lithium ion batteries and delivered invited presentations at the international conferences in St. Petersburg and Singapore; completed acquisition and installation of new State-of-the-art Bruker D8 Venture single-crystal X-ray diffractometer. Received two collaborative grants for rechargeable battery cathode materials (NSF) and up-/down-conversion materials (CRDF).

Gerd-Uwe Flechsig moved to UAlbany after one year at Manchester Metropolitan University (UK). Last summer, another 4 members of his group finished their PhD degrees at the Universities of Rostock and Siegen in Germany. Meanwhile he published 5 articles, submitted 2 patent applications and presented 3 invited talks in the UK and Czech Republic.
**Faculty Accomplishments During 2012-2013 continued**

Jan Halámk published two book chapters and five papers, including an invited editorial for *Bioanalysis* journal (Special Issue on Forensic Analysis). He was also invited to give three lectures on the ongoing development of new bioanalytical program in Forensic Analysis.

Igor Lednev was elected a Fellow of the Society for Applied Spectroscopy and received the University President’s Award for Excellence in Research. His group published 27 articles on the application of advanced laser spectroscopy for medical diagnostics and forensics. His research is supported by NIH, NSF and DoJ and was highlighted in over 30 newspapers and magazines including *The Wall Street Journal*, as well as three TV and one radio interview. His recent publication in *Biophysical Journal* is the third most read paper in the journal.

Rabi Musah published 4 research articles, received an NSF grant award, and was issued 1 US patent for development of a sensor used in electrophoresis. She presented her work in the areas of plant metabolomics, forensics and STEM education at 4 conferences. She received a “Leadership Council on Inclusion” Award for her work in advancing STEM education at UAlbany.

Li Niu’s group published 4 papers, and has 2 book chapters (in press) and one issued US patent. Described in a new patent application is a unique RNA molecule capable of forming thermoresversible, high water-content hydrogel. Dr. Niu has been invited to give a lecture in two international conferences about the RNA hydrogel, discovered from a research project funded by the US Department of Defense. Dr. Niu has also received funding for this work from SUNY Network of Excellence in Materials and Advanced Manufacturing for Advanced Biomaterials.

Jayanti Pande organized a symposium entitled “Crystallin interactions in health and disease”, and presented an invited paper at the International Congress of Eye Research in San Francisco in 2014. The symposium included invited speakers from Australia, U.K., India and the U.S.A. She also presented the Bireswar Chakrabarti Memorial Lecture, and several invited talks at world-renowned eye centers in India.

Marina Petrukhina received the 2014 SUNY Chancellor’s Award for Excellence in Scholarship and Creative Activities. Her group published 12 peer-reviewed articles, in the top international journals including *Chem. Commun.*, *Angew. Chem.*, *Adv. Mater.*, and *J. Am. Chem. Soc.*. These works were featured in *Chemistry World* (Royal Society of Chemistry), *Nature Chemistry* and *Chemical & Engineering News*. Marina also organized and chaired the 1st Fusion conference entitled “From Carbon-Rich Molecules to Carbon-Based Materials” (Sept. 2014, Morocco). One joint US-Germany patent was granted.

Max Royzen’s lab developed a bio-orthogonal strategy for purification of bio-polymeric materials using bio-orthogonal chemistry. This method has been applied towards purification of the solid-phase synthesized RNA. The results of this research have been presented at the 2014 Stereochemistry Gordon Conference.

Jia Sheng’s recent work on RNA crystal structures containing unnatural modifications such as 2’-5’-linkages and 2-thio-uridine has been published in *PNAS* and *JACS* respectively. His lab is currently taking on bigger challenges to crystallize more chemically modified RNA aptamers and their complexes with proteins and small molecule ligands.

Jun Wang has begun his journey as an assistant professor. He published several papers in top journals including *PNAS* and *Science*, and chaired two sessions in two national conferences recently. He was also invited to present his work at the City University of Hong Kong, and served as guest editor for the *Scientific World Journal*.

Mehmet Yigit published eight papers in 2014 in *ACS Applied Materials and Interfaces, Analyst, WIREs RNA, Chemistry & Biology, BioNanoScience and International Journal of Cancer*. Mehmet also received research fund from SUNY Network of Excellence in Materials and Advanced Manufacturing.

