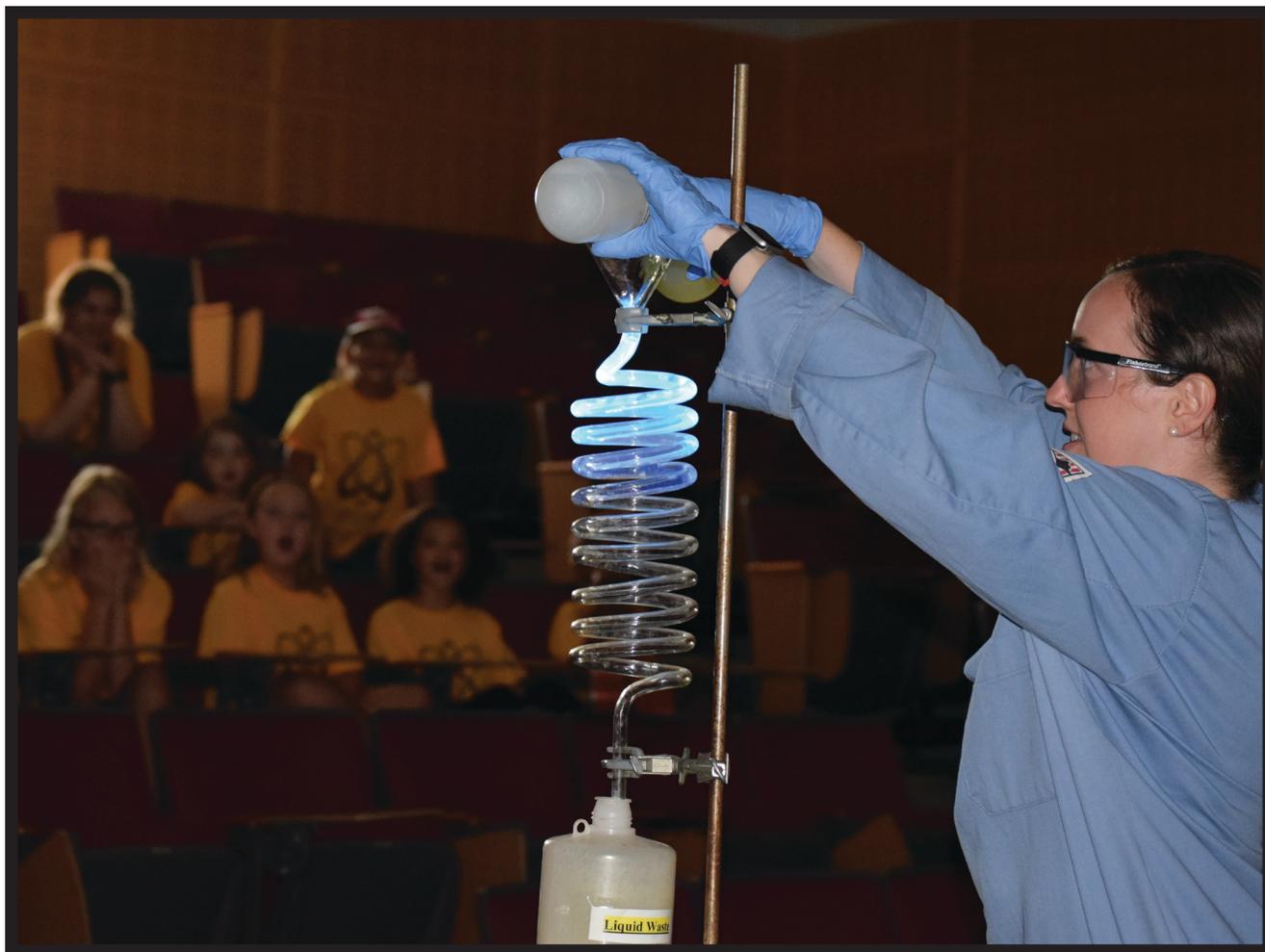


FALL 2018

ELEMENTS

THE ALUMNI MAGAZINE OF
THE VIRGINIA TECH DEPARTMENT OF CHEMISTRY



COLLEGE OF SCIENCE
CHEMISTRY
VIRGINIA TECH.

LETTER FROM THE CHAIR

Borrowing from Heraclitus, the only constant in a university is change. Fall 2018 provided a rather large change in my life as I stepped into Jim Tanko's shoes and assumed the role of Chair. For some inexplicable reason, Jim's smile grew with each passing day as July slipped into August. Likewise, Amanda Morris stepped into Hervé Marand's shoes as Associate Chair and will be leading efforts on curriculum changes and facilities planning. Hervé went one step further than Jim and chose early retirement. Many thanks on behalf of the department for Jim's and Hervé's numerous contributions over the past eight years.

