Inside
FINE WINE
WASTE KNOT
In this issue

4 / Fine wine
Liberal arts graduate Jerry Baxter has distilled the wisdom gained from a long business career into straightforward advice for students.

6 / Waste knot
A USC-led research team is using a Department of Energy grant to focus on the conundrum of radioactive waste disposal.

8 / Walking the talk
The college’s new associate dean for diversity and inclusion hopes to broaden Arts and Sciences’ composition.

9 / Read & repeat
A by-the-numbers look at the College of Arts and Sciences.

10 / Brick by brick
An art historian crafts a hands-on course in architectural history.

12 / Best of both worlds
A chemical engineering major gets major credit — and an academic minor — from another college.

13 / Pulling for the underdog
A psychology senior’s passion for social justice was shaped by her family.

14 / Join us for alumni weekend at the coast!
This year’s alumni weekend is June 2-3 at the university’s beautiful Belle W. Baruch Institute for Marine and Coastal Sciences in Georgetown, S.C.
When I was a freshman history major in 1970 at the University of South Carolina, I probably would have chuckled if someone told me that I would eventually go on to earn a Ph.D. from that same history department. I did not have such ambitious goals as an 18 year old.

And I might have laughed out loud at the thought of going on to teach at the University of California-Berkeley and returning to Carolina to join the history department faculty. In the past few years of my now 46-year association with the university, I have served as a vice provost, immersed in the nuts and bolts of providing high-quality education to tens of thousands students from South Carolina and beyond.

Now, as the new dean of the College of Arts and Sciences — USC’s largest and most comprehensive college — I am putting that knowledge to work every day. The world is changing, and universities are having to become more nimble and flexible. The College of Arts and Sciences is well positioned to be a leader in this arena, recruiting a diverse and high-achieving student body with more first-generation college students and adult learners.

In fact, students from across the country and around the world come to our College of Arts and Sciences because of the high-caliber education we offer, but we cannot become complacent. I hope my time as dean will be noted, in part, as a time of innovation, inspiration and breaking new ground.

Those efforts already are underway. We have working groups focused on developing new and innovative techniques for teaching and enhanced student learning and communicating the value of a liberal arts degree from this college. We have an obligation to engage with the community, the state, the nation and world to demonstrate that high-quality teaching and research matters.

It has been said that if you want to build a boat, you do not invest in a boat builder — you inspire a love of the vast, blue sea. We have the ability to inspire in the College of Arts and Sciences, and if we can inspire students to want to learn, we will have done far more than merely dispense information. We will contribute to the prosperity and well-being of our graduates’ lives and, by extension, the communities in which they live.

I invite you to explore this edition of In Focus to get a sense of the breadth and quality of teaching and research in the College of Arts and Sciences. It is a college that will, I believe, always seek ways to innovate and excel as it upholds the time-honored values of a broad, liberal arts education.
As a college student, Jerry Baxter never imagined he would work in business — which might explain why he earned a bachelor’s degree in history. But the 1981 USC graduate has been in regional and national sales for 35 years, and he very much credits that history degree with his long run of success.

“When I first got into sales training, I realized a sales presentation is like writing the perfect paragraph,” he says. “You state your point, restate it and then make the perfect close.”

When Baxter’s son, Healy, started college a few years ago and was leaning toward a career in business, Baxter advised him to earn a liberal arts degree, too. Like his father before him, Healy is now a history senior at Carolina.

“If you want to go into business, but you don’t have a specific plan in mind, I say spend four years broadening your views,” says Baxter, a sales executive in the wine and spirits business. “Companies want people who are articulate, who can write and think and who can be trained. You don’t have to have a business degree for that.”

Baxter learned that lesson a long time ago. He started his undergraduate career enamored with history, particularly Southern and medieval — “I was into chivalry, I guess,” Baxter quips. He imagined going into academia, but after starting graduate school at Carolina, he took a break one weekend to visit a college friend who had gone into sales at Proctor and Gamble.

“He was calling on supermarkets, merchandising the company’s portfolio, and a light bulb went on in my head,” Baxter says. “I didn’t know there were careers like that. I drove home, called my mom and dad and told them I was quitting graduate school and going to work.”

Baxter immediately got a sales job working for the Carnation Company, and two years later E & J Gallo Winery recruited him for a management position. He was married by then, his wife, Cheryl, teaching school after earning an education degree from Carolina in 1982. After eight years
with Gallo, sales positions with two more wineries followed. In 1996 he was recruited by the Ben Arnold Beverage Co. — now known as Breakthru Beverage — to head that company’s wine sales. It was the same year he reconnected with the university.