**Capital Improvements**

**ETEC Building:**
The next new building on campus is the ETEC (Emerging Technology and Entrepreneurship Complex). The ETEC building will be built close to the Life Sciences Research Building (LSRB) – see maps). The construction should be completed by December 2017. In the new building, Chemistry will have several research labs and shared research labs/facilities for forensic chemistry technology and biotechnology development.
New Faculty Appointments

We warmly welcome Dr. Gerd-Uwe Flechsig, Dr. Jun Wang and Dr. Zhang Wang as newly appointed Assistant Professors in our department.

Gerd-Uwe Flechsig graduated in 1997 as a Diplomchemiker (MSc in chemistry) at the University of Rostock (Germany). Here, he was also awarded Dr. rer. nat. (PhD) in 2001 and Dr. rer. nat. habil. (Habilitation) in 2006. His mentors for many years have been Prof. Peter Gründler (Rostock) and Prof. Joseph Wang at UC San Diego, where he spent a sabbatical semester in 2008/2009. Gerd’s research focuses mainly on heated electrochemical detectors and biosensors for DNA and heavy metals. He received the Metrohm-Award in 2003 and a DFG Heisenberg Fellowship from 2008 to 2013. Gerd also served as an Interim Professor for one year at the University of Siegen (Germany). Before he moved to Albany in August 2014, he had served for one year at Manchester Metropolitan University (UK) as a Lecturer in Nano- and Inorganic Chemistry. Eight PhD theses have been completed in Gerd’s group so far.

Jun Wang received his Ph.D. in Biological Engineering from Purdue University where his research in Professor Chang Lu’s group was focused on single-cell microfluidics and gene delivery. In the spring of 2010, he started his postdoctoral research in Professor James Heath’s group in the Chemistry Department and NanoSystems Biology Cancer Center at the California Institute of Technology. His work includes one-step, self-powered blood chip, 2D barcode microarray, and high-throughput single-cell proteomics and transcriptomics. He discovered that cell communications make cancer cells more heterogeneous and cause their resistance to targeted drug treatment. Jun’s current research interests are point-of-care diagnostics technologies and systems medicine for forensics and biomedical applications.

Zhang Wang received his B. S. from Peking University in 2005. He then came to the U.S. for graduate studies and earned his Ph.D. degree at Columbia University under the guidance of Prof. Samuel J. Danishefsky in 2011. After a postdoctoral training in Prof. MacMillan’s group at Princeton University, he joined the chemistry faculty of UAlbany in 2014. His research will be focused on synthetic organic chemistry, including methodology development and total synthesis of biologically active natural products. Some of these compounds will be designed as drug candidates for neurodegenerative diseases.

New Staff Appointments

We welcome Katie Saxton as our new staff member. Katie joined the Department in spring 2014. She graduated with a BS from our department and then received her M.S. degree in Chemistry from SUNY Environmental Science and Forestry. Katie mainly oversees the organic chemistry instructional lab and provides staff support and supervision for all of our evening labs where hundreds of students attend each week. In her short time here, she has already contributed to the development of several lab courses and the new general chemistry recitation session. The Department is very excited to have Katie as a new staff member.

More Capital Improvements

Bruker D8 Venture single-crystal X-ray diffractometer (Left) and JEOL AccuTOF DART (Direct Analysis in Real Time Mass Spectrometer – Right) were acquired as a result of two successful NSF MRI (major shared instrumentation) grants led by Profs. Dikarev and Musah, respectively.
The World of Chemistry L-LC Returns!

Following the successful debut of the World of Chemistry Learning-Living Community (L-LC) in 2013, 18 enthusiastic UAlbany freshmen were selected to participate in this year’s WoC L-LC. Members take core academic courses together, live in the same residence hall, and attend a weekly seminar series jointly hosted by Professors Alan Chen and Jia Sheng. The goal is to foster a cadre of highly engaged students majoring in Chemistry who take an active role in shaping their educational experience from the moment they arrive on campus, both in and out of the classroom.

The theme of this year’s WoC freshman seminar is exploring careers in the chemical sciences. Guest speakers were invited from a wide range of non-academic chemical professions, to talk about what they do in their professions and how they got to where they are today. Guest speakers included: Wei Zhang, Ph.D. (synthetic organic chemist, Albany Molecular Research Inc.), Simon Litten, Ph.D. (environmental toxicologist, N.Y.S. Dept. of Environmental Conservation), Mike Bradley, Ph.D (lead biochemist, Syros Pharmaceuticals), and Jim Silva, Ph.D. (chemical engineer, G.E. Global Research). A hearty thanks to all the speakers who generously took their time sharing their experience and advice with our students.