While Hervé has retired, Andrew Lowell has joined us as our newest Assistant Professor. Andrew is an organic chemist and we are excited to see where Andrew's program centered around natural products leads. Additional retirements and hopefully a few hires are expected in 2019, so stay tuned for further updates.

The start of the Fall semester also brought the long-promised completion of the Davidson Hall renovation. This major renovation was "right around the corner" when I started in 1999, and I know many of you were promised this renovation even earlier. The only major interior feature of the building that remains is the stage right stairwell out of the former Davidson 3 lecture hall. If you have not seen the newly renovated Davidson Hall yet, please stop by the next time you are in Blacksburg and check it out. I will be happy to arrange a tour and you are always welcome.

As part of the completion of the Davidson Hall renovations, we held the "Celebration of Chemistry" on October 19 and 20. This alumni event, which attracted almost 200 alumni, graduate students, staff and faculty was organized with help from the Department of Chemistry Advisory Council (DCAC) and the College of Science (COS). Organizational efforts from Tom Piccariello and Ann Norris, Chair and Vice-Chair of DCAC, respectively, and Professor Emeritus Mike Ogliaruso on behalf of DCAC, Katie Lafon, Jenny Orzolek, Lon Wagner and Wade Stokes from COS, and our own Jim Tanko and Corrin Lundquist, to make this event a success were greatly appreciated. On Friday evening, we went back to our roots with the help of Professors Emeriti J. P. Wightman, Mike Ogliaruso, Jim Wolfe, and current Professor Harry Dorn. On Saturday, we looked to the present and future. John Morris, Amanda Morris, Diego Troya, Tim Long and Webster Santos highlighted groundbreaking research across all areas of chemistry while Assad Khan, recipient of the William H. Starnes Jr. and Sofia M. Starnes Endowed Scholarship in

Chemistry, and Linda Allworth, recipient of the Ogliaruso Family Scholarship in Chemistry, highlighted a day in the life of a graduate and undergraduate student, respectively. These talks, along with poster presentations from our current graduate students, showed how Virginia Tech Chemistry continues to be at the cutting edge of technology that is transforming human society. I am grateful to all who presented, especially our Dean, Sally Morton, who cut short conference travel to be with us on Saturday evening.

Fall 2018 also saw a large incoming class of 33 graduate students. Graduate students are the life blood of our research efforts. We could not have recruited these students without your contributions to the Department of Chemistry Annual Fund. We were also fortunate to recruit Ariel Burgio, working with Prof. Webster Santos, away from Notre Dame. Attracting Ariel would not have been possible without help from the Harold McNair Alumni Award. Next year, we will have the new tool in our arsenal: the Dr. Thomas C. Ward Graduate Fellowship in Chemistry. This fellowship was announced at the Celebration of Chemistry and made possible through the efforts of Pradip Das, Ann Norris, and other Ward group alumni and family members.

In November, I was fortunate to represent the Department at the COS Celebration of Excellence reception and dinner. This event celebrates all of the award recipients and donors to our program. As chair of our department, it was extremely satisfying to see how well chemistry was represented and the impact your generous support of the department has on so many of our students. It was also a great opportunity for me to catch up with alumni such as Frank Akers and Bob Schwartzel who represent Chemistry on the COS Dean's Roundtable, and Robert Whiton, who is generously supporting our newest undergraduate scholarship.

As 2018 draws to a close, I hope you will continue to partner with us in training and supporting the next generation of Hokies. Your contributions to our Annual Fund and endowed funds support graduate and faculty recruiting, seminars, alumni events, scholarships and awards. Finally, I wish you and your families a happy and healthy 2019.

Sincerely,



ELEMENTS *fall 2018*

Department of Chemistry

Alan Esker Department Chair

Patricia Amateis Director of Undergraduate Programs

John Morris Director of Graduate Program

Contact

Tell us what you think of this magazine. Write, call or email at

Department of Chemistry (0212)
c/o Corrin Lundquist
Davidson Hall Room 480, Virginia Tech
1040 Drillfield Drive
Blacksburg, VA 24061

540-231-5392 / chemdept@vt.edu

Social Media

Facebook: VTCHEM
Twitter: @VTChemDept

Virginia Tech does not discriminate against employees, students or applicants on the basis of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information or veteran status' or otherwise discriminate against employees or applicants who inquire about, discuss, or disclose their compensation or the compensation of other employees or applicants; or any other basis protected by law. For inquiries regarding non-discrimination policies, contact the Office of Equity and Access at 540-231-2010 or Virginia Tech, North End Center, Suite 2300 (0318), 300 Turner St. NW, Blacksburg, VA 24061.

what's inside

4 FEATURE STORY:
Hiking. Cheaper than Therapy.

6 DEPARTMENT NEWS:
Richard Zare visits the department
Summer outreach programs reach young audiences

7 DEPARTMENT NEWS, CONT'D:
Photo Review: The Celebration of Chemistry
Two new student award announced
Career Resource for VT Chemists launches

8 FACULTY NEWS

11 STUDENT & ALUMNI NEWS

about the cover

Lindsey Anderson, a then-graduate student* from the Moore group, performs a demonstration for the Science Museum of Western Virginia's Science Girls summer camp in July. See page 6 for more about the department's summer outreach efforts.