“I was contacted about a new program called Freshman Futures, which involved alumni talking with students about possible majors,” Baxter says, “and I was all in.”

Baxter now serves on the Board of Visitors for the College of Arts and Sciences and continues to share professional career advice with students. With his son in the College of Arts and Sciences and a daughter, Marly, in the College of Hospitality, Retail and Sport Management, Baxter has built-in connections to student life at Carolina and a wealth of experience to share.

“I’m just a big proponent of the liberal arts. You get caught up in what they call life when they hand you that diploma, so why not spend those four years in college learning things that you’re not going to get when you’re in the business world?” Baxter says.

His career has taken him across the country and around the world, including vineyards in France that he remembers reading about while majoring in history. The industry has changed quite a bit in his 35-year career — nearly every state produces wine now (including thousands of wineries in California alone), and competition is fierce.

But every day Baxter says he draws from his liberal arts education to think and write, the necessary skills for survival in business.

“A liberal arts education helps you understand the human experience, and that understanding touches on everything you do in your job — every day,” he says.
Waste knot

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Waste knot

PICTURE AN OLYMPIC-SIZE SWIMMING POOL filled to the brim, more than half a million gallons. Now imagine dozens and dozens of such pools — chock full of highly radioactive liquid.

That is a rough approximation of the size of the problem at the Savannah River Site in South Carolina, where deteriorating metal tanks have stored the vestiges of nuclear bomb production since the dawn of the Cold War.

Converting those tens of millions of gallons of radioactive waste into a stable solid form has proven to be a costly and difficult endeavor. A plan to encapsulate some of the waste in glass blocks has shown promise but is less than a perfect solution. Only select types of radioactive waste can be encased that way, and there are concerns about how quickly the radioactivity will degrade that type of waste form.

A recent Department of Energy report states that the liquid waste stored in Savannah River National Laboratory’s tanks “comprise an extraordinarily complex mixture of chemical components under extreme conditions. … To address these challenges, development of new characterization approaches and generation of new processing and separations concepts are needed.”

Enter the University of South Carolina, which is heading a major new project, funded by the DOE, to explore ways to process and store the waste safely and effectively.

“A lot of the plutonium and other byproducts of nuclear bomb making from the Cold War ended up here in South Carolina,” says Hanno zur Loye, a chemistry professor and associate dean for research and graduate studies in USC’s College of Arts and Sciences. “If we can put that waste in a form that will not deteriorate for a thousand years or more, it will go a long way toward making the environment safer and calming down the public.”

zur Loye heads USC’s new Energy Frontier Research Center, funded with a four-year, $8 million grant that includes scientists from SRNL, Brookhaven National Laboratory and Pacific Northwest National Laboratory, Clemson University, the University of Florida, Alfred University, and the French Alternative Energies and Atomic Energy Commission. The center, which is devoted to basic science discovery, is the only one of its type in South Carolina.

“The breakthroughs that will evolve from this investment in basic science will reduce the overall risk and financial burden of cleanup while also increasing the probability of success,” states a DOE report, entitled “Basic Research Needs of Environmental Management.” “The time is now ripe to proceed with the basic science in support of more effective solutions for environmental management.”

zur Loye’s team will work with non-radioactive models of the waste stored at SRNL to develop the blueprints for structures that can safely store the waste in solid form. The challenge is to understand all aspects of the chemistry that serve as the foundation for any radioactive waste storage mechanism. The scientists need to develop structures that can hold the waste without degrading and allowing the radioactive material to escape.

zur Loye’s team will consider salt-inclusion compounds, metal organic frameworks that can store uranium and thorium, and mesoporous materials, which can be loaded with radioactive materials that become bound inside the structure.

“The goal is to chemically bind the waste in a way that it can’t come back out,” zur Loye says. “You want it to stay in a solid form, and you don’t want the waste to degrade the structure in any way. You want it to be virtually unchanged in a year, 100 years, a thousand years from now.”

The science zur Loye’s team will develop to more effectively process and store radioactive waste at SRNL will also be useful for commercial waste at nuclear power plants, he says.

