

## MEET THE CHAIR: KEENAN DUNGEY

Welcome to the reboot of the alumni newsletter for Department of Chemistry and Physics, which merged in 2015.

Since both chemists and physicists study matter and its transformations, we decided to call our newsletter *Mocs Matter*.

I'm the new department head, coming to UTC last year as the first external head in over 100 years. At my prior institution, the University of Illinois Springfield, I taught 17 different courses, ranging from Introduction to Nanotechnology to senior Inorganic Chemistry, including Science Writing and Science and Religion courses.

My scholarship is in the area of materials science, and my projects have included the synthesis of iron nanoparticles for environmental remediation and the preparation of intercalated vanadates for improved lithium ion batteries.

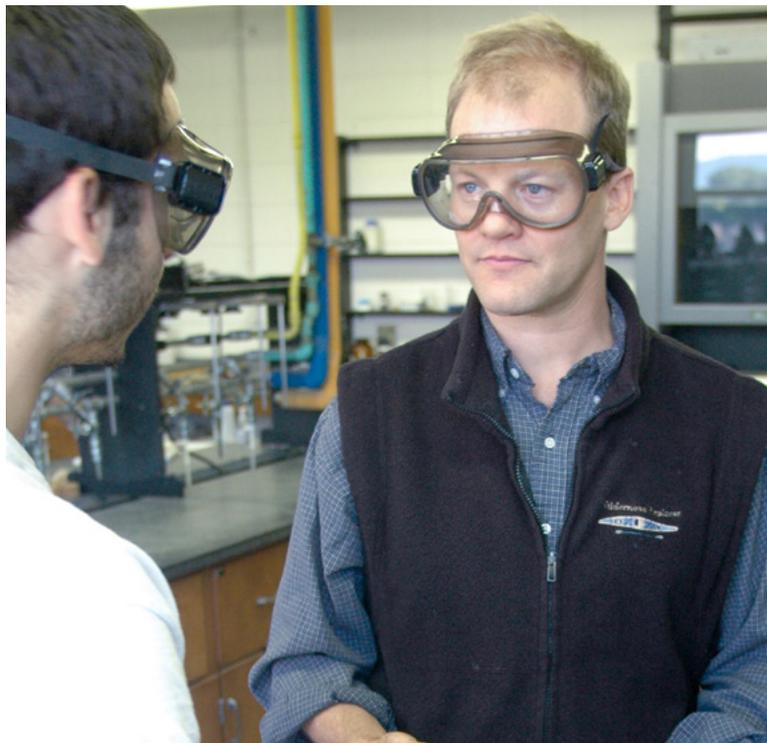
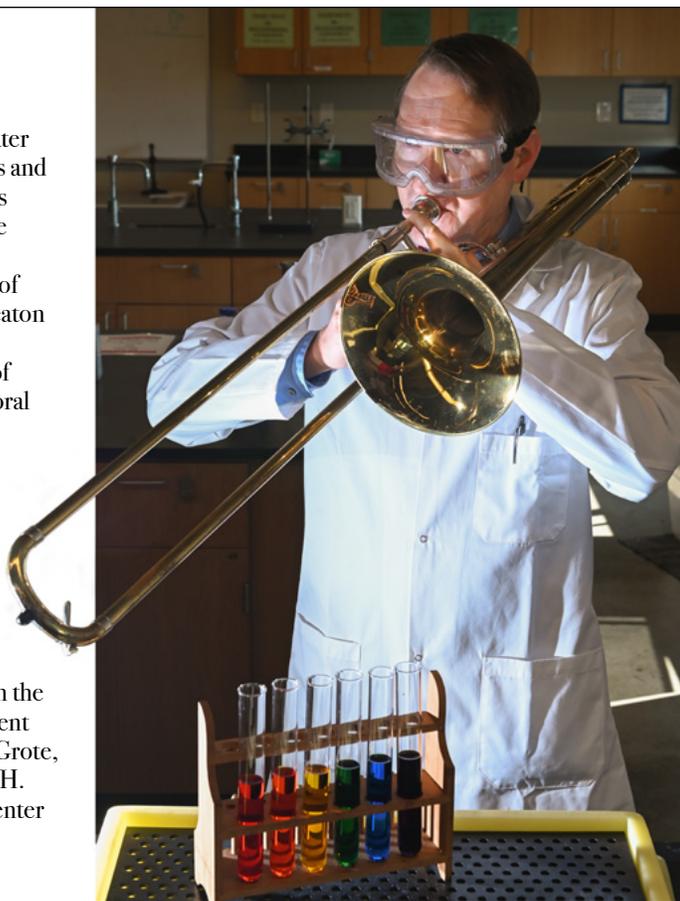
**WHEN I'M NOT ASSISTING FACULTY AND STUDENTS WITH ADVANCING THE FRONTIERS OF CHEMISTRY, I'M PLAYING THE TROMBONE OR VOLUNTEERING WITH THE WORLD SOLAR CHALLENGE.**

I was the research chemist at Emiquon, one of the largest freshwater restoration sites in the United States and have conducted water quality studies at urban and rural sites in the developing world.