*As of three days before this publication, Dr. Anderson has successfully defended her thesis.

Hiking. Cheaper than Therapy.



Jim Tanko (left) and Hervé Marand, crossing from Georgia into North Carolina, approximately 86 miles into the adventure. Their joy and sense of accomplishment was only tempered by the dinky little sign marking the location. Somehow, a flashing billboard seemed more appropriate.

BY J. M. TANKO

The Appalachian Trail (AT) runs 2,200 miles from Springer Mountain in Georgia to Mount Katahdin in Maine. One-fourth of the entire AT (550 miles) passes through Virginia, and the AT is one of Southwest Virginia's most precious natural treasures. It is close to Blacksburg and provides access to some of the region's most outstanding attractions: McAfee's Knob (possibly the most iconic and photographed site on the AT), Dragon's Tooth, Angel's Rest, Tinker Cliffs and so much more. The AT is an integral part of the Blacksburg/Virginia Tech experience, and many of us dream about doing a more substantial portion of it than is afforded by a day hike. The possibility for doing so presented itself with the completion of my term as chemistry department chair.

My dear friend and hiking buddy Prof. Hervé Marand (who was also completing his term as chemistry's associate chair) and I seized the opportunity to hike a portion of the AT.

So, why do this? For me, it was an opportunity to reflect (and maybe recover) from serving eight years as department chair. Recovery, for example, from sensory overload. One of the most interesting, yet challenging, parts of the job was that something unexpected was always happening, and interruptions were

constant. No matter what one's early morning plans were for a "typical" day, fate would usurp those plans, and by the end of a busy day, you'd be tired and have seemingly accomplished nothing. One loses the ability to focus and develops the attention span of a two-year-old, which, incidentally, is an impediment to scholarly activity.

Another element of recovery was from "social exhaustion." As chair, one does a lot of socialization—and to be honest, this does not come easy for me. Oftentimes, socialization comes in the form of receptions, which involve tiny bits of cheese or fruit on platters with toothpicks as the instrument of delivery. From this experience, ingrained in my psyche are the barbecued meatballs served by The Inn at Virginia Tech. These meatballs are like malted milk balls, which, as you may know, are usually sold in large quantities—half-gallon milk cartons. Malted milk balls are not particularly good, but once you start eating them, you simply cannot stop until the box is empty and you are beyond nauseous. Like malted milk balls, the barbecued meatballs at The Inn have a secret ingredient that suppresses the hypothalamus. If you took PSYCH 101, your text may have had the photos of rats that ate themselves into morbid obesity because their hypothalamus had been removed. If so, you get the picture.

Whatever the reasons for embarking on this mini adventure, I was reminded that one always learns more when someone else is doing the talking. The people I met—and their stories—were far, far more interesting than anything I have to say. This story is about them.

There are two general types of backpackers on the AT. Thru-hikers plan to hike the entire 2,200 miles. From the south, a thru-hiker would have started in March or April and would be in New England at the time of year we began our adventure. The other type of hiker is a section-hiker, who, as the name suggests, does sections at a time. Everyone we met up with in phase one of the adventure was a section-hiker, ranging in age from 40–70. These individuals had a few more miles on the odometer of life and, like us, had a reason for being on the trail—and some fascinating stories to tell.

