CAROLINA
ARTS & SCIENCES
FALL • 2021

Lessons from the Andes

High-impact research at high altitudes

ALSO INSIDE: • Land and sea unite • English at 225 • Seeing patterns in data

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Posing with students in Rachel Noble's class after our boat trip.

Carolina beyond the classroom

At the beginning of the semester, I took a field trip to the North Carolina coast to attend Rachel Noble's undergraduate class, "Human Impacts on Estuarine Processes." We toured the Rachel Carson Coastal Estuarine Reserve via a flat-bottomed skiff, and the students learned how to take water samples and check salinity levels. Dr. Noble is the Mary and Watts Hill Jr. Distinguished Professor at the Institute of Marine Sciences, which is now in the College of Arts & Sciences as part of our new department of earth, marine and environmental sciences *(read more on page 7)*.

It was a vibrant reminder of how much learning happens at Carolina outside the traditional classroom, and that our educational footprint extends beyond the Chapel Hill campus. We strive to provide opportunities for students throughout their four years that put learning into action, whether via study abroad, internships, mentored research, service learning or creating original performances or art. Our alumni frequently tell me that these opportunities are among their most rewarding memories.

Also in this issue *(page 36)*, you'll see some news about me: At the start of the semester, I announced I would be retiring at the end of this academic year. The thought of leaving is bittersweet: I am entering my 35th year on the faculty, but Carolina has been a part of me far longer — I graduated from here in 1978. UNC will always have a piece of my heart.

Sincerely, Terry Ellen Rhodes

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Fighting malaria is personal for this Tar Heel, pianist elevates the voices of underrepresented composers, data science minor launches, and a new book examines "hope and fury in the age of Obama."

Cover Photo:

This past summer, Tessa Davis, Kriddie Whitmore and Liz Farquhar spent two months conducting research at the Cayambe Coca Ecological Reserve. Located about 45 minutes outside of Quito, Ecuador, the field site offers stunning views of two volcanoes: Antisana (pictured) and Cotopaxi. *(Photo by Alyssa LaFaro)*

Perseverance in

PHOTOS BY ALYSSA LAFARO

In spring 2019, UNC geographer Diego Riveros-Iregui received a National Science Foundation Early Career Award to study carbon decomposition rates within the North Andean páramo, one of the most carbon-rich locations on the planet. The project is taking place in a wetland in the Cayambe Coca Ecological Reserve, a national park about 45 minutes outside of the Ecuadorian capital of Quito.

In summer 2019, Riveros-Iregui brought a team of students to the reserve to construct and monitor a series of experiments to measure carbon, water flow, and solutes like chlorophyll and salt. He planned to bring similar groups to record the measurements over the following three summers to collect enough data for analysis.

Liz Farquhar and Tessa Davis are part of Riveros-Iregui's most recent cohort to go to Ecuador, along with Ph.D. student Kriddie Whitmore. Despite facing numerous obstacles, including cancellation of the 2020 trip due to the pandemic, they finally made it to the field site in the Andes Mountains this past summer, spending two months there as research technicians. They share how the pandemic shaped their research, their senior year and their lives — for both the bad and the good.

Searching for carbon, finding resilience

BY LIZ FARQUHAR

"Did I just hear you talking about soil samples?" We pause our morning chatter and turn toward the man at a nearby table. It turns out he's an environmental engineer, and he's really curious about the three young women talking about carbon cycling and streams and scientific equipment over breakfast.

This has been our morning ritual for the past six weeks: We wake up, get ready for a long day in the field, and while we sip coffee and eat papaya, we plan the science we are going to conduct. We do this at Casa Magnolia, a cozy, German-influenced bed-and-breakfast in Cumbayá, Ecuador. Oftentimes, other patrons overhear our conversations and ask us about what we are doing. So we give them the elevator

continued

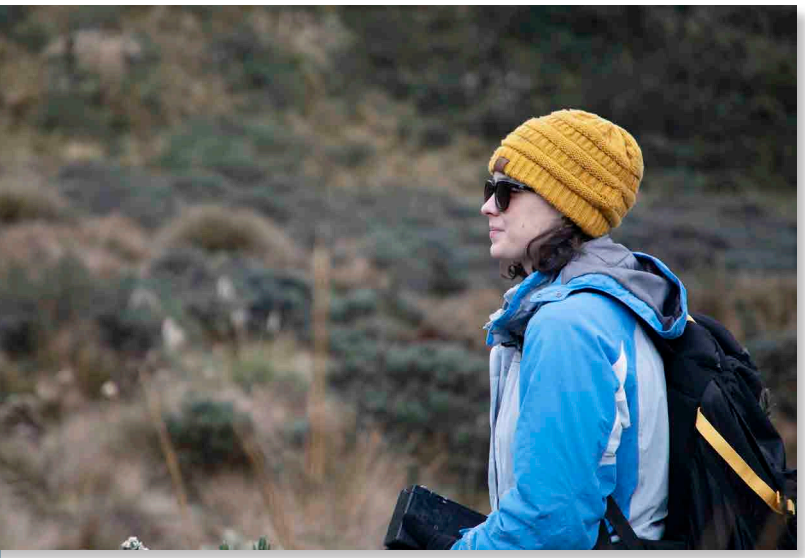
CLOCKWISE FROM LEFT: *Liz Farquhar holds up a Garmin GPS unit, which she uses to identity the locations of field sites within the Cayambe Coca Ecological Reserve. • Farquhar, Tessa Davis, Kriddie Whitmore and Segundo Chimbolema log data from a carbon dioxide monitoring station. • The North Andean páramo is rich with plant life — so much so that botanical researchers have called the region the fastest-evolving biodiversity hotspot on Earth.*

the Páramo

pitch: "We are researchers studying the carbon fluxes in the streams and wetlands of the páramo, which are the high-altitude grasslands in the Andes Mountains where we conduct our research. We hope our research can be used to better estimate how carbon released from this ecosystem might be interacting with climate change."

WHAT IS A PÁRAMO?

A páramo is a cold yet tropical landscape found only in the Andes Mountains. It sits above the tree line and below the snowline, somewhere between 12,000 and 15,000 feet in elevation, and receives about 80 inches of rainfall each year. This, plus the high amount of solar energy received, makes the landscape rich with plant life — and the onset of storms unpredictable. One day might be filled with clear skies and views of two nearby volcanoes, and the next could bring thick fog and hail.



It's funny that a complicated project involving months of physical work can be summed up so succinctly. That traveler doesn't know about how our fingers and toes go numb on rainy days, or how many miles we've hiked along streams collecting samples, or even how COVID-19 derailed this project for a year. (We were supposed to be in Ecuador doing this research during the summer of 2020.)

During the second semester of my junior year at UNC-Chapel Hill, I was selected to be a part of an International Research Experience for Undergraduates with one of my professors, Diego Riveros-Iregui. I was ecstatic. I had applied to the same program the year before — but didn't get in. Getting accepted meant I had a secure job for the summer, the chance to travel *and* do research, and I had improved as a candidate.

So my disappointment was real when the program was canceled due to the pandemic. Within just three days, my classes went online, and the Ecuador project dissolved. Because of the pandemic and the fact that I was going to be a graduating senior, I gave up on the idea of going to Ecuador to do research with Riveros-Iregui and the Carbonshed Lab.

Thankfully, Riveros-Iregui still wanted to provide me with the chance to do research. Along with two other seniors, I began work on a water-quality project in Durham, North Carolina, examining the impacts of beaver dams on urban environments. I spent my senior year working on this project, expecting it to be the last study I conducted with the Carbonshed Lab.

By the following spring, Riveros-Iregui began asking us about summer plans. He told us there was a *possibility* that he *might* be able to put together a research team to go to Ecuador — and that he could hire us on as paid research technicians. My surprise was tangible when, about six weeks before we were supposed to leave, we received approval to continue the project.

I was not super-excited at first — the work would be arduous, and travel during the pandemic sounded scary. But little by little, I figured out my plans. I started packing for Ecuador and grew excited for the chance to do international research. Before I knew it, I was on a plane to Quito.

As soon as we landed, we hit the ground running. Well, as much running as the nearly 14,000-foot altitude would allow. We set up monitoring stations, went over our experimental design and planned the experiments we'd conduct over the next eight weeks. With four days of fieldwork every week, it's easy to get tired, especially when most days you're being rained and snowed on the entire day — plus, I swear that 70% of "doing science" is just carrying things around. But just like I adapted to the challenges of the pandemic, I have adapted to the challenges of the páramo.

I have learned to bring extra socks for the days when my boots flood with water. And that I should always have a granola bar or two on hand. I have learned that granadillas (similar to passion fruit) make excellent pick-me-ups and to always pack more water than I think I need. I now know to double-check wiring before leaving an instrument out, to always have a backup of everything and to write *everything* down. I've learned how vital it is to have a team that is able to laugh, even on the hardest days. And never talk about the weather before you get to the field site — or you *will* jinx it.

continued

CLOCKWISE FROM TOP LEFT: *UNC geographer Diego Riveros-Iregui has been bringing student researchers to Ecuador for this project since 2019 thanks to an NSF Early Career Award. • On her first day in the field, Tessa Davis stares in awe at the landscape at the Cayambe Coca Ecological Reserve. • A view of Antisana, the fourth-highest volcano in Ecuador, from the field site. Most days it's invisible due to immense fog that blankets the páramo.*

There are hundreds of little lessons that I have learned during my time in Ecuador. From proper preparation, to understanding a completely new ecosystem, to describing field techniques in Spanish, the knowledge I have gained will be invaluable to me as I continue my career in science and research. But perhaps the most important thing I've learned is resilience. It's a skill I began honing at the start of the pandemic, one that helped me in Ecuador and one that's sure to be a constant friend during whatever challenges the future has in store for me.

Liz Farquhar graduated in 2021 from UNC with a degree in environmental science and minors in marine science and Spanish. While writing this article, she was working as a research technician for geography professor Diego Riveros-Iregui. She is currently a graduate student in the marine science program at UNC Wilmington.

Gaining altitude and gratitude

BY TESSA DAVIS

It is July 26, 2021, and I am sitting in the balcony of a coffee shop, watching night fall over Cumbayá and the surrounding Ecuadorian mountains — and I am filled with immense gratitude. I have learned and experienced more than I could have ever imagined in the past two months. And I have grown immensely as a scientist and human being. As bittersweet as it is to know I am leaving behind such a wonderful place, I will forever remember this time and continually draw on it as I move forward in life.

In the early hours of June 6, my teammates and I touched down in Quito and breathed a sigh of relief as we collected our boxes containing thousands of dollars' worth of equipment that accompanied us from the United States. After a 30-minute ride to the neighboring town of Cumbayá, we had finally reached the lovely little bed-and-breakfast we were to call home for the next two months.

But it took a long time to get here. In fact, I didn't let myself believe it was real until I was sitting on the plane, watching Raleigh-Durham International Airport disappear. I knew from the previous 18 months that plans can change in a heartbeat.

This story begins in January 2020, when I had applied to be part of an international research internship program with professor Diego Riveros-Iregui. I soon learned I was selected to be one of three rising seniors to travel to Ecuador and study the flow of carbon through the páramo — a high-altitude grassland along the peaks of the Andes mountain range. I was beyond ecstatic.

Then, just a couple months later, I received another email: Due to COVID-19, the research expedition was canceled.