“You work in chemistry for a long time, and when an opportunity comes along to do something that can be very good for a lot of people, it’s fun,” zur Loye says. “We can solve a problem that needs to be solved, not tomorrow but in the next five to 10 years. And it will be great science.”
NEW ASSOCIATE DEAN FOR DIVERSITY AND INCLUSION HOPES TO BROADEN COLLEGE’S COMPOSITION.

From the time she was a little girl, Tracey Weldon has been fascinated by language. “Apparently I started talking at a really young age,” she says. “I really liked accents and playing around with them.”

That interest in language has formed the basis of Weldon’s career. An associate professor of English and a native of Columbia, Weldon earned her bachelor’s degree in French and English at Furman University and her doctorate in linguistics from Ohio State. She specializes in African-American English and Gullah; right now, she is working on a book about middle-class speakers use of African-American English. “A lot of the research on African-American English has been focused on working-class speech communities, with the assumption that middle-class communities simply don’t use African-American language as it’s been defined,” she says. “In this book, I challenge those assumptions by showing the ways in which language is used by middle-class speakers as a way of establishing solidarity with the African-American speech community.”

Weldon’s attention to language — how different communities use it and what it says about us culturally — has made her particularly attentive to issues of diversity. So has the experience of being an African-American faculty member on a largely white campus. Two years ago, she joined with several colleagues to form a black faculty caucus. That formation led to meetings with Provost Joan Gabel about diversity concerns and, ultimately, to a new position for Weldon as associate dean for diversity and inclusion in the College of Arts and Sciences.

Her appointment is part of a university-wide initiative to add diversity officers for each college to support the work of Chief Diversity Officer John Dozier. Weldon hopes to use her position to support a climate in which there is “an appreciation for the different perspectives that faculty and students of different backgrounds bring to the university,” she says.

Recruiting and retaining diverse faculty will be a key part of achieving the overarching goal of inclusiveness. “Recruiting will be important — knowing where to look for faculty, especially in those fields where certain groups are underrepresented, and knowing how to make us competitive as a university,” Weldon says. She also wants to make sure faculty members want to stay, which means having the support network and the tools they need to develop professionally.

“Provost Gabel recently invested in an institutional membership to the National Center for Faculty Diversity and Development,” she says, explaining that the center offers online professional development tools that are specifically geared toward the needs of diverse faculty. “I want to make sure that the faculty in the college are aware of that resource and know how to use it.”

After decades spent studying language, Weldon wants to make sure people are not talking past each other. Now more than ever, she says, faculty, staff and students need to be able to openly address their differences. “These are some interesting times that we are living in, and I think it is important to find ways to talk about our differences in ways that are civil so that no one feels threatened and we all feel welcome.”
THINGS TO KNOW ABOUT ARTS & SCIENCES

**Read & Repeat**

7,767
UNDERGRADUATE STUDENTS

1,217
GRADUATE STUDENTS

120
DEGREE PROGRAMS

44 BACHELOR’S
47 MASTER’S
22 DOCTORATES
7 GRADUATE CERTIFICATES

50 BUILDINGS
17 DEPARTMENTS
20 CENTERS AND INSTITUTES
2 SCHOOLS
11 PROGRAMS
1 MUSEUM

475
FACULTY MEMBERS

210
PERMANENT STAFF MEMBERS

UNIVERSITY OF SOUTH CAROLINA / 9
Lydia Brandt is nosy — by her own admission.

“When I was a kid I liked going into other people’s houses, being nosy and asking questions, and my parents were like that, too,” says the University of South Carolina assistant professor of art history and architecture. “When we would go on vacation, we would always go to a dead president’s house or whatever the local museum was. There was really no museum too big or too small.”

That natural inquisitiveness now informs Brandt’s teaching, as she increasingly takes her students outside the classroom and into the community. It is an approach Brandt began to explore in 2012, when she designed an entire class around the study of the South Carolina State Hospital campus in Columbia.

Over the course of the semester, graduate students from the public history program and undergraduates from the School of Visual Art and Design surveyed and researched the sprawling historic campus’s various buildings, many of which were at that point slated for demolition.

“As an architectural historian, you always want to see the things that other people can’t see,” she says. “At the beginning, getting access to the State Hospital and researching it was just about giving the students something they might have been mystified by or interested in but didn’t quite know how to get to, and I was using it as a case study to study architecture.”