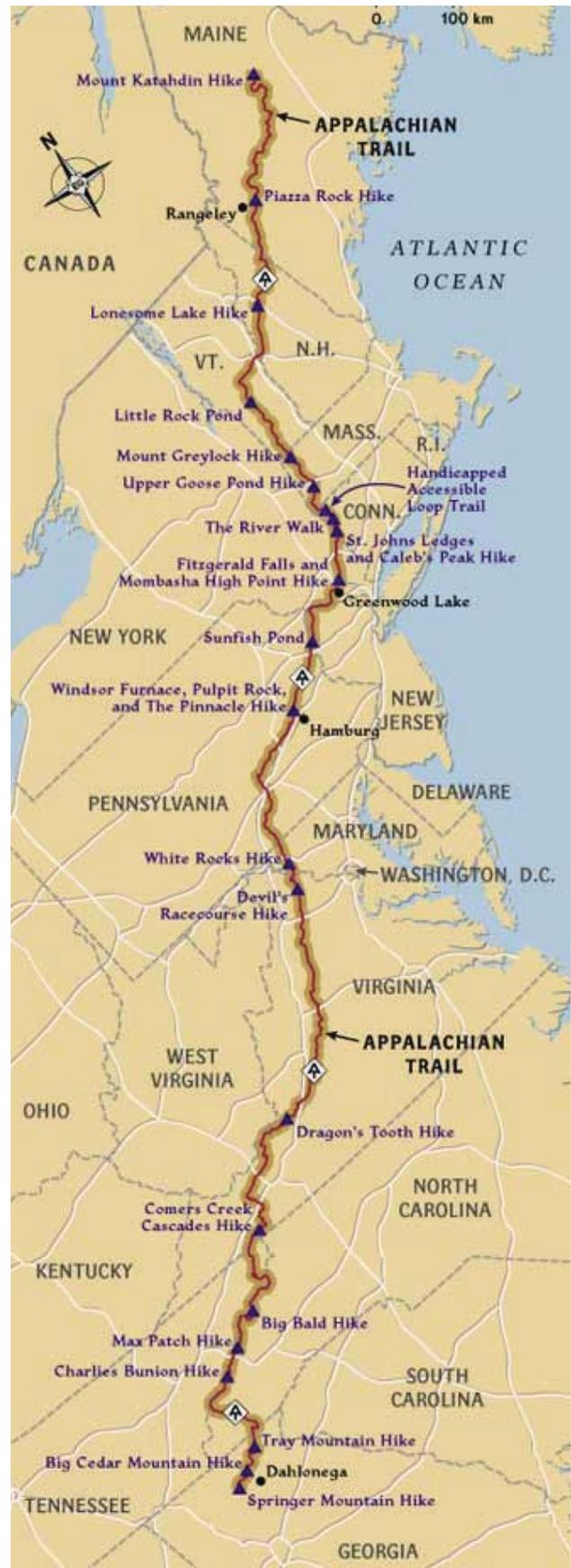
There was a fellow named Mark, who was acting on a bet that he could section hike a portion of the AT in three days. I don't remember the starting point, but the terminus was Unicoi Gap—and he was only three miles away when we met. There was little doubt Mark would be \$500 richer... unless of course he went for double or nothing.

And then there was Jarret, a Texan now living in Arkansas and one of the youngest. He had just inherited some money and figured if he was ever going to do the AT, why not now? (He was section hiking, and particularly enjoyed venturing into town—especially if there was a liquor store.)

Jarret proved to be inventive and a problem-solver. As might be expected, on the AT there is wildlife, and in particular, black bears. They are more of a nuisance than a danger (if you exercise common sense). The nuisance aspect is that they really, REALLY want your food. To keep them from getting it, at nighttime, the food needed to be suspended from trees with ropes. Or, in some of the slightly more developed areas, there were cables and/or bear boxes. Jarret was acutely aware of this, and his 3–4 days of hiking expertise gave him the confidence to lecture everyone incessantly on the topic of proper food storage.

These protective measures are quite effective against bears, but not for mice, which sometimes would get into and eat through the packs—especially in search of nuts and fruit. Jarret, however, devised a solution. He hung his food out of reach like everyone else, but at the bottom of the cable, left some nuts and fruit for the mice. To those of us “less experienced”, there seemed to be several potential problems with this approach. First, wasn't the whole idea of suspending the food meant to avoid attracting bears? Leaving food on the ground did not seem to capture the spirit of that intent. But perhaps Jarret was onto something. Maybe this was some sort of “peace offering” to the mice. If they were given a bit of food, perhaps they would be satisfied and not scamper up the cable to get some more?

(continued on page 10)



The Appalachian Trail extends 2,200 miles from Springer Mountain in Georgia to Mount Katahdin in Maine.

DEPARTMENT NEWS

Acclaimed Analytical Chemist Richard Zare visits the department

For the past fifty years, the Highlands in Chemistry seminar series has been a hallmark of the graduate program and the department as a whole. Recently, with thanks to sponsored endowments, the level of acclaim of the invited speakers has risen, with two Nobel Laureates visiting in 2017: Robert Grubbs in April and Sir Fraser Stoddart in November. This fall's seminar series was no different, bringing in some of chemistry's biggest names from all over the country.

One speaker was Professor Richard Zare. Dr. Zare, the Marguerite Blake Wilbur Professor in Natural Science and Professor of Chemistry at Stanford University, is renowned for the development of laser-induced fluorescence. Because of the Friends of Larry Taylor endowment, he was able to give a special public lecture in addition to his departmental seminar.



Dr. Zare's public lecture, titled "How Fast Do People Get Drunk?", used chemical kinetics to explain how quickly alcohol consumption can begin to affect a person. He then applied the principle to the age-old question among James Bond fanatics: why does Agent 007 prefer his martinis shaken and not stirred?