The research opportunity *of my life* had been ripped out from under me like a rug. But Riveros-Iregui asked if I wanted to work in his lab to help with a local project studying the impacts of beaver ponds and manmade bio-retention ponds on the health of urban streams in Durham. I gladly, and gratefully, accepted the offer. As an environmental science major, I love learning about the world around me by getting my hands dirty and experiencing the earth's inner workings firsthand.

The beaver project was so rewarding. I learned how to use instruments and sensors to poke and prod at the streams so they would tell me their secrets. I learned how to work in any weather North Carolina could throw at me. I learned to work with my lab mates and achieve our goals.

I had no idea how much those skills would help me going forward.

By the following spring, after much paperwork and waiting — and graduating from Carolina — we were approved to go to Ecuador as paid research technicians to conduct the work we had planned to do as undergraduates.

As taxing and rewarding as fieldwork in North Carolina had been, the work in Ecuador quickly proved to be many times more exhausting and exhilarating. The first day in the field was breathtaking — literally. Thanks to the high altitude, the first day was filled with heavy breathing, headaches, nausea and dehydration. Despite the physical challenges, the place was beautiful. Imagine if a coral reef were taken from the ocean and placed on the peaks of the Andes Mountains. The plant life looked like something from a Dr. Seuss book. This was my office for the next two months — and I was getting paid to work in one of the most beautiful places I'd ever seen.

As we began to acclimate to the elevation, a different and much more persistent issue revealed itself: the weather. We had been extremely lucky the first week to have uncommonly warm, dry and sunny weather. We even got the opportunity to see the majestic Antisana and Cotopaxi volcanoes in the distance. But we quickly learned that this was the exception and not the rule for the páramo.

Most days were met with wind, rain and cold upon arrival to the field site. We even experienced snow. Due to the poor visibility, the awe-inspiring images of Antisana and Cotopaxi became a memory. Each workday left us feeling cold, wet and exhausted. Seemingly minor inconveniences became major challenges as we worked with frozen hands.

While these conditions were quite miserable, I learned so much more than I could ever imagine. What kept me going was the knowledge that my team was counting on me to add to the story we were working so hard to tell: the story of the páramo and how the climate continues to change even when the world seemingly stops.

Tessa Davis graduated in 2021 from UNC with a degree in environmental science and minors in biology and Spanish. While writing this article, she was working as a research technician for geography professor Diego Riveros-Iregui. She is currently working with AmeriCorps to educate teenagers about science professions at the North Carolina Museum of Natural Sciences in Raleigh.

A merger of land and sea

Union of geological and marine sciences disciplines erases artificial boundaries

BY DELENE BEELAND

Undergraduate student Joey Carter wades into Albemarle Sound to deploy instruments for research on how waves are impacting living shorelines.

Johnny Andrews

continued

Rivers flow from a continent's heart into the vast oceans, pumping weathered bits of rock and clay onto broad beds of sediment that form our continental shelves. Oceans change the shape of our coastlines in a relentless wave-driven dance of erosion and deposition. Coastal floods and storm surges alter people's lives.

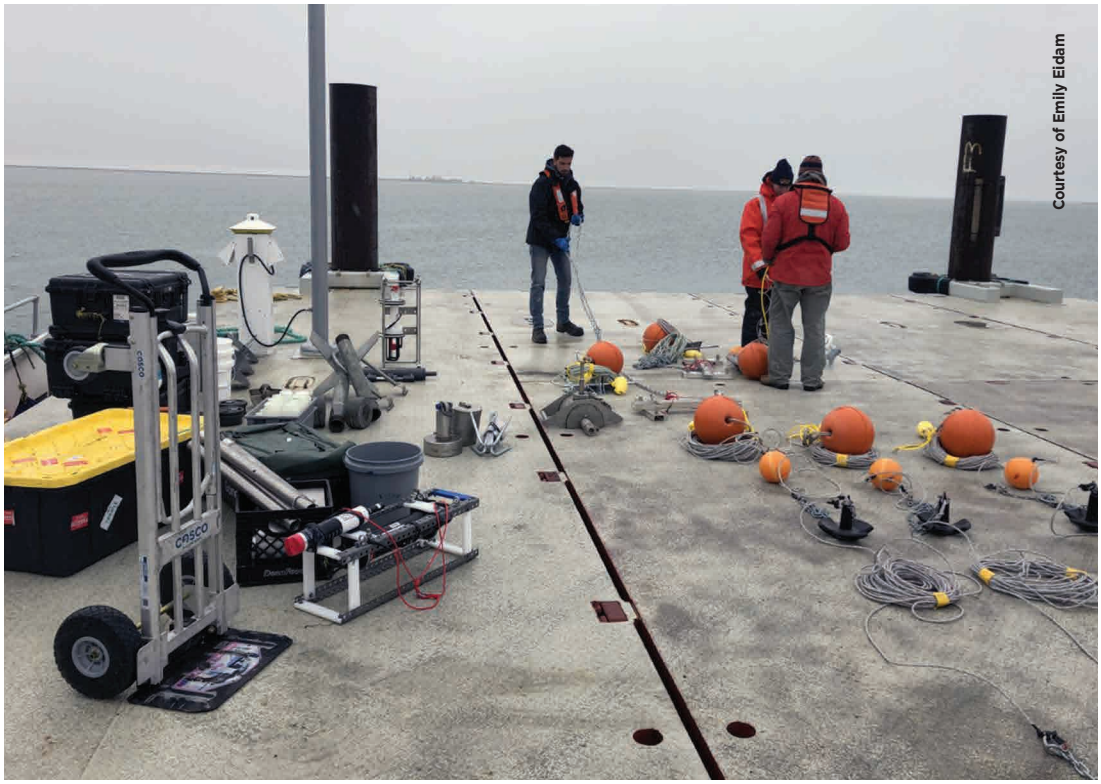
The new department of earth, marine and environmental sciences, which goes by the acronym EMES, reflects these natural connections between land and sea. Launched in July, it unites the University's department of marine sciences, the department of geological sciences and the Institute of Marine Sciences (IMS) in Morehead City, North Carolina.

The fusion reflects the University's broader approach to connect faculty across disciplines with the goal of solving deeply rooted societal challenges. Convergent research between faculty in marine sciences and geology was already happening. The new department will bring together more than 30 faculty, nearly 70 graduate students and numerous postdocs, and research and technical staff.

The merger is being phased in: Over the next two years, EMES will introduce its new curriculum for its undergraduate degrees and program minors as well as start recruiting graduate students for admission to a single graduate program.

These five UNC researchers exemplify the sweeping breadth of connections among land, rivers, coasts and oceans.

Jon Gardiner


Courtesy of Emily Eidam

TOP: *The UNC Institute of Marine Sciences is in Morehead City.* BOTTOM: *Assistant professor Emily Eidam's team spent this past summer in Alaska studying how sediment generated from coastal erosion is distributed across the continental shelf.*

Rivers, sediment, marshes and estuaries

Emily Eidam has boarded 320-foot global ice breakers, 12-foot inflatable rafts and pushed off in kayaks to learn how land-based mud ends up in the oceans — and what happens to it next.

"Most people think that studying mud in the ocean sounds boring. But I'm usually able to sell students on the idea by the time we talk about submarine landslides and illegal sand mining," said Eidam, an assistant professor who describes herself as "a coastal sedimentologist and marine geologist."

She and her team spent time this past summer in Harrison Bay, Alaska, deploying instrumented moorings in the Arctic Ocean. Eidam is studying how the sediment generated from coastal erosion is distributed across the continental shelf by waves and currents.

How fast are these particles of sediment transported, how much river-borne sediment do continents shed and where does it all go? The research team uses optical sensors to study sediment particles in the water column, trying to understand the process of sediment transportation.

Sometimes this means studying inland rivers, but the work often extends onto the continental shelves. These broad

Naomi Nice

ABOVE: *Ph.D. candidate Molly Bost, second from right, on her way to an oyster reef in the Newport River to take cores through an old reef system that used to form a bridge across the river at low tide.*

sediment traps are like textbooks in that they record past sediment deposition, along with any changes in how much sediment is generated from the landscape.

"We can use tracers to figure out how much sediment has settled in an area over the last two months or a year — or 50 years," Eidam said.

Understanding sediment transportation can help communities plan for dredging harbors, evaluate habitat changes in sensitive ecosystems or locate resources for beach nourishment projects.

Molly Bost, a Ph.D. candidate, takes a similar approach in navigating the interface between geology and sedimentology. She studies the geology of salt marshes at IMS, which provides access to both coastal marshes and a laboratory in one place.

"I'm interested in the vertical growth of marshes and oyster reefs, and the inherent resilience of that growth against sea level rise and storms," Bost said.

Bost uses sediment cores and remote sensing to study coastal habitats. She seeks to understand how growth of the habitats has changed over the past 1,000 years. Knowing their past will inform how to manage and conserve reefs — and retain the beneficial services they generate, such as buffering the coast against storm surges.

"There is a lot of research on artificial oyster reefs, but it's surprisingly sparse on natural reefs," Bost said. "I'm trying to understand what drives growth of natural oyster reefs — the tidal frame, proximity to other habitats and at what elevations — and use that to guide restoration efforts."

It is essential information given the uncertainties surrounding projected sea level rise driven by climate change.

Bost is also passionate about outreach to the state and in engaging a diverse pool of students in this type of work.

She started an outreach program called GEST, which stands for Growing Equity in Science and Technology.

GEST brings girls and young people of color to IMS with the goal of instilling confidence in learning about science. Experts talk to them about career paths in academia or governmental organizations, such as the National Oceanic and Atmospheric Administration.

"We should engage the stakeholders and people who live in the areas we study," Bost said. "They should be a part of the process, too."

River and coastal floods

Assistant professor **Antonia Sebastian** also investigates processes at the juncture of rivers and coasts. Her research lab focuses on watershed hydrology and flood hazards.

"My research embodies the natural links in EMES because I work at the interface of the land and the ocean," Sebastian said. "I already blend geological and marine sciences in my work, but EMES will strengthen these collaborations and solidify them."

Sebastian is examining the physical drivers of compound flooding in coastal areas. Compound floods occur when multiple events or climactic extremes happen simultaneously or in quick succession, amplifying or accelerating floodwaters. (Think of the devastating storm surge and rainfall of Hurricane Florence that flooded eastern North Carolina communities.)

Her lab also studies how flood risks change over time and space as a function of urbanization and climate change. "It's about looking at earth surface processes and how they evolve over time, but also how the human and natural systems interact to drive flood impacts to society," Sebastian said.

continued

"We are trying to understand how climate and land use changes combine to exacerbate flooding in coastal zones."

For example, some of her prior work from the Houston-Galveston region of Texas suggested that community land development decisions ultimately harmed the ability of natural systems to protect against flooding. This has important implications for the long-term resilience of coastal communities.

Climate change and fisheries

We tend to think of the effects of climate change upon land-based systems, but its effects are already changing offshore water temperatures to such a degree that fish are on the move.

Associate professor **Janet Nye** specializes in studying the effect of climate change on fisheries, and her work has implications for commercial and sport fishing alike.

Take summer flounder, for example. Her work has shown that these fish were shifting northward due to warming waters. This was confirmed when commercial fishing boats that previously caught summer flounder off the Carolina coast found they needed to motor all the way to waters off New Jersey.