The World of Chemistry L-LC students also organize their own and participate in social and group activities with the Community Assistant and our graduate student Jina Lawardi. For example, 6 WoC members volunteered to take part in the RNA Institute’s "RNA Day” outreach event on October 25th, where they coached local middle and high-school students through hands-on chemistry experiments including candy chromatography and extracting DNA from strawberries. This event was a big success thanks in no small part to the WoC volunteers, as evidenced by press coverage in the Albany Times-Union. WoC volunteer Taylor Casey shares her experience with us in the following article (see page 7).

Top row (left to right): Kevin Cao, Gregory Isoldi, William Hawkins, Brandon Morales, Sabrina Nicolas, Aashni Shah, Alyssa Vandermeid, Taylor Casey, Christina Liriano, Tyler Grant, Alanis Gouvea, Adrianna Mathis, Lindsey Goncalves, James Derosa-Farag, Kelly Lynch, Julianna Mendes, Ryan Hyman and Nina Orm.
World of Chemistry – One Student’s Experience

On Saturday, October 25th, I, along with five fellow World of Chemistry students, participated in RNA Day, a day dedicated to teaching young, prospective scientists about nucleic acids. We began the day by engaging the group (local middle and high-school students) in a hands-on activity where they learned to extract DNA from frozen strawberries using salt, dishwashing soap, and isopropyl alcohol. Watching and listening to their reactions when they successfully isolated DNA was pretty entertaining; watching them poke it with toothpicks was even better! (see a photo of Taylor working with a middle school student in the background).

The next experiment we performed involved chromatography, which is the process of separating the components of a chemical mixture along a stationary material. Although the students were only separating food dyes, the World of Chemistry students explained to them how chromatography is used in real-life situations. We described how forensic scientists use chromatography to analyze the ink left in ransom notes and how the Environmental Protection Agency uses liquid chromatography to find levels of pollutants in lakes and rivers. The most inspiring part of my day was working with my thirteen-year-old partner, Tayvon. Tayvon is only in eighth grade, but is already an aspiring mechanical engineer. Tayvon described to me that he spends his free time taking apart old computers, televisions, and pens simply for attempting to understand how they work.

Being a part of the World of Chemistry has thus far been advantageous in a variety of ways. Aside from allowing me to connect with the people that have the same interests as me, (who have also become my best friends in the process), I have been guided by the wonderfully informative instructor of the seminars, Professor Alan Chen. He continuously shows us the importance of understanding the intersection between what it is the world needs and what we are passionate about to prepare for a successful and fulfilling career. Prior to his lessons, none of the students in my world had seriously thought about how to shape our learning experience to prepare ourselves for a competitive job market. I have enjoyed my experiences in the World of Chemistry so much that I, along with fellow classmate Lindsey Goncalves, have taken the positions of World Representatives. This leadership role has encouraged me to take on more responsibility in the future, such as being a World Ambassador or a Residential Assistant.

— Taylor Casey, freshman Forensic Chemistry major, World of Chemistry L-LC 2014

Local Teacher Participates in QUESTAR Summer Research Internship

Prof. Royzen’s lab hosted a Lansingburgh High School Biology teacher, Nichole Mantas (see photo at right), who carried out summer research, focusing on fluorescence imaging of DNA in 3T3 fibroblast cells. Nichole is a member of Questar Summer Science Research Institute. The Institute supports research opportunities for high school teachers who want to bring innovation and modern research experiments to their classrooms. As part of her research experience here at UAlbany, Nichole determined cytotoxicity of nucleoside analogues in various mammalian cancer cell lines. After mastering the necessary cell culture techniques, she carried out an extensive study that involved fluorescence imaging of DNA in 3T3 fibroblast cells. She also helped quantitate incorporation of nucleoside analogs into cellular DNA using mass spectrometry.
**The Department of Chemistry**

**Recent Funding Highlights**

**Paul Agris** received a 3-year NSF award with Eriks Rozners (Binghamton) for engineering and characterizing novel peptide nucleic acids to bind with high affinity and selectivity to double stranded RNA targets within mRNAs. Dr. Agris also received a 5-year NIH award with Manal Swairjo (Western University, CA) and Dirk Iwata-Reuyl (Portland, OR). This grant supports a study of the structure and mechanism of a ubiquitous tRNA modification enzyme. This enzyme is key to certain species of tRNA retaining their decoding fidelity. Dr. Agris also received a Health Now Network of Excellence award from SUNY-RF to continue pursuit of a novel antibiotic against drug resistant gram positive pathogens, such as MRSA.