The answer lies in the diffusion of the alcohol, the cooling of the ice, and a bit of personal preference. By shaking the drink, not only does the alcohol become more evenly distributed quicker, but the entire drink cools faster as the ice cubes have more contact with the liquid. After a quick taste test by members of the audience, including our new department chair, Alan Esker (in perhaps one of his more enjoyable roles as chair), the shaken martini was much better tasting—and colder—than the stirred.

Overall, the special lecture was well attended by both members of the VT Chemistry community and the community at-large, and the department is excited by the prospect to host future public lectures.

Summer outreach programs reach young audiences



In the slow haze of summer break, when most of the students had gone from Blacksburg, a younger crowd descended upon the Department of Chemistry. As per usual, the department was active in hosting and participating in a variety of outreach programs, especially those geared toward elementary-aged kids.

One of the opportunities, featured on the front cover, was as part of the Science Museum of Western Virginia's Science Girls summer camp in July. Through demonstrations and hands-on activities, the campers experienced fireworks, color changing reactions, acids, bases, super absorbent polymer chemistry, and different states of matter (solid, gel, liquid, gas). The camp, which was open to kindergarten to fifth grade girls, provided an opportunity for young women to engage in STEM learning.

Another week-long program was hosted by the department and funded by grants from the National Science Foundation provided to Profs. John Matson, Greg Liu, and Richard Turner. Say YES to Science was spearheaded by Dr. Maggie Bump and was offered to regional elementary and middle school-aged children. Small teams led by graduate students explored research topics including polymer synthesis, water purification, alternative energy and medicinal drug delivery. The campers culminated the experience by presenting their demonstrations to the general public on the community stage at Blacksburg's Annual Steppin' Out Street Fair.



DEPARTMENT NEWS

Photo Review: The Celebration of Chemistry



Pictures above are from the Saturday morning session. Linda Allworth (top) gave a talk about a day in the life as an undergraduate. Prof. John Morris kicked off the faculty ChemTalks and shared his gas surface chemistry research with the audience.



Pictured above (left to right): Student Alumni Associate Grant Bommer, Chemistry Department Chair Alan Esker and his wife Candace Wall, Dean's Leadership Council member Madeleine Paulsen, College of Science Dean Sally Morton, and Assistant Dean Wade Stokes.

For more pictures from the Celebration, please visit the department's website at chem.vt.edu



From the Saturday night dinner. Top picture features the Highland Jazz Quartet including two faculty members: Profs. Paul Deck, keyboard, and Lou Madsen, saxophone. Bottom picture is College of Science Dean Sally Morton (left) with Dr. Bill Starnes (B.S. '55) and Sofia Starnes.

R.S. Whiton Scholarship in Chemistry established for chemistry undergrads

A new scholarship for undergraduates was awarded this past November at the College of Sciences's Celebration of Excellence Reception. The R. S. Whiton Scholarship in Chemistry was established by Dr. Robert S. Whiton (B.S. '81) to help recruit, recognize and reward outstanding chemistry undergraduate students. This year's award was split between three exceptional undergraduates, (pictured at right with Department Chair Alan Esker, middle, and Dr. Robert S. Whiton, second from left): (from left to right) Jonathan Roof, Quentin Loague and Alexis McCarthy.



Photo courtesy of Steven Mackay, College of Science

New Graduate Student Fellowship to honor Prof. Tom Ward announced



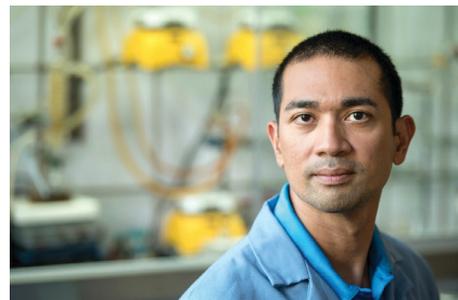
At the Saturday morning session of the Celebration of Chemistry, the Thomas C. Ward Graduate Student Fellowship was announced and presented with Dr. Ward's family members in attendance. The fellowship will be awarded in Spring 2019 and offered in Fall 2019 and was created by friends, family and colleagues of Professor Ward to honor his work in chemistry. The competitive fellowship will be offered on merit and awarded to a new graduate student pursuing a Ph.D. in the Department of Chemistry or the MACRO program with preference given to those interested in physical chemistry or physical polymer chemistry.