"For the past decade I have focused on how fish populations are shifting their distributions," said Nye, who is also based at IMS. "Most fish species off the East Coast have moved northward. That means that fishermen must adapt by either following the fish further away or switching to different species altogether."

That's a big shift, and one that has deep implications for the people who profit and prosper from North Carolina's commercial fishing industry, which in 2019 netted nearly 53 million pounds of fish and crustaceans worth $86.6 million.

"We know surprisingly little about the temperature ranges of most species," Nye said. "We take this basic information and scale it up to understand where the fish will be in the ocean, and where they may be 20, 50 or 100 years from now given climate change."

TOP, LEFT TO RIGHT: *Assistant professor Antonia Sebastian and associate professor Janet Nye.* BOTTOM: *For a field geology class, students examined geologic and environmental changes in California.*

Geological time and experiential learning

EMES is being led by professor **Eric Kirby**, who helped manage a similar fusion of departments in his former position as an associate dean at Oregon State University. Kirby's own research interests center on planetary-scale questions of how mountains grow, erode and decay. His work has taken him from the Appalachian Mountains in Pennsylvania to the Himalayans and the Tibetan Plateau.

"The way the solid and fluid earth interact over millions of years governs the trajectory of things like the composition of the oceans," Kirby said. "It's all connected; it's just a question


Courtesy of Eric Kirby

of the time and spatial scales over which we explore these questions."

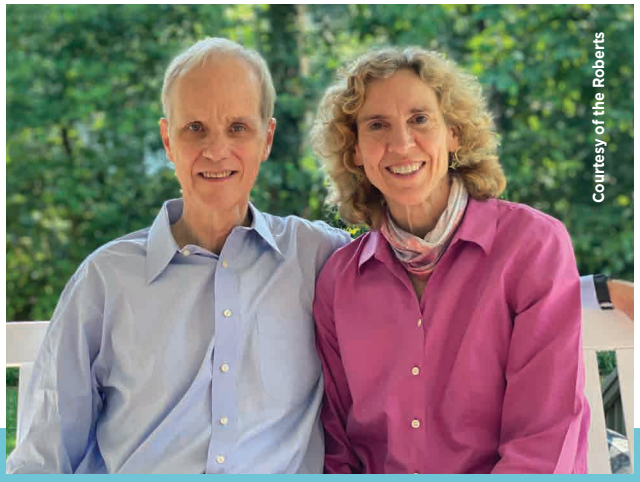
Kirby says EMES will offer a learning experience to students that emphasizes the connections across land, sea and time. He and other faculty are working to formalize interdisciplinary paths for students to study topics at the intersection of marine and geological sciences. He also envisions that EMES will offer its students enhanced experiential learning opportunities.

"Our faculty widely share a recognition that in earth and marine sciences, experiential learning is baked into everything we do," Kirby said. "The problems are '*out there*,' accessible by ship, while hiking or, increasingly, through remote sensing. There is important lab work that goes along with it, of course, but bringing students into the field is something we value."

EMES faculty are discussing ways to increase student opportunities at IMS with this in mind.

"We think of geology as being about rocks, and we think of marine sciences as being about water," Kirby said. "But they are connected. Any separation you try to draw is really an artificial boundary. The hope is that we allow those connections to blossom and lead to new discoveries, for students and faculty alike."

LEFT: *Professor Eric Kirby in the French Alps near La Grave, France.* BELOW: *A gift from Manley Roberts and Jennifer Watson Roberts will support scholarships for high-achieving students majoring in earth, marine and environmental sciences.*


Courtesy of the Roberts

Roberts-Watson Family Environmental Scholars Program

The newly formed department of earth, marine and environmental sciences received a vote of confidence from College alumni Jennifer Watson Roberts '82 and Manley Roberts '80, who have created the Roberts-Watson Family Environmental Scholars Program.

The program will support scholarships for high-achieving juniors and seniors majoring in earth, marine and environmental sciences, including students in the environment, ecology and energy program, with the goal of building a more inclusive scientific culture in the department.

Funding for high-impact summer experiences such as participation in faculty-mentored research, study abroad programs, credit-bearing internships or field work will also be provided for recipients who maintain a 3.0 GPA and who have financial need. The scholarship's summer experiential learning opportunities could include field experiences in Morehead City and other parts of North Carolina, Thailand, the Galapagos and elsewhere around the globe.

Jennifer and Manley Roberts established the fund to combine their passions for finding solutions to the most challenging resource issues facing our planet and creating more opportunities for students who enhance the diversity, equity and inclusion of the department of earth, marine and environmental sciences.

"As alumni of UNC, we both love what the University has done for our lives, and we want more students to have the same great opportunities we did," Jennifer Roberts said. "We know that environmental science is increasingly important, and North Carolina is front and center for being at risk from extreme weather. We hope our scholarship will help more diverse students enter this field, to research the ways we can mitigate the impacts of extreme weather for our food supply, our health, our wallets and our lives."

Support for programming designed to foster a sense of community among scholars and facilitating connections with alumni and leaders making a mark in the field of environmental science will also be supported by the Roberts-Watson Family Environmental Scholars Program.

The department recognizes the importance and value of diverse student perspectives in the classroom and in experiential learning settings.

"The Roberts' generosity in establishing this endowment will help ensure that the varied experiences and viewpoints of students in EMES will enrich everyone's experiences within the department," said Eric Kirby, department chair.

A (REALLY) BIG

Celebrating a major milestone — sitting, from left: Ph.D. student Hannah Montgomery and undergraduate students Luisa Peñaflor professor of creative writing Gabriel Bump and department chair Mary Floyd-Wilson.

BIRTHDAY BASH

The department of English and comparative literature celebrates 225 years of rhetoric, writing, film and literature at UNC-Chapel Hill in October. The department ties its history to the founding of the University.

BY KIM WEAVER SPURR '88

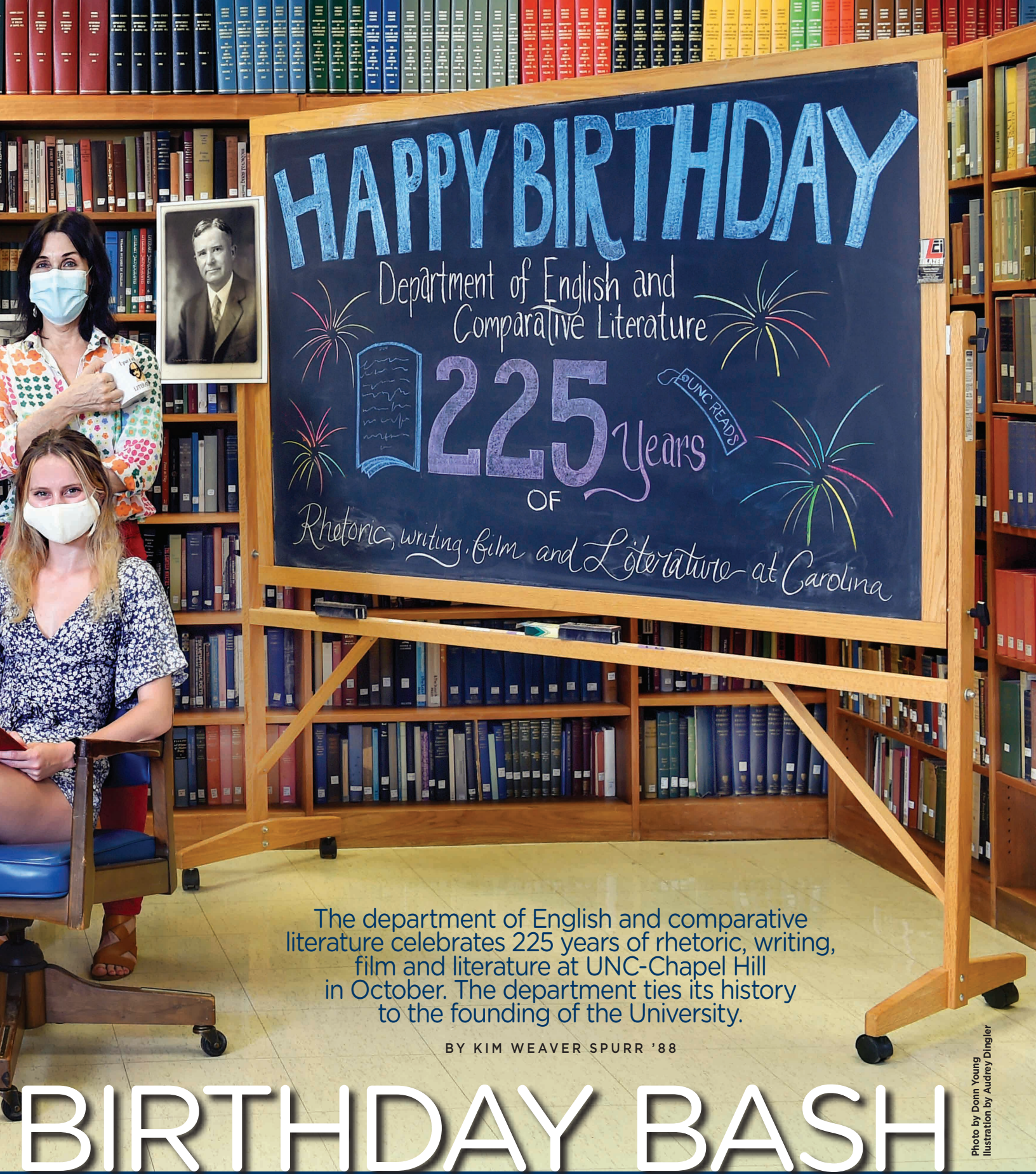
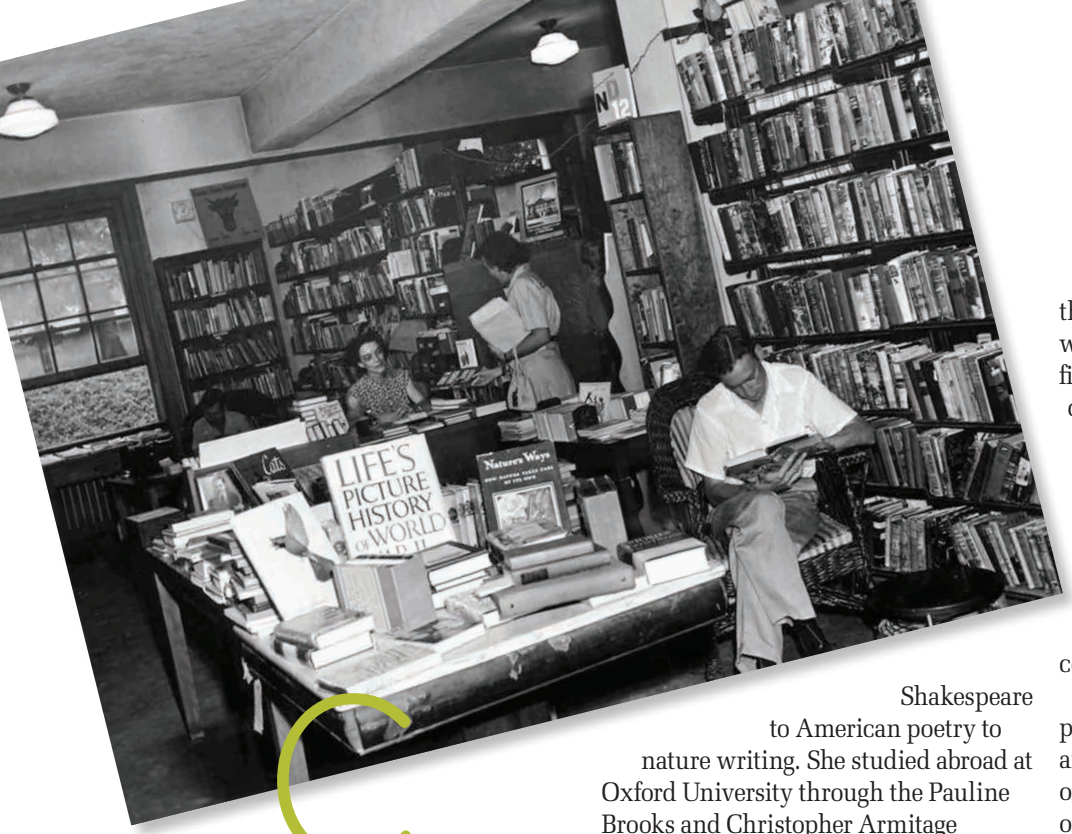


Photo by Donn Young
Illustration by Audrey Dingler

(Thomas Wolfe Scholar) and Hanna Tischer. Standing, from left: creative writing program director Daniel Wallace, assistant



CAROLINA ALUMNA MANDY EIDSON RAISES MONEY TO SUPPORT AFFORDABLE HOUSING PROJECTS IN HER HOME STATE OF GEORGIA. SHE SAYS HER 2014 ENGLISH DEGREE IS CRITICAL TO THE WORK SHE DOES TODAY.