**Eric Block** will serve as “Consortium PI” on a NIH R01 grant entitled “Peripheral Odor Coding in Mammals” approved for funding by the National Institute on Deafness and Other Communication Disorders for ca. $2,500,000 (UAlbany share ca. $240,000) for the period April 2015-March 2020. Hiroaki Matsunami, Associate Professor of Molecular Genetics and Microbiology, Duke University School of Medicine, will serve as PI on this grant. This grant will complement Block’s current NSF grant, supporting his research in olfaction. Prof. Block also received a conference grant from the American Chemical Society to help support the organosulfur symposium he is chairing in Hawaii next year.

**Igor Lednev** renewed his grant from the Department of Justice for the development of a nondestructive, confirmatory method for identification of biological stains at a crime scene. The method based on inelastic light scattering has been already patented and is expected to be commercialized in the near future. This long-term project involves a close collaboration with the NY State Police Crime Laboratories. The current extension brings the total funding of the project to $1.6M. The broader impact of this work includes training researchers in his lab to be the next-generation forensic scientists.

**Rabi Musah** in collaboration with E. Dikarev, E. Block, M. Petrukhina and J. Welch, received a grant from NSF for acquisition of a JEOL AccuTOF Direct Analysis in Real Time Mass Spectrometer for research and teaching. The instrument will support research such as (a) studies of metal complexation of bowl-shaped heterocorannulenes; (b) synthesis and structural investigations of volatile heterometallic molecular precursors to energy-related materials; (c) tracking of plant-derived volatile organosulfur compounds, and their environmental fate; (d) studies of fluorinated compounds; and (e) developing applications of hybrid nanomaterials for diagnosis and treatment of major diseases.

**Marina Petrukhina** received a 2-year grant award from the American Chemical Society Petroleum Research Fund. This grant support will allow Petrukhina’s group to develop new synthetic strategies targeting the preparation of the novel class of organometallic single-ion lanthanide molecular magnets. Prof. Petrukhina is leading a multi-campus team, including Prof. Artem R. Oganov (Department of Geosciences and Physics, Stony Brook University) and Prof. Roxana Margine (Department of Physics, Applied Physics and Astronomy, Binghamton University), that explores design and preparation of new carbon-based materials for energy-related applications.

**Mehmet Yigit** received a SUNY Network of Excellence Award in Materials and Advanced Manufacturing, and he is part of the Biomaterials Team. The fund supports a project in his lab for engineering magnetic resonance imaging (MRI) contrast agents and in vivo fluorescence nano-probes.
Mehmet Yigit and Maksim Royzen received a joint, 2-year research fund from BD Biosciences. The goal of their joint research is to engineer and employ magnetic nanoparticle-based theranostic materials for imaging and silencing disease-related miRNAs in breast cancer in a controlled manner. In the long run, their technology could increase the efficacy of cancer therapy while decreasing drug dosage and the associated side effects.

John Welch received funding from SUNY RF NOE in a team work for the project called “Novel Photosensitive Monomers for Visible Light Initiated Polymerization Studies.” In this project, visible light sensitive monomers containing highly fluorinated sulfur functional groups will be used to prepare high performance polymers. These groups have a remarkably high E-beam cross section, facilitating decomposition of the polymeric matrix on electron beam irradiation, a process integral to lithographic and other manufacturing steps.

Evgeny Dikarev received a grant from the U.S. Civilian Research and Development Foundation for initiating a new collaboration with the scientists from Moscow State University, Russia on low-temperature methods of preparation of up- and down-conversion materials. He also received a NSF award for international collaboration on rechargeable battery cathode materials. The grant covers his graduate students’ visit to the counterpart institution for conducting electrochemical and electron microscopy measurements of materials obtained at UAlbany.

Alexander Shekhtman in collaboration with Professor Ann Marie Schmidt at NYU received a NIH R24 grant to develop pharmacological and genetic approaches to characterize the role of the receptor for advanced glycation end products, RAGE, in diabetic complications. His group will use 2 state-of-the-art NMR spectrometers to derive atomic resolution structures of RAGE in complex with RAGE small molecule inhibitors. The goal of this grant is to identify a series of small molecules as drugs to alleviate inflammation, a diabetic complication.