Graduate Program launches Career Resources for Virginia Tech Chemists

The Department of Chemistry Graduate Program is delighted to announce the launch of the Career Resources for Virginia Tech Chemists initiative in Spring 2019. The initiative is intended to bring together VT alumni and graduate students to help address the age-old question, "I'm getting my degree, what's next?". This new resource will serve as a database of Department of Chemistry Advisory Council (DCAC) members who cover a large range of career backgrounds and post-grad experience, so that recent graduates and current students will be able to seek out specific advice regarding job interviews, resumes, choosing a field, and more. What makes the resource unique from other career resources offered by the university is that it is geared exclusively toward VT Chemistry graduate students. Many of the DCAC members have generously agreed to play an active role as advisors to our students. The Career Resources tool will pair students with advisors according to field and career goals. Currently, the list of advisors is only open to DCAC members, but the council hopes to open it up to all alumni who wish to serve in the future.

FACULTY NEWS

Professor Webster Santos, along with collaborator Prof. Kyle Hoehn in the Department of Pharmacology at the University of Virginia, received a \$400K grant from the Virginia Biosciences Health Research Corporation (VBHRC) with \$800K in matching funds from Continuum Biosciences, a company they co-founded, for a total of \$1.2 million. The grant and the matching funds will support Santos and Hoehn's research to develop drugs to treat nonalcoholic steatohepatitis (NASH), a type of nonalcoholic fatty liver disease. Their research is focused on the development of safe mitochondrial uncouplers which work to increase metabolism and decrease fat accumulation by transporting protons across the mitochondrial membrane.



A team led by **Professor Nick Mayhall** has received a \$1.8 million grant from the Department of Energy to perform simulations of molecules on small, custom built superconducting quantum computers. The team, including Professors Sophia Economou and Ed Barnes from the Virginia Tech Department of Physics and David Pappas from the National Institute of Standards and Technology, will proceed by developing new ways to define the molecular problem, novel mappings to qubit representations, advanced simulation algorithms and high fidelity quantum hardware for the simulation of small molecules. By carrying out this work, the team hopes to learn more about the potential benefits and challenges that near quantum computation may present.

Dr. Andrew Lowell has joined the faculty as an assistant professor of organic chemistry. His research is focused on medicinally important new natural products and understanding the biosynthetic pathways responsible for their production, ultimately working to synthesize and derivatize complex natural products to create new and improved medicines. He recently completed a postdoctoral fellowship at the Life Sciences Institute at the University of Michigan under the mentorship of David Sherman, Ph.D., where he studied biocatalytic methods toward macrolide antibiotics. Lowell received a B.S. in chemistry from Washington State University and earned his M.S. and Ph.D. in organic chemistry congruently in 2008 from the University of Pennsylvania under the guidance of Marisa C. Kozlowski before working as a visiting scholar with Yoko Yamakoshi at Penn. Welcome to the department, Andrew!



Faculty Awards

- 1 **Professor Webster Santos** Promotion to full professor
- 2 **Professor John Matson** Promotion to associate professor with tenure; named a Polymeric Materials Science and Engineering (PMSE) Young Investigator, PMSE division of ACS
- 3 **Dr. Jeannine Eddleton** Promotion to senior instructor
- 4 **Vicki Long** Promotion to advanced instructor
- 5 **Professor Greg Liu** Named a Polymeric Materials Science and Engineering (PMSE) Young Investigator, PMSE division of ACS
- 6 **Professor Paul Deck** Certificate of Teaching Excellence, College of Science
- 7 **Geno Iannaccone, Director of Analytical Services** Outstanding Staff Award, College of Science



FACULTY NEWS



Prof. Hervé Marand has been conferred the title of professor emeritus by the Virginia Tech Board of Visitors. A member of the university community since 1989, Prof. Marand brought international recognition to the department through his work in polymer crystallization. He was the principal or co-principal investigator on several research grants on structure-processing-physical property correlations in semicrystalline polymers, and his theory to explain the crystallization behavior of important polymers that are part of our daily lives (polyethylene, nylon, and more) is groundbreaking.

Prof. Marand's service to the department was significant. He was an innovator in the classroom, advised numerous graduate students and helped them develop successful careers in academic, government, and industrial settings. One of his former students, Dr. Darrell Iler (Ph.D. '95) highlighted Prof. Marand's impact as a graduate advisor, writing that "he was an excellent role model for demonstrating that you can still be a great scientist and still put people first."

For eight years, Prof. Marand also served as associate chair for the department. Hervé's fine attention to minute details enabled his success both as a researcher and as associate chair, however, this exceptional talent did not always translate to daily life. Prof. Marand has one, albeit minor weakness that his colleagues will fondly remember. Several times a month—and we may be being overly kind—Prof. Marand would call the main office from the bus stop asking someone to check his office for his keys or wallet. Prof. Tanko has hiked regularly with Hervé over the years. In situations where there were two cars involved, Jim would insist on overseeing the placement of the car keys into a safe place. Failure to do so would invite the risk of hiking 10–20 miles and having to turn around.

Over the next few months, he will continue working with his remaining graduate students, and publishing more groundbreaking papers dealing with polymer crystallization theory. His newfound time will allow him to pursue life to its fullest... travel with his wife Carol, visits with his three children (and grandchildren), and of course, hiking.