"It strengthened my writing and critical thinking skills, which has enabled me to become a more effective communicator about social issues," said Eidson, senior manager of the Atlanta Neighborhood Development Partnership Loan Fund. "Knowing how to effectively tailor your message for specific audiences is crucial and has ultimately made me more successful in garnering support for these projects."

At Carolina, she took classes in everything from Shakespeare to American poetry to nature writing. She studied abroad at Oxford University through the Pauline Brooks and Christopher Armitage Scholarship. Her 2013 Summer Research Fellowship explored how writers Henry David Thoreau and William Wordsworth advocated for their native watersheds in response to environmental impacts from railroads and other development.

Eidson went on to pursue a master's degree in urban studies through the European Union's Erasmus Mundus program, studying at six European universities in Brussels, Vienna, Copenhagen and Madrid.

She recently spoke at a panel on "What Does it Mean to be an English and Comparative Literature Major Today?" Since September, the department of English and comparative literature has been celebrating "225 years of rhetoric, writing, film and literature" through a series of virtual events, which will conclude Oct. 27-29. (*For more information, visit ecl225.unc.edu.*) The department ties its history to the founding of the University in 1795, when rhetoric and composition were first taught, but birthday festivities were delayed a year due to the pandemic.

Hilary Lithgow, teaching associate professor of English and an undergraduate adviser to English majors, invited Eidson to speak. As she is fond of telling students and their parents: "There is nothing old-fashioned about being able to communicate clearly."

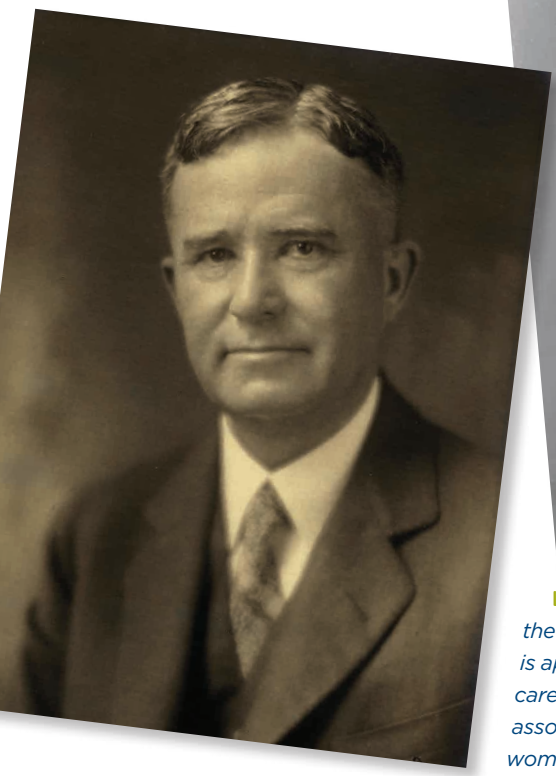
It's a skill that will help students be professionally successful "whether they are composing poems or policy briefs or legal arguments or medical reports or grant proposals or elevator pitches for a new startup or any other kind of communication they may need to craft," Lithgow said.

EARLY DAYS AND MILESTONE MOMENTS

Even though rhetoric and composition were taught in the University's earliest days, it wasn't until 1849 that the first professor of English literature and history was appointed. In 1875 (when the University reopened after being closed for Reconstruction), a College of Literature was formed; in 1901, the department of English was formally established. In 1901, the undergraduate catalog advertised 14 courses in English; today there are over 300.

The department began to take on its modern form under the leadership of Edwin Greenlaw, who was appointed chair in 1914. (Greenlaw Hall, the English department's current

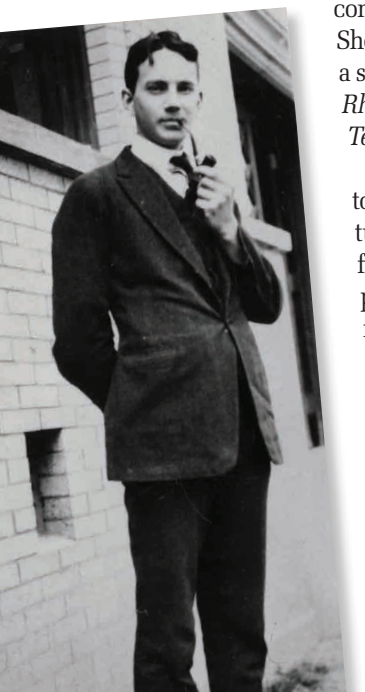
TOP: *The Bulls Head Bookstore around 1951; the bookstore is among many ideas that have sprung forth from faculty members' and students' interests.* **LEFT:** *Family members of the late Edwin Greenlaw and University officials gather at the dedication of Greenlaw Hall in 1970.* **RIGHT:** *Thomas Wolfe stands outside Vance Hall in 1920. He is best remembered for his novel* Look Homeward Angel. (All historic photos courtesy of North Carolina Collection Photographic Archives, University Libraries)



LEFT: *In 1914, Edwin Greenlaw, considered the founder of the modern department, is appointed chair.* **CENTER:** *In 1947, Jesse Rehder began a 20-year career teaching creative writing. She was the first woman to be granted tenure and the rank of associate professor in the department.* **RIGHT:** *In 1898, Sallie Walker Stockard became the first woman to graduate from the University with her thesis "Nature in Poetry."*

home, was dedicated in 1970.) In 2006, the department merged with the curriculum in comparative literature to become the department of English and comparative literature.

"Literature was taught in Latin and Greek in the very beginning, but students also had to turn in a composition to the presiding professor every two weeks," said Erika Lindemann, professor of English emerita. She got her UNC master's and doctorate degrees in English in 1969 and 1972, respectively, and became director of composition in 1980. She went on to write a seminal book, *A Rhetoric for Writing Teachers*, in 1982.



Just as students today often dread turning in that final English paper, students in the 1840s shared a similar writing phobia, as recounted in a journal entry of one student, James L. Dusenbery of Lexington, North Carolina. Lindemann has worked on several digital humanities projects about the University's history, including a project on Dusenbery's senior year at Carolina.

He wrote on Oct. 10, 1841:

"I have done nothing as yet towards writing a (senior) speech … To write a speech for the first time & one too that is to be spoken before an intellectual & severely critical assembly, is, to me, a task of fearful magnitude & startling responsibility."

Lindemann, who confesses that she "loves digging around in the archives," worked with English Ph.D. students Hannah Montgomery and Grant Glass and teaching associate professor Courtney Rivard to develop a comprehensive timeline of the department's history. (*See our abbreviated version on page 19; visit englishcomplit.unc.edu for the full timeline*).

Lindemann and Montgomery were struck by how many ideas — some that became full-fledged departments and entities of their own — were incubated in the English department. Dramatic art, women's and gender studies, African and African American studies, journalism and even the Bulls Head Bookshop were all tied to interests of the department's professors and students.

"That freedom to explore whatever corollary interest you have is still very present today," Montgomery said. She has worked with the department's Digital Literacy and Communications Lab for several years and is involved with the Comparative Literature and English Association of Graduate Students. "One example of that would be the new Greenlaw Gameroom for faculty who want to incorporate gaming pedagogy into their teaching and research."

ORGANIC EVOLUTION

Daniel Anderson, professor and director of the Writing Program, calls Lindemann "a foundational figure in writing instruction." He said Lindemann and others have helped to develop English 105, a required first-year writing course that introduces students to academic writing across the disciplines, into what it is today. Each course has some sort of digital component. English 105i, a more

continued

Courtesy of UNC-Chapel Hill

courtesy of Mandy Eidson

specialized course, allows for specific training within a discipline: business, natural sciences, health, social sciences, humanities, law or digital humanities.

"Our department has been built on this idea of intelligent evolution," he said. "When deep roots are planted, the graduate students and instructors provide the nutrition to make it grow. It's a bottom-up energy that's really powerful."

The department also has a unique role of touching the life of every Carolina student, regardless of their major.

"Every student takes English 105, and it's this wonderful on-ramp to the University because the research and writing is different from what they've done in high school," added Anderson, who is a leading voice in digital scholarship.

TOP LEFT: *Kenan Distinguished Professor Bland Simpson '73 has worked to develop an interdisciplinary path in musical writing.* **TOP RIGHT:** *Mandy Eidson '14 says her writing and critical thinking skills are advantageous in her job advocating for affordable housing.* **RIGHT:** *Daniel Anderson, director of the Writing Program, is a leading voice in digital scholarship.*

María DeGuzmán, Eugene H. Falk Distinguished Professor, said that spirit of innovation and incubation made English the perfect home in 2004 for the Latina/o Studies Program, the first of its kind in the Southeast.

"Since 1999, we've brought some of the biggest names in Latina/o studies — more than 100 scholars, creative writers, visual artists, performers, authors, cultural activists and social change-makers — to campus," said DeGuzman, who directs the program. A minor, approved in 2004, grew out of those early days of the Latina/o Cultures Speaker Series.

"Through the minor, we are interested in biology, the medical humanities, food insecurity, climate change and more," DeGuzmán said. "Our program melds the humanities, social sciences and natural sciences, and critical thinking and good writing are essential to addressing any of these issues."

NEW CONCENTRATIONS AND DOUBLING UP

Beverly Taylor, who served as the department's first female chair (from 2008 to 2016) and came to UNC fresh out of graduate school in 1977, said the department is anything but "stodgy."

"It's not your grandma's English major. … We incorporate new

Jon Gardiner

writers and issues into our curriculum all the time. I find that very compelling and powerful."

Not that Shakespeare and Chaucer and Milton and other great writers are ignored. The current department chair, Mary Floyd-Wilson, is in fact a Shakespeare scholar, and Taylor studies Elizabeth Barrett Browning.