I received my Bachelor of Science in chemistry at Wheaton College, Ph.D. in inorganic chemistry at the University of Michigan and did post-doctoral work in nanotechnology at Furman University.

When I'm not assisting faculty and students with advancing the frontiers of chemistry, I'm playing the trombone or volunteering with the World Solar Challenge.

I'm honored to follow in the footsteps of former department heads John W. Edwards, Irvine W. Grote, Benjamin Gross, as well as Grayson H. Walker, namesake of the Walker Center for Teaching and Learning.



**Kyle Knight**  
 Feb. 1, 1966–Aug. 8, 2020

## REMEMBERING DR. KNIGHT

It is with great sadness that we report that Dr. Kyle Knight, professor of chemistry, passed away in his sleep last year.

Dr. Knight joined the faculty at UTC in 1997 after receiving his bachelor's degree from Middlebury College and his Ph.D. from Stanford. For more than 20 years, he enthusiastically taught a variety of organic chemistry lecture and lab courses.

His research into the mechanisms of transition metal catalyzed organic synthesis reactions was featured in international publications as the *Journal of Physical Chemistry* and the *Journal of the American Chemical Society*.

He led an active program of research with undergraduate students and had a special interest in the synthesis and three-dimensional structure of chiral organic molecule, which are important in biology, medicine and pharmaceuticals in that their properties depended on the "right-handed" or "left-handed" nature of their structure.

He involved undergraduates in all his research activities, mentoring students over his 23-year career at UTC. He sponsored the local chapter of Gamma Sigma Epsilon, the national chemistry honor society.

He also was an active outdoorsman, enjoying kayaking in the Chattanooga area.

Among other family members, he is survived by his two sons, Tommy and Christopher.

Thanks to the generosity of his family, friends, colleagues, and former students, a fund was established to support undergraduate research in Organic Chemistry. The "Dr. Kyle Knight Chemistry Research Fund" will start supporting a student next year, providing additional resources for the Undergraduate Research Program.

## FACULTY NEWS

# FOUR PROFESSORS SELECTED FOR UT ALUMNI ASSOCIATION FACULTY AWARDS



Four professors from the University of Tennessee at Chattanooga have been announced as 2021 Faculty Award winners by the UT Alumni Association.

One is the only winner selected for the Alumni Distinguished Service Professor Award. Another is one of only two faculty members chosen in the Alumni Public Service Award. Two others were selected as Outstanding Teachers.

All four professors are from the UTC College of Arts and Sciences.

Winners are selected by colleagues and alumni of the four universities that make up the UT system—UTC, UT Knoxville, UT Martin and the Health Science Center at Memphis.

“The faculty awards are extremely meaningful because it’s chosen from across the campus. It gives the individual inspiration to maintain good and positive work,” said Jamie Harvey, associate professor in the Department of Health and Human Services and past president of the UTC Faculty Senate.

Talia Welsh, UC Foundation professor in the Department of Philosophy and Religion, won the Distinguished Service Professor Award which comes with an annual \$1,000 cash award for three consecutive years. Since 1962, 96 faculty at UT campuses across the state have won this award.

Among the reasons cited in Welsh’s nomination for the award were her work in the Department of Philosophy and Religion Honors program and her dedication to teaching and working with students. Also noted were the more than 60 presentations and panel discussions in which she has participated both nationally and international and the more than 25 articles and book chapters she has written as well as books of her own.

“Being a philosopher means living philosophically, and for me that means being attentive to those around me and responsive to their needs. I’m delighted to receive this award as service has always been central to my work

and thought,” Welsh said.

Michael Thompson, head of the Department of History and a UC Foundation associate professor, won the Alumni Public Service Award and its \$1,000 cash prize. Since 1973, 115 recipients have received this award.

“I am deeply humbled to receive this recognition from the UTAA,” Thompson said. “It is a privilege and honor to serve the UTC and Chattanooga communities, and I accept this award on behalf of my colleagues in the UTC History Department and their many impactful acts of public service.”

Josh Hamblen, UC Foundation associate professor in the Department of Chemistry and Physics, and Kira Robison, associate professor in the Department of History, are Alumni Outstanding Teacher Award winners.

For this year’s awards, 10 professors were selected for Outstanding Teacher based on nominations from faculty and students. Each receives a \$1,000 check. Since 1966, 510 faculty honorees have been selected by their colleagues and students from all UT campuses. Each receives a \$1,000 cash award. Since 1966, 510 faculty honorees have been selected by their colleagues and students from all UT campuses.