This article was written by Dr. Jim Tanko and supplemented by a VT News article that was originally published on October 1, 2018.



Prof. Richard Turner has been conferred the title of director emeritus of the Macromolecules Innovation Institute and research professor by the Virginia Tech Board of Visitors. After three decades working in industry for companies including Xerox, Exxon, Kodak and Eastman Chemical Company, Prof. Turner came to Virginia Tech in 2004 as the director for the new MII.

Prof. Turner served as director of MII for ten years and led the institute to enhanced national and international recognition. At the time, MII had just been formed from five distinct polymer groups on campus. As the institute's first director, Prof. Turner was able to bring his experience from industry to the program and worked to bring different perspectives from industry and other universities to diversify the discourse on polymers.

In 2012, he, along with Prof. Tim Long, brought the World Polymer Congress for the International Union of Pure and Applied Chemistry to Blacksburg. The largest polymer conference in the world was a huge success and brought 1,500 delegates from around the world to a small corner of southwest Virginia.

In addition to his work for MII, he also developed a highly successful research program in polymer chemistry, advising 11 Ph.D. students and three master's degree students. He also developed and taught a graduate level course, "Future Industrial Professional in Science and Engineering," based on his industrial work.

While Prof. Turner has been winding down his professional activities, he's continued to work on grants and wants to stay involved on campus. He says that he will likely be "skiing, golfing and traveling more, but won't quit reading the literature."

This article was based on two VT News stories written by Steven Mackay and Andrew Tie originally published on June 11, 2018 and August 13, 2018, respectively.

FEATURE STORY, CONT'D.

At the end of the day, well actually, the next morning... of the five or six food bags suspended on cables at the Woods Hole Shelter, only one had been compromised by mice: Jarrett's.

Of all the characters we met on the trail, most memorable was George who we met at the Tray Mountain Shelter on a rainy afternoon in Georgia. To borrow a line from *"Star Trek II"*, "of all the souls I have encountered, his was the most human." This is what Kirk said at Spock's funeral, before they torpedoed him to the planet Genesis where he was rejuvenated (sans memories because he mind-melded them to Dr. McCoy before he died) and they performed some sort of ceremony to restore his Katra... but I digress. George's story touched me more than anyone I had met on the trail.

As we were huddled in the shelter avoiding the rain, I asked George "where are you from?" His answer completely caught me off guard: "I guess I would have to say I'm from nowhere." George was homeless. And there were clues that clearly showed he was operating on the budget plan. Whereas Hervé and I had ultralight everything, dehydrated food and more, courtesy of REI, George's backpack looks like something that might have been used in the Civil War. His gear was far from ultralight, and, as a result, he was carrying a lot more weight than anyone else, and his daily mileage was well under 8 miles/day. To put this in perspective, regardless of direction, an AT thru-hiker will need to hit about 18 miles/day to do the entire trail to avoid the ravages of winter on one end or the other. Most of the people we had met were doing about 10–14 miles/day. George was an extraordinarily gentle person and nothing about his attitude or demeanor gave the slightest inkling of the hardships he had endured.

George began his journey in Damascus, Virginia with the intent of going to Springer Mountain—over 460 miles. He had never hiked before and by the time we met him, was only about 60 miles from achieving his objective. You see, rather than pine as the result of his misfortune, George wanted to do something, to put up a fight, to live. And if that wasn't enough, there's more to the story. It turns out that when George passed through Hot Springs, North Carolina, the owner of the hostel he stayed at was similarly impressed, and offered George a job—which included lodging. When George finished his AT adventure, he would be getting on a bus to Hot Springs to begin the rest of his life. George's story touched me beyond words and enriched me with joy and hope. It also gave me a new perspective on homelessness and the individuals whose life circumstances put them into such an unfortunate situation.

In the days approaching the "Top of Georgia", a hostel just west of the AT near Dicks Creek Gap, very close to the

Georgia/North Carolina border, Hurricane Florence was threatening the continental United States—and by all predictions, was headed directly towards us. We doubted it posed any serious risk, but the real danger posed by a natural disaster is the Weather Channel. Their 24/7 coverage induces panic, overreaction and worse. Of course there is a danger with hurricanes... in the coastal and otherwise low-lying areas. And Florence did some terrible things in North Carolina.

Because of the Weather Channel-induced panic, though, Hervé and I were getting regular text messages from concerned family members. We had received word that the National Park Service had closed the Blue Ridge Parkway, Skyline Drive, and of note, a number of trails. All this was dispiriting. So, on a warm, bright and sunny day in September, we caught a shuttle to Hiawassee, Georgia (pictured below) and ended phase one of the trip. Two important notes: First, Hiawassee had one of the best Mexican restaurants I've ever been to. Second, we were told that if you used more than one syllable to pronounce Hiawassee, you were clearly not a local. Apparently the film *Deliverance* was filmed nearby, and for some reason, we felt particularly obliged to be linguistically correct... (I must confess however, to some apprehension about Marand's French accent.)