But the result was more than a mere history of the individual buildings, she says. As student projects took shape, the class developed a comprehensive narrative of the entire campus — its history, its architectural evolution, its relationship to the larger city. And as those students got deeper into the project, Brandt realized there was an even greater potential to help students engage with real-world issues in real time.
As the redevelopment of the State Hospital was ramping up, she planned a follow-up course for spring 2013 and refined her pedagogy to better frame the complicated issues facing not only preservationists like herself but also developers, the city and other stakeholders. As before her students were also required to take positions and make informed recommendations about the fate of particular structures.

“I realized there was huge opportunity for my students to be activists, to help them realize that not only could they learn about a building, they could have a hand in what happens to this building,” she says. “In the process, not only would they gain content knowledge, but they would gain confidence to move forward in their lives as citizens, which is an essential aspect, I think, of an undergraduate education.”

Since then, Brandt’s classes have looked at midcentury architecture in Columbia, including the Carolina Coliseum and portions of the USC campus.

In spring 2016, her students surveyed the university’s south campus, including buildings such as Bates House, which is to be demolished to make way for USC’s new Campus Village. Next, in spring 2017, her students will spend the semester studying either the east campus around Gambrell Hall or the area around the Russell House and Thomas Cooper Library — including several buildings that are about to meet, or have recently met the 50-year threshold for consideration to be placed on the National Register of Historic Places.

“Because of state government, because of the university, because of the way growth happened here, Columbia has more great modern buildings than any other city in S.C.,” she says. “I think there’s a real opportunity to continue to use Columbia as a laboratory for studying modern buildings.”

And that opportunity to study architecture on campus and in the surrounding city has a wider educational benefit.

“The bigger lesson for college students is that all the decisions being made around them are made by people like them,” Brandt says. “These decisions are made every day, and the more decisions you make, the easier it gets. This is a way to introduce them to real world decision making, where they have to take a position on real world issues.”

Brandt’s scholarship to-date has been rooted in colonial-era American architecture. Her recently published study “First in the Homes of His Countrymen: George Washington’s Mount Vernon and the American Imagination” (UVA Press) looks at the influence of our president’s plantation home on American architecture from the 1790s to the present, but she is increasingly drawn toward modern architecture, particularly campus architecture.
Victor Phillips could have hunkered down and concentrated solely on his own grades these past four years, and who would have blamed him? Biomedical engineering is a tough major, especially when you tack on a chemistry minor.

But along with achieving his own success, the Columbia native has made time for tutoring other students at Carolina, serving as a peer tutor and mentor, and as president of the university’s chapter of Health Occupations Students of America. It turned out to be an inspiring experience. “Students I tutor say I’m an inspiration to them, but it’s kind of the reverse,” Phillips says. “They inspire me to keep going.”

Phillips got into tutoring while taking many of his core courses in the College of Arts and Sciences, some of which involved team projects and opportunities for working closely with other students. Impressed with his ability to explain complex topics, many of those peers encouraged him to consider tutoring. That led him to the university’s Student Success Center where he began working directly with other students and faculty members. “Watching people I’ve helped grow academically and personally has been the biggest highlight of my time at USC,” he says. “I’ve enjoyed helping students who come from small high schools, helping them better understand their coursework and telling them it’s going to be OK.”

With three semesters on the dean’s list, Phillips has enjoyed plenty of academic success, but he is quick to credit others, including his parents who instilled a love for education at an early age. When he came to Carolina, a chemistry instructor cultivated an appreciation for that science and an understanding of how useful chemistry can be for different applications, including engineering. “I largely selected chemistry as a minor because biomedical engineering is focused more on the biology side, and I wanted a foundation in biology and chemistry,” he says.

The rest of Phillips’s non-engineering courses have helped build the foundation for a well-rounded education, readying him for medical school or a career in the pharmaceutical industry, he says. His next step, though, will be a master’s degree in biomedical engineering or chemical engineering and perhaps a Ph.D. further down the road. “My ultimate goal is to work in pharmaceuticals, developing new types of drug delivery including medicines that are able to get past the blood/brain barrier,” he says.

While he has not engaged in undergraduate research, Phillips has poured considerable time into a senior design project that involves computational models of carotid arteries, the main vessels that supply blood to the brain. Over time, plaque blockages in those arteries can create significant risk for stroke. “I want the model to provide predictive values for plaque in those arteries — what kind of plaque is it, how much,” he says. “My goal is for the doctor to know what kind of plaque it is and to have more information in deciding whether to do surgery for those who have some carotid blockage.”