**JOSH HAMBLÉN, UC FOUNDATION  
ASSOCIATE PROFESSOR IN THE  
DEPARTMENT OF CHEMISTRY AND  
PHYSICS, RECEIVED AN ALUMNI  
OUTSTANDING TEACHER AWARD.**

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*Clockwise from top left: Talia Welsh,  
Michael Thompson, Kira Robison  
and Josh Hamblen.*

## STUDENT PROFILE PRICELESS EXPERIENCES: ALLYCIA LEE

By Sarah Joyner



**“THE EXPERIENCES I GET TO DO ON TOP OF RECEIVING MY SCHOLARSHIP ARE PRICELESS BECAUSE I FEEL LIKE I’VE GROWN SO MUCH AS A PERSON.”**

Chattanooga native Allycia Lee will be attending the University of Tennessee College of Medicine as a member of the first accelerated cohort for a three-year medical degree.

Lee, who graduated in May with a Bachelor of Science in biochemistry from the University of Tennessee at Chattanooga, says her Westbrook (formerly Grote) scholarship not only helped her pay for tuition, it has helped her become more involved with her department and the Chattanooga community.

“I think it’s really fun,” Lee says. “My scholarship means a lot to me just because it shows me that the department has that faith that I can succeed in chemistry, and that I can not only do the chemistry in the class but also take it and use it outside of the classroom, either in research or as a teaching assistant.”

As a chemistry teaching assistant, lab assistant and president of the Chemistry Club, Lee keeps busy. She’s prepping chemistry labs and helping other teaching assistants- as well as organizing and assisting chemistry events on campus and in the community.

From providing lab experiences to local middle-school students in the Gear Up program to volunteering at UTC Chemistry’s “Chemistry Fun Day” at the Creative Discovery Museum in Chattanooga, Lee says she has enjoyed the experiences of teaching in the community. She says she hopes she has inspired younger children to study chemistry in the future.

“Thank you for giving this money to our department to allow us to do as much that we can do,” she says. “Not only does this fund my education as a chemistry major, it funds the teaching assistants, and it funds research experiences.

“Those experiences that I get to do on top of receiving my scholarship are priceless because I feel like I’ve grown so much as a person- through being a teaching assistant and through being involved in research. It just really pushes me to explore my options in chemistry and do so much more.”

## ALUMNA PROFILE ROSS FIGHTS COVID-19 FROM ‘A BROADER PERSPECTIVE’

by Shawn Ryan



**“I AM VERY GRATEFUL THAT MY PATH IN LIFE INCLUDED TIME WELL-LIVED AT UTC. I MET MANY OF MY BEST FRIENDS IN LIFE AT UTC.”**

Dr. Pamela Ross graduated from UTC in 1987 with a degree in chemistry.

As someone who grew up in Decatur, Tenn., Dr. Pamela Ross describes herself as “a small-town girl with big dreams.”

“I wanted to go to a school that was big enough to give me access to the rest of the world, but small enough to make me feel like a person and not just a number,” she said.

The University of Tennessee at Chattanooga was a perfect fit.

“I did not have to go far away to have a top tier, outstanding college experience,” said Ross, now a physician who is board certified in both emergency medicine and pediatric emergency medicine.

The 2020 Distinguished Alumni Winner in the annual Legends and Leaders, Ross earned a degree in chemistry from UTC in 1987 and, after 17 years in academic medicine, she launched her own business focused on two areas: Traveling as an independent contractor in emergency medicine and personal, concierge holistic medical consulting.

With the education she received at UTC and medical school, she is actively engaged in fighting the COVID-19 pandemic “from a broader perspective.”

“From making sure health care workers have adequate personal protective equipment to pandemic public education and personal telehealth consulting to give patients access to real physicians who care and can help them navigate their journeys to optimal health,” she explained.

“As we continue to navigate a pandemic that also prevents us from gathering together to celebrate the occasion of this award, most important to me is that we keep safe, stay optimistic and maintain attitudes of gratitude. We are all in this together. One day at a time.”

Much of her determination and resolve was developed during her time at UTC, which she described as “among my best memories.”

“I am very grateful that my path in life included time well-lived at UTC,” she said. “I met many of my best friends in life as a result of attending UTC. I also remember faculty and staff of the institution who were very supportive of the students. I loved my dorm. I loved the people I had the opportunity to study with and learn from. And I loved the energy that UTC put into making it a great place to be.

“It’s one of those times in my life where if someone asked, ‘Would you do it again?’ my answer would be an unequivocal ‘Yes.’”