Li Niu received funding from SUNY Network of Excellence in Materials and Advanced Manufacturing for Advanced Biomaterials to study a RNA hydrogel. The RNA molecule itself is a potentiating agent for glutamate receptor in the brain (supposedly this RNA is a cognitive enhancer). Without any cross linker, the RNA can form thermoreversible, high water content hydrogel. His group is currently characterizing the mechanical property and the structure of this gel.
Beatriz Bolivar presented a poster at the Keystone Symposia on Novel Therapeutic Approaches to Tuberculosis. Beatriz completed an internship at John Hopkins School of Medicine at the Center for TB Research. She received an Initiative for Women award. Cristina Dubcean received a 10-week internship at Siemens in Germany through the German Academic Exchange Service. Kyle Doty attended the Northeastern Association of Forensic Scientists annual conference. Kyle also presented a talk at the International Conference on Raman Spectroscopy in Jena, Germany. Gaius Takor recently published in the journal of Biopolymers. Justine Giffen presented a poster for the 2014 Northeastern Association of Forensic Scientists annual conference. Haixiang Han presented a poster at the XII International Conference on Nanostructured Materials in Moscow, Russia. Tony Hoang has 4 patent applications for bioseparations and single-molecule apparatus; 2 prototypes were demoed to Thermo Fisher. Ashton Lesiak presented a poster at the American Society for Mass Spectrometry in June 2014. Ashton also gave a talk at the 2014 Northeastern Association of Forensic Scientists in November 2014. Ashton also received an Initiative for Women award. Jennifer Lippens and William McIntyre each presented a poster at the 62nd ASMS Conference on Mass Spectrometry and Allied Topics in Baltimore, MD. Jenn also received the 2014 RNA Institute Travel Award. Natalie O’Neil received the 2014 International Union of Crystallography Travel Award. Natalie also joined the membership to the AAAS/Science Program for Excellence in Science. Tatiana Quinones-Ruiz gave a talk on Hydrogen Sulfide as it Inhibits Amyloid Fibril Formation at the 2013 Life Science Research Symposium at the University at Albany. Neil Robertson presented a poster at the 2013 RNA Research Symposium at SUNY Albany. Rebecca Rose gave a talk at the 2013 Finger Lakes RNA Conference. Rebecca was the keynote speaker at the 2014 Hudson Valley RNA club and presented a poster at the American Society for Mass Spectrometry. She received an ASMS travel stipend, and was an invited seminar speaker at Marist College. Muhit Rana published 2 first author papers, presented a poster at the Life Science Research Symposium, the Finger Lakes RNA Conference and the Sigma-Aldrich Symposium on RNA Science. Angelo Setaro received a 2013 RNA Institute travel award to present a poster at the Finger Lakes RNA Conference. He also gave a talk and a poster at the 2014 Gibbs Biothermodynamics Conference in Illinois. Cortney Von Hahmann will present a poster at the 22nd Winter Fluorine Conference of the ACS in St. Petersburg, FL. William Jaremko co-authored a paper published in Analytical Biochemistry, and a book chapter in press. Andrew Wu published a first-author paper in Biochemistry and co-authored another paper published in ACS Chemical Neuroscience.

The following students received a Graduate Student Travel Award from the Department for presenting their work at various conferences: Beatriz Bolivar, Kyle Doty, Justine Giffen, Natalie O’Neil, Rebecca Rose and Angelo Setaro.

Alumni News

Robert Berkenblit, ’86, M.D. Associate Professor of Clinical Radiology, Department of Radiology (Body MR and CT Imaging) and Montefiore Medical Center in NYC.

Growing up in Yorktown Heights, New York I wanted to study chemistry as an undergraduate before tackling medical school. I chose to attend SUNY Albany for its strong academics. Making lifelong friends and meeting my future wife were added bonuses.

I was fortunate enough to have taken my second semester of Organic Chemistry with Professor Shelton Bank. Dr. Bank was “that professor” that made my academic career at Albany something special. In my junior and senior years I did research in Dr. Bank’s lab. The project was something about the rearrangement of a Grignard coupling reaction - if I remember correctly. The exact project did not necessarily effect my life but the unique experience of being able to work one-on-one with a wonderful teacher like Dr. Bank is still memorable to me today. Indeed the curiosity and interest I developed from using nuclear magnetic resonance spectroscopy (NMR) in that research shaped my future career.