In fall 2018, English introduced seven major concentrations. Students can still take a broad-based major, but they may opt to explore more deeply through these "tracks": British and American literature; comparative and world literatures; creative writing; film studies; science, medicine and literature; social justice and literature; and writing, editing and digital publishing. Many of the major concentrations, including creative writing, which has had a long history in the department, may also be pursued as minors. Due to the department's growing emphasis on medical humanities, students can now pursue an M.A. in literature, medicine and culture.

And many undergraduate students, according to Floyd-Wilson, choose to "double up" and pick English as a second major.

"We feel good about advising students to double up because we're bolstering their employment capacity. Businesses and other employers love English majors because they can be plopped down into a complicated situation and they understand how to synthesize the material and be clear communicators," said Floyd-Wilson, Mann Family Distinguished Professor. (Last year the department hosted a web panel called "How to Succeed in Business with an English Major.")

continued

ABOVE: *Randall Kenan, who died suddenly last year, was a beloved professor in the creative writing program. His book* If I Had Two Wings: Stories *was longlisted for the 2020 National Book Award for Fiction.*

My time in the department of English

REFLECTIONS FROM OCTOBER KEYNOTE SPEAKERS, PERFORMERS

Register for talks at ecl225.unc.edu.

• Frank Bruni, *New York Times* writer and professor of the practice, Duke University:

"When I think of my time at Carolina, I think of Shakespeare classes with Ann Hall. Dear God, how I loved those classes. Her passion for the subject was palpable and contagious, and the lessons transcended this one nonpareil playwright and poet. Professor Hall taught me how to read patiently, how to respond reverentially and how to feel the joy in language used perfectly. It didn't just make me a better writer. It made me a better and more fulfilled human being."

• Joseph Terrell, singer/songwriter with Mipso:

"I took Bland Simpson's first songwriting class in 2010, then I took his second songwriting class followed by an independent study. I think I minored in Bland Simpson. My previous attempts at songwriting had been shots in the dark with rare, inexplicable bullseyes. I didn't have a process, and I didn't understand the craft. In Bland's class, we discussed the particularities of lyric writing — the economy of phrasing, the relationship with melody, the special roles of assonance-as-glue and syncopation-as-playfulness. I loved it. I'd finally found a craft that could make the hours disappear in a kind of trance. By my senior year I knew I wanted to be a songwriter."

• Jill McCorkle, author:

"When I took Max Steele's beginning fiction writing class, the whole focus of my time at UNC shifted. I felt I had found my true place, a feeling that continued in Lee Smith's wonderful workshop and then that of Louis Rubin — a brilliant and generous man— who absolutely changed my life. He is the one who told me that I needed to go to graduate school and then advised me every step of the way, and when he founded Algonquin Books, he offered to publish my work and gave my career a beginning. I will always feel very lucky and grateful for those three teachers and the enormous impact they have had on my life."

LEFT: *Students gather at a 2018 open house for the Latina/o Studies Program, which was the first program of its kind in the Southeast.* RIGHT: *Students participate in a group discussion after playing "Layers of Fear" in Guillermo Rodríguez-Romaguera's class in the Greenlaw Gameroom.*

But it's also more than that. Taking English classes enriches students' lives, the two professors agreed.

"I have a former student who's now a business attorney who wrote to me many years ago after he was in my class and he said that reading 19th-century novels had saved his sanity," Taylor said.

A LIFELONG LOVE OF WRITING

Creative writing traces its history to the hiring of Jesse Rehder in 1947, the first woman to be granted tenure and the rank of associate professor in the department.

Since that time, the department has continued to hire creative writing faculty who have won major state and national awards. Bland Simpson, who graduated from Carolina in 1973, came back to teach creative writing in 1982. He has had various administrative roles over the years, including interim chair of the department and head of the creative writing program. He attributes the secret to the program's growth and sustainability to "encouragement and a culture of collaboration." That "collaborative sensibility" continues today.

Because Carolina doesn't have an MFA program in creative writing, faculty are able to devote all of their energy to the undergraduate program, which is among the best in the country, Simpson said.

"It is a vibrant program. We have so many great teachers, and it's about taking our students' work seriously," said Simpson, Kenan Distinguished Professor. "It is *the* thing they want the most."

Simpson, an author, songwriter and longtime member of the Red Clay Ramblers, has worked for years to create an interdisciplinary path in musical writing. Students can now explore those courses in both the creative writing major and minor.

Joanna Pearson remembers fondly her days in the creative writing program. The Shelby, North Carolina, native graduated with highest honors in English and creative writing in 2002, then went on to pursue both an M.F.A in poetry and an M.D. from Johns Hopkins University.

Today she's both an accomplished author and a practicing psychiatrist in Chapel Hill. She is the 2021 winner of the Drue Heinz Literature Prize, one of the nation's most prestigious awards. Her collection of short stories, *Now You Know It All*, will be published by the University of Pittsburgh Press in October.

Pearson is in a writing group today with one of the creative writing students she first met in a senior Honors poetry seminar with Doris Betts Term Professor Michael McFee.

"It's such an act of generosity for these professors to take undergraduate students seriously and to engage with them as writers and thinkers," she said. "Within a large university, you have to find that small place that feels like yours. The English department's creative writing program was my small place."

ENGLISH MILESTONES

• 1795
The University of North Carolina at Chapel Hill begins teaching classes. The curriculum focuses on mathematics and the sciences and requires the study of rhetoric and composition.

• 1849
Albert Micajah Shipp (1819-1887) is appointed professor of English literature and history, one of the earliest dedicated professorships in English literature in the United States.

• 1875
The University reopens after Reconstruction with a reformed curriculum that includes a College of Literature.

• 1898
Sallie Walker Stockard (1869-1963) becomes the first woman to graduate from the University, receiving a bachelor of arts degree for her thesis, *Nature in Poetry*.

• 1901
The department of English is formally established by the Board of Trustees. Professor Charles Alphonso Smith (1864-1924) serves as the first chair.

• 1914
Edwin A. Greenlaw (1874-1931), considered the founder of the modern department, is appointed chair. Under his tenure, the faculty grew from eight members in 1914 to 37 in 1925.

• 1920
Thomas Wolfe (1900-1938) graduates from UNC. *Look Homeward Angel*, his novel detailing his undergraduate experiences, is published in 1927.

• 1947
Jessie Rehder (1908-1967) begins a 20-year career teaching creative writing. She became the first woman to be granted tenure and the rank of associate professor in the department.

• 1969
Blyden Jackson (1910-2000) begins teaching in the department of English. The first tenured black faculty member at UNC, he developed courses in African American and Southern literature.

• 1970
Greenlaw Hall, named in honor of Edwin A. Greenlaw, is dedicated as the new home of the department of English. Previous homes included Murphey and Bingham halls.

• 1993
The Morgan Writer-in-Residence Program is established with Shelby Foote (1916-2005) becoming its first visiting writer. Today it is known as the Frank B. Hanes Writer-in-Residence Program.

• 1999
The department establishes the Thomas Wolfe Prize and Lecture to celebrate "contemporary writers with distinguished bodies of work" and to give the University community "the opportunity to hear important writers of their time."

• 2004
The Latina/o Studies Program, the first program of its kind in the Southeast, is inaugurated.

• 2006
The department of English and the curriculum in comparative literature merge to form the department of English and comparative literature.

• 2008
Beverly Taylor (1947-) becomes the first woman to chair the department, an appointment she held for eight years.

• 2018
The curriculum is redesigned with new major concentrations: British and American literature; comparative and world literatures; creative writing; film studies; science, medicine and literature; social justice and literature; writing, editing and digital publishing.

• 2021
The department of English and comparative literature celebrates 225 years of "rhetoric, writing, film and literature" at UNC.

➤ *For a comprehensive timeline, visit englishcomplit.unc.edu.*

The global problem-solver

Working for Amazon in Prague, Hakeem Smith uses analytical skills gained through UNC's TransAtlantic Master's Program.

BY PAMELA BABCOCK

Hakeem Smith is a lifelong learner, bridge-builder and problem-solver. During a recent virtual global career session, he gave UNC students advice that has guided him through college and into a plum job at one of the world's most recognized brands.

• *Hakeem Smith at the Amazon Fulfillment Center in Dobrovíz, Czech Republic, about 10 minutes from the outskirts of Prague.*

"Resiliency is a muscle that you have to exercise and develop, particularly if you are in globally focused careers," said Smith, who received an undergraduate degree in anthropology in 2005. He went on to complete the TransAtlantic Master's Program in 2013. "Put yourself in situations where maybe you have a lot less information than everyone else in the room. You will get through to the other side … and once you do, you will have gained more knowledge about the subject."

Smith, a native of Statesville, North Carolina, has lived and worked in Europe since 2012. He's currently a business analyst at Amazon in Prague, where his work combines data science and qualitative research to help Amazon maintain a secure online shopping experience.

Before that, he was a researcher and international project coordinator for the Czech Helsinki Committee, a nongovernmental organization focusing on human rights.

Working in an international city for one of the fastest-growing companies in the world is a testament to Smith's resilient spirit.

"Amazon is all about being as optimal or the best as quickly as possible, so high-quality, high-speed and high-veracity all have to happen concurrently," Smith said. "I'm a sucker for a challenge, and Amazon will challenge anyone. There is a new complex problem to solve every day."

As an undergraduate, Smith gravitated toward anthropology after a class on post-Colonial Africa. "Growing up as a Black man in North Carolina, I was really interested in the diaspora, and that class really led me to take anthropology seriously."

After graduation, Smith spent a few months in Bratislava, Slovakia, to be with his then-fiancé (now wife), who was from Slovakia. He then returned to the United States and worked as a broker trainee with Fidelity, managed hotels, ran a consulting business with UNC alumni and edited an academic journal.

But Smith said his European trip made him want to better understand the cultural changes underway, particularly with the European Union, and that's when he pursued an M.A. in political science from the TAM program. Established in 1998, the interdisciplinary program focuses on contemporary Europe and the transatlantic relationship.

"I grew up at the end of the Cold War era and hadn't really studied it before," Smith explained.

During the program, Smith spent a semester at Charles University in Prague studying comparative Central European politics and another at the University of Bath in the United Kingdom, where he focused on international security.

Smith joined Amazon in 2016. His first job involved mining data to find areas in which the network was losing money, through everything from employee warehouse theft to people who "game the system" by doing things such as selling counterfeit phones. In his next role, he used data analysis to evaluate the company's loss prevention and security training. Today, he's helping find, build and optimize tools and products related to Amazon's training programs.

Smith stays in touch with his Carolina network and is proud to call UNC-Chapel Hill his academic home.

"That place is very special to me. It allowed me to try new things and to fail without being a failure," he said. Smith works hard to connect TAM students and alumni to internships and other positions. "I'm really about forging those connections. I see myself as a bridge-builder."

Smith recently completed an online business analytics certification program from Harvard Business School. Next, he plans to delve deeper into data science by getting a certificate in data operations.

"I'm a lifelong student," Smith said. "I'm always trying to learn."

• *Lisa Dickey talks about her book* Bears in the Streets *at an event in Washington, D.C., in 2017. It is based on her experiences in Russia.*

The ghostwriter

Lisa Dickey has collaborated with U.S. Sen. Tammy Duckworth, First Lady Jill Biden and other well-known figures to produce best-sellers.