Hiawassee Georgia on the day we were forced off the trail by the Weather Channel because of "bad weather" and the threat posed by Hurricane Florence.

But this story has to end. In closing, I'll mention that during the second phase of the trip, we also met up with a fellow named Tom and his dog Geronimo. Tom was from Tennessee, a member of the Appalachian Long Distance Hikers Association, and had thru-hiked the AT eight times. He was a wealth of information, and we talked at length on topics ranging from the trail and dementia, to gardening and more. There was also the Swiss lady traveling with the guy from Kansas, and many others. All of these people also had a story.

Happy Trails.

(For more of Jim's Appalachian Trail stories and pictures, visit the department's website at chem.vt.edu)

STUDENT & ALUMNI NEWS

Graduate Student News



Each academic year, the Graduate School, through the College of Science, provides assistantships through the Graduate School Doctoral Assistantship program. In the Department of Chemistry, research advisors nominate their students based on strong evidence of research productivity; demonstrated leadership, creativity and independence; and excellent academic performance in the core and foundation requirements. This fall, the Department of Chemistry awardees were (pictured left, from left to right): **Chad Powell** (Matson Group), **Darren Driscoll** (J. Morris Group), **Russell Fritzemeier** (Santos Group) and **Samantha Talley** (Moore Group).

Undergraduate Student News

Two recent graduates, **Casey Smith** (left) and **Daniel Marron** (both B.S. '18), were published by Acta Crystallographica Section E for their paper on a new crystalline compound created as part of their Inorganic Chemistry Lab (CHEM 4414). The class, taught by Prof. Joe Merola, is an option for a capstone experience and gives students the opportunity to hone synthetic techniques and instrumental analyses as well as work on an original project. Smith and Marron were successful in their project to make molybdenum complexes, one of which had never been reported before. The paper published includes a full characterization of the compound, including synthesis and results from an X-Ray diffraction study that was assisted by Loren Brown, a GTA for the course.



Alumni News



Dr. Abhishek Roy (McGrath Ph.D. '08), Principal Research Scientist at The Dow Chemical Company, was recently invited to join the National Academies' New Voices in Sciences, Engineering, and Medicine initiative which identifies outstanding early-career science, engineering, and medicine leaders. They will engage in communicating the evidence base for addressing national and global challenges to provide new perspectives on issues. The initiative also works to help identify ways to expand the diversity of expertise that is brought to all of the Academies' convening and advisory activities. Dr. Roy was chosen through an extremely competitive selection process for his accomplishments at the intersection of innovation, sustainability, and citizenship, including his award-winning work to fight water scarcity. Dr. Roy previously received the Virginia Tech Outstanding Recent Alumni Award from the College of Science in 2014.

Dr. Ryan Fortenberry (Crawford Ph.D. '12), Assistant Professor of Chemistry and Biochemistry at the University of Mississippi, has recently published a book titled, "Complete Science Communication: A Guide to Connecting with Scientists, Journalists and the Public", published by the Royal Society of Chemistry. Science communication is a rapidly emerging field that provides researchers with the framework needed to effectively share research and knowledge with not only technical audiences, but also the wider general public. Dr. Fortenberry's book offers a comprehensive look at the main aspects of scientific communication that connect scientists with a variety of audiences, from writing for peer-reviewed journals to public relations.



Got news? Feel free to email us anytime at chemdept@vt.edu



Department of Chemistry (0212)
Davidson Hall Room 480, Virginia Tech
1040 Drillfield Drive
Blacksburg, VA 24061

Non-Profit Org.
U.S. Postage
PAID
Blacksburg, VA 24060
Permit No. 28

SUPPORT THE Department of Chemistry Annual Fund

As you consider your philanthropic gifts, we encourage you to support the department's annual fund. Your support is essential to the department's future success. Contributions from our alumni and friends help our many deserving students by providing state-of-the-art facilities, expanding research activities, and allowing the department to respond to new opportunities immediately.

When you receive your College of Science Annual Fund letter or phone call, please earmark your support for the Department of Chemistry Annual Fund. Simply make a notation on the gift card or let the caller know that you want to direct your donation to Chemistry.

To make an immediate contribution, you may visit the university's website at givingto.vt.edu or contact the Office of Gift Accounting at (800) 533-1144.

For more information or to learn about other ways to support the College of Science, please contact Wade Stokes, Assistant Dean of Advancement, at (540) 231-4033 or lwstokes@vt.edu.

We thank you in advance for your support.