Surgery is not always necessary, Phillips says, and a better model would give surgeons a more nuanced understanding of the condition of a patient’s carotid arteries before surgery. In the meantime, Phillips is in the home stretch of his undergraduate career, wrapping up a major in one college and a minor in another with his eyes fixed on the future.
Pulling for the underdog

PsYCHOLOGY SENIOR’S PASSION FOR SOCIAL JUSTICE WAS SHAPED BY HER FAMILY.

Allyson Beetham is quick to tell you that she is who she is today because of her family.

The fourth child in a family with limited means, Beetham says she knew she could not miss out on scholarships and had to make the most of every opportunity while she was a student at Clover High School in rural South Carolina. But she credits her family, particularly her three older siblings, with helping instill her work ethic and her desire to help those less fortunate or marginalized by society.

“I think that from a really young age I knew these were the cards I was dealt, and I will have to do more than other people to achieve what I want,” the 21-year-old psychology graduate.

“I knew that if I did bad in high school, there was no way I was going to get into college. If I didn’t get the scholarships, there was no way I was going to be able to afford college.”

Beetham set her sights on a psychology degree. But classes in women’s and gender studies and her experiences with her siblings, two of whom identify as gay, pointed her to the field of social justice.

“I fell in love with the social justice aspect of it so I stuck with it,” she says.

An internship this summer with the Human Rights Campaign, a worldwide organization that advocates for lesbian, gay, bisexual, transgender and queer individuals, solidified Beetham’s plans.

“Growing up in a low-income house with an autistic brother and LGBTQ siblings and all those things that are kind of deemed as ‘underdog’ populations in our society, I feel like that instilled empathy in me along with other experiences to help populations of people who had the same characteristics and circumstances,” Beetham says. “And that’s how I came to this.”

Having graduated in December 2016, Beetham plans to start a master’s in public administration program that she hopes will lead her to a career managing a nonprofit.

“I’ve been very passionate about the LGBTQ community and women’s rights — everyone’s rights honestly,” she says. “I am getting my MPA so I can really get the skills to have a high position at a nonprofit, so I can help people.”

At Carolina, Beetham was an LGBTQ peer leader and volunteered with community organizations such as S.C. Equality and Planned Parenthood. She also blogs for Campus Pride, an LGBTQ organization focused on college students. Beetham volunteered with community organizations when she was in high school, even working with her sister in LGBTQ advocacy groups when Beetham was just in fourth grade.

“She is my older sister and she identifies as a lesbian, my brother identifies as gay, and that’s where I got the passion to fight for that population,” Beetham says. “So even though I am straight, I have fought for them on small levels my whole life.”
Join us for alumni weekend at the coast!

Held at the university’s beautiful Belle W. Baruch Institute for Marine and Coastal Sciences in Georgetown, S.C., this year’s alumni weekend will run June 2-3. The cost for the weekend is $180 per person, which includes meals, course materials and access to facilities at the Baruch Institute. Accommodations have been reserved at Pawleys Plantation Golf and Country Club.
If reading In Focus profiles of our outstanding Arts and Sciences’ faculty ever makes you wish you could go back to college at Carolina … if you have ever wished you knew more about South Carolina’s natural history and cultural traditions … if your idea of the perfect vacation is a weekend of fine dining and stimulating conversation with friends old and new, then you owe it to yourself to join us for this year’s College of Arts and Sciences Alumni and Friends Weekend at the Coast.

Featuring sessions on topics ranging from art and archeology to poetry and ecology, the weekend has become a popular event for alumni who want to reconnect with old friends and make new ones. It is also a unique opportunity to learn about South Carolina’s culture, history and ecosystems. Popular previous sessions have included Major Trends in Southern Literature, Making Sweetgrass Baskets, Nature Photography, Carolina Shag Dancing, and Beach and Creek Ecology. All classes are taught by renowned members of the USC faculty or by local experts in the field.

All alumni and friends of the college are invited. With just 45 available spaces, the Weekend at the Coast always fills up quickly, so we encourage you to reserve your space soon. To register or to request more information, contact Ann Cameron at accamer@mailbox.sc.edu or 803-777-9201.

For more information about the Baruch Institute, visit www.baruch.sc.edu.
Desiree Horlbeck grew up in a disadvantaged neighborhood in Charleston but found her way at Freedom School, a summer camp that promotes reading. Inspired by her experience, the first-generation college student now volunteers at the same school and hopes one day to work with troubled youth.