BY PAMELA BABCOCK

Nanny. Russian translator. Lounge singer. Lisa Dickey took a roundabout journey to a career as a bestselling celebrity ghostwriter. To date, Dickey has co-authored or ghostwritten more than 20 nonfiction books, including 10 *New York Times* bestsellers.

Her most recent collaborations include *Every Day is a Gift* by U.S. Sen. Tammy Duckworth of Illinois and *Where the Light Enters* by First Lady Jill Biden. She has also collaborated with Herbie Hancock, Patrick Swayze, Whitney Houston, Cambridge Analytica whistleblower Christopher Wylie and Whitewater partner Susan McDougal, mostly on first-person memoirs.

"I love getting to know these incredible people, just sort of dropping into their lives and helping them put something out into the world," said Dickey (Russian language and literature '88). "You develop a relationship with each person. It's a very interesting mix of professional, and invariably, it becomes personal, because they're revealing things."

Dickey, a Pensacola, Florida, native, ended up at Carolina thanks to her uncle Pitt Dickey (B.A. '72, J.D. '74), who wanted her to be a Tar Heel so badly he bought her a subscription to *The Daily Tar Heel* her senior year in high school. "He just kept saying how great it was and how wonderful Chapel Hill was, and I was like, 'All right, I'll go have a look.' And I just fell in love with the place."

Dickey's interest in Russia dates back to her childhood: "When I was a kid, my mother made a trip to the Soviet Union 'for fun,' and my dad was in the Navy and his job was to fight the Russians. And this was extremely confusing for me."

Prior to launching her writing career, Dickey said she did "a lot of weird things." She worked as a nanny for a U.S. diplomatic family in Moscow, as a Russian translator and later as a lounge singer in Japan. She began working as a journalist in 1995 in St. Petersburg, Russia, writing for *The Moscow Times* and *USA Today*.

While some ghostwriters have niches such as business or sports, Dickey does not. Her topics have ranged from politics to entertainment to business to international relations. Not being an expert is often better, Dickey said, because "I'm not polluting the ideas of the person with my own take on everything."

Dickey doesn't pitch ideas; people contact her. She typically sits down with the subject, sometimes also interviewing people who know them well. The more time they give her, the better. She refuses to take on what she considers vanity projects and said she needs to feel confident the finished product will serve a larger purpose by telling a piece of history "that only this person would know" or by conveying a message that will be helpful to readers.

She is typically credited as a co-author on the cover or in the acknowledgments. There's only one book that, due to contractual obligations, she can't reveal her involvement: "Everybody would be very impressed. They'd be like, 'Whoa, you spent time with her?'"

In addition to the ghostwriting projects, she has written *Bears in the Streets: Three Journeys Across a Changing Russia*. Called "brilliant, real and readable" by former Secretary of State Madeleine Albright, the travelogue describes 20 years of in-depth interviews Dickey conducted with the same Russians between 1995 and 2015.

Dickey, who lives in West Hollywood with her wife, television and film writer Randi Barnes, said ghostwriting is "a cool way to make a living" but deserves more respect. She encourages people to read book acknowledgments to see if a ghostwriter was involved.

"I'm so proud of this collection of books that I've helped bring to life, but I think in some ways ghostwriting is something that people still feel shouldn't be talked about or should be a secret."

• *Raj Panjabi examines a malnourished child with malaria alongside rural nurses and community health workers in Rivercess County, Liberia.*

Fighting malaria is personal

Raj Panjabi was tapped by President Joe Biden to lead an initiative seeking to eradicate the mosquito-borne disease worldwide.

BY PAMELA BABCOCK

Born and raised in Liberia, Raj Panjabi dreamed of becoming a soccer star. But when he was 9, a civil war in the West African country forced his family to flee. They eventually resettled in High Point, North Carolina.

"My mother came knocking on my door one morning and said, 'Pack your things; we've got to go,'" Panjabi recalled. "We all thought we were coming back. But we were wrong."

Panjabi's experience as a refugee and his career as a physician, social entrepreneur and public servant saving lives in the world's most remote communities have been inextricably linked.

Today, Panjabi (chemistry '02, M.D. '07) is U.S. Global Malaria Coordinator for the U.S. President's Malaria Initiative, where he oversees a $770 million annual budget at the U.S. Agency for International Development. The program's goal is to end the mosquito-borne disease, which infects about 220 million people annually. Panjabi knows the disease well. He contracted it several times as a child and as an adult treating patients in Liberia.

Before joining the fight against malaria, Panjabi co-founded Last Mile Health, a nonprofit that builds rural health systems around the globe. The cause had personal meaning for him: In Liberia, he didn't see a doctor until he was 8 because of inadequate facilities there. While CEO of that organization, he also served as a physician and professor at Harvard Medical School and Brigham and Women's Hospital in Boston.

Panjabi, the son of Indian immigrants, said the disparities he witnessed as a refugee and a desire to understand the social, political and economic frameworks that drive such disparities drew him to minor in sociology at UNC. While his family was privileged enough to make it onto the packed military rescue plane, many were left behind and later killed. "I was old enough to know something was wrong, but you don't know why it's wrong. And I had a deep desire to understand why."

He used a Burch Fellowship from Carolina to work in a public health clinic in a remote area of Alaska. While studying at the UNC School of Medicine, Panjabi took a year off to get a master's degree in public health from Johns Hopkins University.

Panjabi met his wife, Amisha Raja (psychology/child development and family studies '02) at UNC. In 2007, the pair launched Last Mile Health after partnering with community health workers to open Liberia's first rural clinic for HIV/AIDS.

In his current role, Panjabi is overseeing a development partnership with nearly 30 countries to end the malaria pandemic. The disease is one of the oldest. Although largely eradicated in the United States, about 400,000 people globally die from the disease each year. Most are children from sub-Saharan Africa.

Since its inception, the program has helped save 7.6 million lives and prevent 1.5 billion infections.

"We've made great progress, but there are still huge challenges," Panjabi said.

In 2016, *TIME* named Panjabi one of the 100 Most Influential People in the World for his role in building community health systems and responding to the Ebola epidemic in West Africa. Last fall, Panjabi spoke at UNC (virtually), delivering the Honors Carolina Frank Porter Graham Lecture, aptly titled "No Condition is Permanent."

COVID-19 may be the pandemic on everyone's mind, but Panjabi said the age-old fight between humans and pathogens is not a futile effort. Malaria has killed more people than the coronavirus has, but 40 countries have eliminated the disease, thanks to advances in science, government support and the dedication of community health workers.

"That's what's exciting about this," Panjabi said. "We have the chance to make sure we end that fight despite some of those tough odds. And I think that we will."

• *In the spring, pianist Clara Yang will perform with violinist Sunmi Chang in a UNC Process Series performance highlighting underrepresented female composers.*

Creating sound stories

Pianist Clara Yang elevates the voices of underrepresented Black and female composers on stage and in the classroom.

BY PATTY COURTRIGHT (B.A. '75, M.A. '83)

When Clara Yang sits down at the piano, she sees an opportunity to help people expand their world views.

A classically trained pianist, the associate professor of music and head of keyboard studies at Carolina has performed in venues worldwide, including Beijing, Shanghai, Moscow, London, Sydney, New York, Chicago, Madrid and Barcelona. She is equally at home performing classical standards and interpreting contemporary and new music. Her 2015 solo album, "Folding Time," won a Global Music Awards Gold Medal.

"Classical music isn't an art form that only preserves the past; it is still evolving. Within classical music there is so much diversity — in style and in the ethnicities of the composers — with tons of cross-genre collaboration," she explained.

The newer composers, particularly in America, tend to break down barriers and create music that reflects contemporary society, Yang said, so collaborating with these composers helps redefine what classical music means.

It's one reason she believes in elevating the voices of underrepresented composers — on stage and in the classroom.

This past spring, for example, all the UNC piano students performed a concert, via Zoom, that celebrated Black composers. As a continuation of a project begun in fall 2020, the students each chose a Black composer to research and performed a piece by that composer. Yang then edited the performances into a composite video.

Now her focus is on women, who are underrepresented as composers. As part of the UNC Process Series, Yang will perform with award-winning Korean-American violinist Sunmi Chang this spring in "Her Story: Journey into the Musical Worlds of Women Composers."

As they researched female composers, Yang and Chang (who had met as graduate students at the Yale School of Music) discovered several inspiring pieces by Florence Price, a Black 20th-century composer from Arkansas. In the spring concert, they are pairing her work with that of Amy Beach, a late 19th-century composer whose sonata for violin and piano reflects the romanticism and passion of the period.

To bridge these works and present a modern perspective, they are commissioning a piece by pianist and composer Liliya Ugay, another Yale alumna. The women hope to repeat the performance at other venues and eventually to create a CD.

They have been rehearsing remotely during the pandemic by creating videos. Playing together remotely is challenging because one person records and the other person plays while listening to the recording, Yang said. "Playing this way forced us to try different things and to know the music really, really well so we could listen to each other more sensitively."

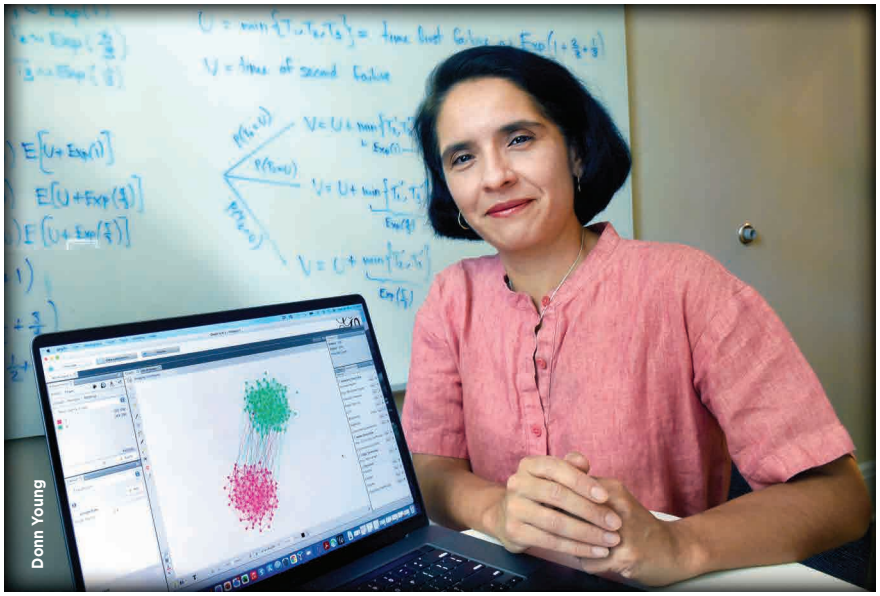
Helping sometimes-reluctant students try different things is also fundamental to her teaching. Yang encourages her students to incorporate various viewpoints and develop their own ideas.

"I tell my students it isn't about being perfect on stage; ultimately, it's about opening up and sharing with the audience. As an artist, you are creating a sound story with something that's abstract," she said.

Yang came to UNC in January 2011 after completing her doctorate at the Eastman School of Music. Through the years, she has taught students from all backgrounds and with a variety of interests and majors.

"I love our students here and learn a lot from them," she said. "I tailor my teaching to my students' needs, to help them be their best, however they see themselves as musicians. Music isn't just a craft you practice for hours; it's also about contributing to society in a meaningful way."

Teaching and performing nourish each other, she said. "I would love to do this all my life — teaching, performing and designing exciting projects for my students and myself."