After graduating from SUNY Albany I went on to medical school at the University of North Carolina at Chapel Hill with thoughts of becoming a pediatrician. In the summer after my first year at Chapel Hill I decided to do research and
Our Faculty

Paul Agris
Professor & Director, RNA Institute

Eric Block
Carla Rizzo Delray
Distinguished Professor

Alan Chen
Assistant Professor

Evgeny Dikarev
Professor

Dan Fabris
Professor

Gerd-Uwe Flechsig
Assistant Professor

Jan Halamek
Assistant Professor

Igor Lednev
Professor & Director, Forensics Institute

Rabi Musah
Associate Professor

Li Niu
Professor & Chair

Jayanti Pande
Associate Professor

Marina Petrukhina
Professor

Maksim Royzen
Assistant Professor

Charles Scholes
Professor

Alexander Shekhtman
Associate Professor & Director, Graduate Studies

Jia Sheng
Assistant Professor

Lawrence Snyder
Professor Emeritus

Paul Toscano
Associate Professor & Chair, Undergraduate Studies

Jun Wang
Assistant Professor

Zhang Wang
Assistant Professor

John Welch
Professor

Mehmet Yigit
Assistant Professor

Our Staff

Brian A. Gabriel
Administrative Manager

Colin Henck
Undergraduate Laboratory Coordinator

David Burz
Instructional Support Specialist

Lan Huynh
Instructional Support Technician

Katie Saxton
Instructional Support Technician

Rama Yaghi
Instructional Support Technician

Alumni News continued

remembered how fascinated I was by NMR. I was able to find a project in the Department of Radiology at UNC utilizing MRI which is based on the principles of NMR. This led to me learning about radiology rather early in my medical school career. Further research and a clinical elective in radiology cemented my desire to pursue the field for my career.

Following medical school I went on to do my residency in diagnostic radiology at Montefiore Medical Center in the Bronx, New York and subspecialty fellowship training in Body Imaging at Georgetown University Hospital in Washington DC. Nearly 20 years later, I incorporate the principles of NMR in my daily practice interpreting MRI exams (as well as ultrasound, CT and general x-rays) on patients at an outpatient imaging center at Montefiore. I have been fortunate to have been able to lecture nationally and internationally on various radiology topics and still use the basic principles I learned from Dr. Bank pertaining to how to give a lecture. In his words, the very basic outline of giving a good lecture was as follows: “Tell them what you will tell them, tell them, and then tell them what you told them.” It is indeed a formula that has worked well for me to this day.

Shortly after graduating from medical school I got married to my college girlfriend Kiera Weidler (SUNYA ’87 – see our photo). We live in Briarcliff, New York and have three children. When I am not at work I can usually be found at a lacrosse field coaching my daughter’s youth team or playing in master’s league games (affectionately known as old boy lacrosse). Other interests include photography and travel.

Over the years I remained in touch with Dr. Bank and his wife Janet and had the good fortune a number of years ago of attending a radiology conference on Martha’s Vineyard where the Banks had happened to move to for retirement. We shared a memorable day touring the island and enjoying a relaxing day at a quiet beach for locals. It was a great honor to participate in the group that organized a scholarship fund in memory of Dr. Bank. This perpetual award had its first recipient in 2013. It was particularly special to me to help give back to a department that was instrumental in my education and career.

While I do not get back to Albany very often, my wife and I enjoyed an overnight in Albany this past spring which involved touring campus before heading downtown to attend a concert.

Even More Capital Improvements

A new Organic Chemistry teaching lab on the third floor of Chemistry Building opened in the spring 2014. Included in the $600,000 construction/renovation of this lab was a new Agilent GC and a new Perkin Elmer FT-IR (see the right panel of the photo). The red extractor arms allow students to individually perform organic synthesis reactions on the bench, and hundreds of students each week use this new space to do experiments. This new lab is the third Organic Chemistry teaching lab. The construction/renovation of this lab was to meet a record enrollment of students in the department. We are very happy to offer this new space with modern equipment and instrument so that our students can have a quality learning environment.
YES! I/We support the mission of learning and discovery at UAlbany.

GIFT DESIGNATION:
- Department of Chemistry
- Graduate Student Support
- Arthur O. Long Fund
- Tiezen Scholarship Fund
- Shelton Bank Prize for Excellence
- Henry Kuivila Lectureship
- College of Arts & Sciences Dean’s Fund for Excellence

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Comments and submissions to the newsletter should be emailed to Brian A. Gabriel at bgabriel@albany.edu or mailed to University at Albany, CH121