### ALUMNI NEWS

Please send alumni news to share in the next edition of *Mocs Matter* at: [utc.edu/MocsMatter/alumni](http://utc.edu/MocsMatter/alumni)

## FACULTY PROFILE

# TOM RYBOLT: 40 YEARS OF CHANGE

*By Shawn Ryan*

When Tom Rybolt joined the staff of the Department of Chemistry at the University of Tennessee at Chattanooga in 1981, one of the first things he was shown was “the official department typewriter.”

Well, maybe there was more than one. Maybe three, he says.

“The department head used one. His administrative assistant had one, and one was sitting in a room to type tests and so forth.”

Forty years later, things have changed quite a bit. Computers, printers, etc. etc. One thing that hasn't changed, though, is that Rybolt is still a professor in the Department of Chemistry and still teaching. In fall semester, he will teach General Chemistry II, some sections of General Chemistry I and a lab.

Working with students remains of the most enjoyable parts of working at UTC, Rybolt says.

While smartphones and other gadgets are constant “distractions” for students, he says, technology also has made it easier to do research. Rather than flip through monstrous encyclopedic volumes to find information, a few quicks clicks and there it is.



Those “there it is” moments can lead to important connections, says Rybolt, who was head of the Department of Chemistry from 2010 until 2016.

“One of the things that’s been very enjoyable about being here is being able to work with students in research and obviously get to know them a little bit better,” he explains.

As an example, he points to a student with whom he partnered on a research paper.

“When he left here, he went to pharmacy school and now he’s a practicing pharmacist in a hospital in Nashville,” Rybolt says. “That type of thing is very gratifying. He might’ve done all that anyway—and probably would have—but sometimes people are heading in a certain direction so, if you can help or do things along the way, that’s important.”

Off the UTC campus, Rybolt has written 28 books, including a series with co-author Rob Mebane. Aimed at elementary and middle school students, each book is filled with information and experiments in chemistry.

Rybolt and his other writing partner, Tom Waddell, have written a series of short stories featuring famous detective Sherlock Holmes solving chemistry-based mysteries. The stories, published in the *Journal of Chemical Education*, start with a mystery, stop for a series of analytical questions, then finish up with the solutions. Later compiled into a single book, they were published in French, Italian and Chinese, among other languages.

Although he has plenty of outside interests—writing, obviously—Rybolt says he doesn’t have any plans to leave UTC at this point.

“I’ve never had a ‘I’ve always wanted to make this boat for 20 years, but I haven’t had time’ kind of hobby,” he says. “I realize that at some point you transition, but I don’t have a particular date.”





## IN MEMORIAM

### JAMES B. COLE, JR.

James B. Cole, Jr., class of 1948, recently passed away. His daughter, Nancy Cole Reynolds, contacted us to let us know how much he loved chemistry—he was even buried with a periodic table. The family has graduated four generations from the University of Chattanooga/ University of Tennessee at Chattanooga.

## RESEARCH NEWS

### MENTORED RESEARCH PROJECTS

During this academic year, we had a record 39 students conduct mentored research projects with faculty in our department, enrolled in 4,997 undergraduate research. Our students made 13 professional presentations. We also had four students receive departmental honors, which involves the completion of a year-long thesis (4,995r) and achieving the required GPA.

**ALLYCIA LEE** “A Metabolomics-based Approach to the Screening of Endometrial Cancer”

**HANNAH HOLMBERG** “Molecular Dynamic Simulation of the Complex Folding Patterns of Apolipoprotein A1 in Various Concentrations of Potassium Chloride”

**MACKENZIE WALL** “Understanding Shear Thinning using Brownian Dynamic Simulation”

**SOPHIA NEGLIA** “Synthesis, Characterization, and Reactivity of a Heterobimetallic Organometallic Complex with a trans Bidentate Ligand for Catalytic Carbon-Hydrogen Bond Activation”

## SUMMER RESEARCH



This summer was our 35th annual Undergraduate Research Program (URP). We utilized social distancing and other protocols in order to accommodate 15 students on campus. Our group activities, such as student presentations and workshops, were conducted through Zoom. The departmental URP is supported by the Irvine and Nita Grote Fund and the Howard Westbrook fund. Our faculty were research active, publishing 17

papers with seven different student co-authors. We also wrote two National Science Foundation Major Research Instrumentation Program proposals for internal review and a National Science Foundation CAREER proposal. Jared Pienkos received an American Chemical Society Petroleum Research Fund grant of \$55,000. Departmental scholarly activities are tabulated on our webpage.

## LAB NOTES

### CONNECT WITH US

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 [UTC Chemistry Alumni group](#)

 [UTC Physics Alumni group](#)

## ALUMNI RECEPTION

Following the annual Undergraduate Research Poster Session, please join us for the alumni reception during Homecoming weekend

**Friday, October 29**  
**4:30-5:30pm**  
**403 Grote Hall**



*Michael Dabney's organic chemistry class this past summer.*