• *"We need to ensure our students are learning the standard tools to understand and work with data and see patterns," said Mariana Olvera-Cravioto.*

Seeing patterns in the data

Mariana Olvera-Cravioto uses mathematical models to understand complex topics. She hopes the new data science minor will make data more accessible to students.

BY MARY LIDE PARKER '10

If you type "UNC" into Google, chances are you'll see a list of links that relate not only to UNC, but also to your personal connection to UNC — whether you're a student, faculty member or alumnus.

Why is that?

"A set of algorithms operating in the background of your Google search allows this to happen," said Mariana Olvera-Cravioto, an associate professor in the department of statistics and operations research, or STOR. "In the early '90s, Google created an algorithm for relevance, and it's become more and more personalized — now it's super-personal."

As social media and internet connectivity become more embedded in daily life, most people are familiar with the concept of algorithms. But the inner workings of why and how they function, and their constant evolution, raise myriad questions for applied probability researchers like Olvera-Cravioto.

"By the time I finish this sentence, a million things will have changed in countless random ways across the internet," she said. "It's impossible to capture it exactly."

To tackle the seemingly impossible challenge of "predicting" patterns online, Olvera-Cravioto and her colleagues use probabilistic models. With these models, they can generate simplified versions of real-world scenarios. Why does one website receive a higher PageRank score than a similar site? What happens if a major server goes down?

"The internet is like a brain — it can create new pathways," she said. "Even if a few key elements break down, it will find a way to keep functioning."

Visualizing the complexity of the internet and comparing it to neural networks in the brain comes naturally to Olvera-Cravioto. Growing up in Mexico City, she developed a keen interest in math and science, thanks to both of her parents being doctors. She assumed she would become one, too.

"I always enjoyed talking about biology and medicine, but at some point in high school I realized I didn't like memorizing things — and there is a lot of that in medicine," she said.

When she entered college and began studying applied math, she knew she had found her calling. "Math was one of those things that always clicked in my brain. It didn't matter if I felt tired or uninspired, I could always do it."

"The internet is like a brain — it can create new pathways. Even if a few key elements break down, it will find a way to keep functioning."

— MARIANA OLVERA-CRAVIOTO

Olvera-Cravioto joined STOR in 2018. Now she is leading the new minor in data science program, which she helped design. The minor launched this fall, and she hopes it will attract students from diverse backgrounds and interests. *[See story on the new data science minor in The Scoop on page 33.]*

"Many of our students will end up in jobs where at some point they will have a data set of information from which they need to obtain knowledge or discern a pattern," Olvera-Cravioto said.

A marketing professional may look at data for how many people clicked on an online advertisement. A journalist will see how many people liked or shared their articles.

"We're collecting data everywhere all the time," Olvera-Cravioto noted. "We need to ensure our students are learning the standard tools to start working with it."

One of the main goals of the minor is to make data science more accessible.

"It's something that more and more people need to know how to do, and we want students to not feel so intimidated by it," she said. "They don't have to be in a STEM major to use data. And who knows, maybe they'll like it."

Understanding the 'war on terror'

An expert on global terrorism uses a long lens to explain what happened in Afghanistan — and what might happen elsewhere.

BY PATTY COURTRIGHT (B.A. '75, M.A. '83)

Navin Bapat had already begun to research terrorism as a graduate student in political science when 9/11 happened. The shock of the attacks on U.S. soil made that research all the more important — and opened the door for a different perspective.

At first he viewed terrorism through the lens of his background: "My parents are from India, and they often described these individuals as irrational and religious fundamentalists. And they described terrorism as a pretty significant threat," explained Bapat, the Dowd Professor in the Study of Peace and War and chair of the curriculum in peace, war and defense (PWAD). "But when I looked at the data, I soon realized that wasn't correct."

The United States was spending multi-trillion dollars to fight something that affected fewer people than were killed in automobile accidents every year, he said, so his focus shifted to understanding the other factors at play.

Historical documents showed that al-Qaida originated in Saudi Arabia, a country the United States was supporting. Because the Saudis' internal rebels were portrayed as terrorists, presenting U.S. support as an effort to help the country fight terrorism made the issue cleaner politically and easier for the American public to support, he said.

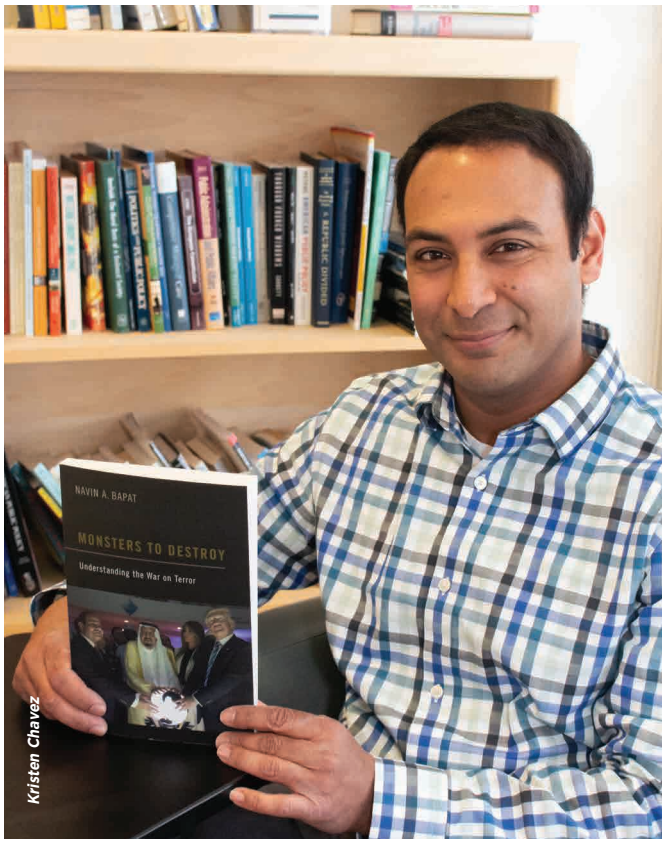
The level of financial support and willingness to sacrifice American lives in a war on terrorism was disproportionate to the problem, Bapat said, which led him to believe the broader issue was U.S. control over global energy markets, and in turn, global trade. As he explained in his 2019 book *Monsters to Destroy: Understanding the War on Terror*, Bapat believes the U.S. government offered military protection to various countries because they were critical in extracting, selling and transporting oil and natural gas.

While the idea was to provide assistance until the countries could manage terrorism on their own, it actually created a disincentive for the leaders to take action, he said. Former Afghan President Hamid Karzai is a prime example.

"He believed the United States would support him forever, so he never had an incentive to make Afghanistan a secure state," Bapat said.

In its 20 years in Afghanistan, the United States did score some victories in the war on terror, but Bapat fears that the recent U.S. withdrawal and Taliban takeover may reverse the tenuous social and educational reforms.

His current research focuses on the effectiveness of economic sanctions. As they increase the price of trade between countries, sanctions create inefficiencies in trade that make it untenable.



• *Navin Bapat fears that the recent U.S. withdrawal from Afghanistan and the subsequent Taliban takeover may reverse the tenuous social and educational reforms.*

"The most effective sanctions are those that are threatened but aren't actually implemented. It's the threat that affects a government's willingness to change its behavior," Bapat said.

This semester he is teaching a graduate course on bargaining theory and negotiation, and next spring he'll teach the undergraduate course on terrorism he began teaching even before he came to Carolina in 2007.

PWAD students go on to a variety of careers — from intelligence or defense work to law and journalism, among many other fields. "We teach them to analyze a situation and predict future outcomes. We also teach general leadership skills, how to examine what's been done in the past, how mistakes are made and how to deal with uncertainty, even with all the available information," Bapat said.

The curriculum also is expanding its focus on human security issues.

"When we talk about peace, we think about the absence of war between states, but we don't always talk about what happens *within* those states," he explained. "Some states have repressed policies for the people who live there, so it really isn't peace for them."

➤ *Learn more in an interview with Bapat at college.unc.edu/2021/08/bapat.*

• *Ryan Smith says he admires the service-oriented mission of the people he's met at Carolina. They have an "energy and passion to improve and continue learning," he said.*

A drive to serve and achieve

Chancellor's Science Scholar Ryan Smith helps make science and technology accessible for underrepresented middle school students.

BY LAURA J. TOLER '76

Chancellor's Science Scholar Ryan Smith of Durham wants to learn all he can about eye diseases. His interest in the topic is personal.

"My granddad has glaucoma and cataracts," said Smith, a sophomore biology major pursuing minors in chemistry and statistics. "My dad has received an early diagnosis that he likely will have glaucoma … I want to learn more about these diseases to try to help people."

Smith got off to a great start with Chancellor's Science Scholars in 2020, which featured a six-week virtual immersion program called Summer EXCELerator before his first year. He then completed his first year at Carolina online due to the pandemic.

The students in the Chancellor's Science Scholars program, which is part of Honors Carolina, are chosen for academic excellence, interest in STEM programs and careers, and a commitment to diversity, leadership and community involvement. The scholarship provides $10,000 for North Carolina residents, renewable for four years, plus research opportunities and leadership training.

Smith got a taste of leadership early on through the BOOST (Building Opportunities and Overtures in Science and Technology) Program at Duke University, which seeks to make science and technology accessible for underrepresented middle school students.

As a student in the program in eighth grade, he and other peers visited the Duke neuroscience department, where they got to handle human brains.

"You see how heavy it is, feel it and see the gray matter. They told us everything about the brain, that it is where memory happens," he said.

Smith became a BOOST coach in high school and continues to serve the organization. He has shown seventh-graders how to make ice cream in a Ziplock bag, taught the science behind fingerprinting and how DNA works.

Despite the challenges of COVID-19, Smith sought ways to connect with the Carolina community.

He had a data analytics internship this past summer with Innovate Carolina, a program that facilitates social and economic impact projects. There he analyzed how many startups the program has nurtured since its inception.

"I've helped Innovate Carolina show what they've been doing, why it's important and why we should continue to pursue [helping startups] in the future," Smith said.

As assistant director of academic advising and registration for undergraduate Student Government, he has met with deans who oversee advising, staff advisers and students. Over the next year, he'd like to convene groups of international, athletic, military and other students to brainstorm about how advising could better meet their needs as part of his work with Student Government's executive branch.

Biology lecturer Noelle Romero, Smith's coordinator and mentor in the Chancellor's Science Scholars program, is impressed with his service to Student Government and how much he accomplished during his first year.

"Ryan works diligently to solve any problem he encounters while also tackling schoolwork," she said. "His altruistic nature, resiliency and strength of character are traits we ask all our scholars to emulate."

As he dives into the fall semester, Smith said he is excited about being on campus for the first time.

"I'm ready to meet the rest of the Chancellor's Science Scholars [in person], make new friends and experience college life … going to lunch together, walking and talking between classes, maybe joining a club sport."

Smith also was accepted into several universities but said Carolina seemed like the right fit.

"I like the people I've met," he said. "They all want to do better for themselves and the University, and I really like that energy, that passion to improve and continue learning."

Adding nuance to incomplete narratives

Can pinpointing the right narrative for a documentary lead to addressing the achievement gap in the Chapel Hill-Carrboro City School System?

BY MARY LIDE PARKER '10

• *History student Alexandra Odum won a Graduate School award for her role in a documentary film focusing on the achievement gap between white and Black students in the Chapel Hill-Carrboro City Schools district.*

The first time Alexandra Odom thought critically about her own history education, she was reading a book about the Montgomery bus boycotts — specifically, reading the names of all the women involved.

"People always reference Martin Luther King Jr., but they don't think about the women at the forefront of that movement," said Odom. "So many things that are taught about our history are incomplete. Thinking about that got me interested in finding connections between the past and present."

Odom, a Ph.D. candidate in the department of history, has dedicated her academic career to recognizing the lesser-known stories of Black communities in the United States, and how those experiences influence present-day circumstances.

Most recently, she received a Graduate School Impact Award for her contributions to *I'm Smart, Too*, a local documentary project focused on the achievement gap between white and Black students in the Chapel Hill-Carrboro City Schools district, and the disenfranchisement Black children have experienced since integration began 50 years ago.

Odom is one of eight people on the documentary team, which also includes UNC students Aubrey Patti, Jeremiah Rhodes and Darian Woehr.

"We are not the first people to talk about desegregation or these ongoing problems," she noted. "With this project, we're hoping to add to the reservoir of sources that already exists and present something that can contribute to conversations as these communities move forward."

While Odom joined the project as a historical consultant, she did a little bit of everything, from studying archival material and reviewing transcripts of interviews to working on the website and talking with community members.

But perhaps her biggest contribution was helping to formulate the narrative for the film.

"As a historian, one of the things I have more experience with is taking a look at primary and secondary sources and creating a coherent historical narrative," Odom said. "We wanted it to be clear in the film that the current situation is uniquely tied to the history that exists in this district."

After receiving a department of history Clein Fellowship in 2019, Odom dedicated her summer to working on the documentary's narrative, alongside lead producer Kim Talikoff.

Using Talikoff's dining room as a makeshift studio, the two women cut out various quotes from transcribed interviews, taped story boards to the walls, and then rearranged them to visualize the narrative of the documentary.

But formulating a storyline that looked and felt right to the producers of the film was not the point — it was ensuring the narrative accurately reflected the experiences of their interview subjects. As they went through the editing process, Odom and others on the team checked in with community members, asking for their feedback on different versions.

"We want to ensure the people whose stories are being told feel as though we're handling them with care," she said. "And that we're accurately presenting what they're telling us."

Since the completion of the film, the team has partnered with local organizations to host film viewings and panel discussions.

After she received an Impact Award for her role in the documentary — the awards are annually given for graduate research that impacts the state — colleagues, friends and acquaintances at UNC have reached out to congratulate Odom. She says the praise feels misdirected.

"I really want the focus to be on the community and the conversations they are having because of this project. It's important to shed light on the people who have been doing and will continue doing the work."

The College of Arts & Sciences is creating life-changing opportunities for students and faculty through the Campaign for Carolina. Nearly 22,000 alumni and friends have made gifts in support of the College's students, faculty, departments and programs.

All gifts—annual gifts, multi-year pledges and planned gifts—count in the Campaign for Carolina. Your support helps us carry out our mission to create knowledge and discover innovative solutions to the world's greatest challenges, to educate outstanding undergraduate and graduate students, and to encourage faculty, staff and students to contribute meaningfully to North Carolina, the nation and the world.

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FOR ALL KIND

the CAMPAIGN for CAROLINA

New gift marks the importance of support for clinical psychology graduate students

BY ANDY BERNER

As the No. 2 ranked clinical psychology graduate program (*U.S. News and World Report*, 2020), UNC's department of psychology and neuroscience has a long history of faculty fostering strong working relationships with students.

In the late 1970s, one such student was Thomas Wadden (Ph.D. clinical psychology '81), a native of Washington, D.C. As a graduate student, he had the opportunity to train under both Grant Dahlstrom, Kenan Professor of Psychology, and David Galinsky, professor and clinical supervisor of psychology.

ABOVE: *Thomas Wadden (second from right, standing) in a 1976 class photo.* LEFT: *"I received a priceless education at Carolina," said Wadden, whose support will help graduate students in clinical psychology.*

Wadden says he was fortunate to receive a National Institutes of Mental Health Training Fellowship for his first two years at UNC.

"I received a priceless education at Carolina," said Wadden, "and never received an invoice or bill! I was so appreciative of that support."

"Starting research in graduate school is really a high-wire act," Wadden added. "First, you've got to get a good idea, then you've got to turn it into an operational, testable hypothesis, and you need a mentor to help you do that. You need funding to conduct your research and hope that you'll find results consistent with your hypothesis. I want to recognize these young investigators and encourage them to stick with it."

Wadden said he was inspired by mentors such as Galinsky, Dahlstrom, Joe Lowman, Bernadette Gray-Little and his classmates. He deeply admires the work of Karen M. Gil (Lee Pederson Distinguished Professor and former College dean) and other current UNC faculty in mentoring and supporting their graduate students.

Two awards, set up in honor of Dahlstrom and Galinsky, are given annually to graduate students to support their academic, research and clinical training. Continuing in that tradition, Wadden established the Thomas A. Wadden Award for Training in Behavioral Medicine and Health Psychology, which will provide partial support for a clinical psychology graduate student working in these fields while completing graduate studies. The award may also be presented to a faculty member to advance his or her knowledge in this area.

As part of the same gift, a second award, for distinguished research in behavioral medicine and health psychology, will be presented biennially to a clinical psychology graduate student for recognition of research achievement in this area.

"Tom and his family have been strong supporters of the department over the years, making several major gifts to support clinical psychology graduate students," Gil said. "The new Wadden awards will have a profound impact on our program."

Terry Rhodes, dean of the College of Arts & Sciences, added, "Tom's vision for supporting our clinical psychology graduate students during critical times in their research is especially meaningful given his life's work. He knows from experience — from his time at Carolina and from throughout his career — what would help the most. We are so grateful for his generosity in establishing these two awards."

Wadden is a clinical psychologist and educator who is known for his research in behavioral medicine and health psychology, particularly in the treatment of obesity through methods that include lifestyle modification and pharmacotherapy. He is the Albert J. Stunkard Professor of Psychology in Psychiatry at the Perelman School of Medicine at the University of Pennsylvania and former director of the university's Center for Weight and Eating Disorders. He also is visiting professor of psychology at Haverford College.

Over the course of his career, Wadden has served on expert panels for the National Institutes of Health, the Federal Trade Commission, the Department of Veterans Affairs and the U.S. House of Representatives. His research has been recognized by awards from several organizations including the Association for the Advancement of Behavior Therapy and the Obesity Society. In 2007, he was recognized with the Distinguished Alumni Award from the UNC department of psychology and neuroscience.

Courtesy of Eunice Sahle

• *Students visited UNC Project-Malawi, a research, care and training program established by Carolina and the Malawi Ministry of Health in 1999.*

Department of African, African American and diaspora studies celebrates its first endowment

BY SAMANTHA WEBER

Nicci Gafinowitz '16 grew up in South Africa and traveled, studied and worked widely in the region. She and her family settled in Chapel Hill nearly 20 years ago. While studying for her master's degree in information science at UNC's School of Information and Library Science, she met Eunice Sahle, associate professor and chair of the department of African, African American and diaspora studies (AAAD). Gafinowitz came to deeply admire her depth of experience and understanding of African life, particularly from a human rights perspective, and her ability to translate that to international audiences.

In 2017, Sahle began planning a study abroad opportunity for undergraduates in Malawi. Gafinowitz became a strong supporter of that initiative and of a research project on socio-structural determinants of burn injuries in Malawi. Her advocacy attracted financial support that made the 2018 summer program in Malawi possible at a very low cost to students. Overall, the Gafinowitz family's private gifts have contributed to AAAD's mission in indelible ways.

Now they have made a lasting pledge to the department in honor of Sahle's excellence in teaching, research, leadership and mentorship — she ended her second term as chair on June 30 — through the Dr. Eunice N. Sahle Excellence Fund in African, African American and Diaspora Studies.

"Professor Sahle has been a remarkably dedicated and effective chair, helping to build her faculty's careers, widening opportunities for undergraduates and raising the profile of the department," said Rudi Colloredo-Mansfeld, senior associate dean for social sciences and global programs. "In honoring her this way, the endowment elevates a decade of effort she has done in service of a profoundly important intellectual endeavor and vibrant department."

Sahle likened the support of this new endowment to an insurance policy that can always be counted upon.

"This is every chair's dream," she said. "It's really an important gift that will make a difference in very substantive ways to the department. For this to happen in a very difficult moment in the world in terms of fundraising and other challenges that the coronavirus pandemic has generated — I'm really touched by the generosity of the Gafinowitz family."

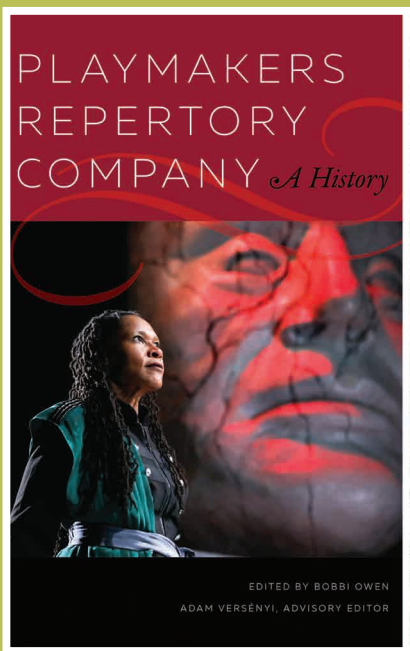
The endowment has the potential to propel a variety of departmental efforts that have flourished in recent years, many of which Sahle said the Gafinowitz family has helped support: AAAD's annual Global Africana Conference brings scholars from around the world to UNC; its journal, *Global Africana Review*, focuses on undergraduate research; and since 2018, the department has run its popular summer abroad program in Malawi. The fund could also support important faculty and student research activities, for example, a study by Sahle, Marie Garlock Ph.D. '19 and Michael Kaiyatsa, a Malawian researcher and human rights leader, examining socio-structural determinants of burn injuries.

"Professor Sahle has been a remarkably dedicated and effective chair, helping to build her faculty's careers, widening opportunities for undergraduates and raising the profile of the department. In honoring her this way, the endowment elevates a decade of effort she has done in service of a profoundly important intellectual endeavor and vibrant department."

— RUDI COLLOREDO-MANSFELD

AAAD leaders are poised to expand the department in the near future. The department's new minor — human development, sustainability and rights in Africa and the African diaspora — debuts this year. Plans are also in the works to create an AAAD graduate program. The endowment will ensure the department has resources to sustain creative scholarly opportunities for students and faculty alike.

Gafinowitz added, "I hope that the Arts and Sciences Foundation draws even greater support for the work of the AAAD department as it continues strengthening UNC's excellent ties to the African continent and its diaspora."



#Throwback: THE SHOW MUST GO ON

A new book, edited by Bobbi Owen and Adam Versényi in the department of dramatic art, chronicles the history of PlayMakers Repertory Company, UNC's professional theater-in-residence. Owen is pictured at lower left in this 1980-1981 photo taken in the Graham Memorial costume shop. She joined the faculty in 1974 and recently retired. Do you remember your time in the department of dramatic art or with PlayMakers? Share a memory with us by writing **college-news@unc.edu**.

‘Undergraduate research changed my life’

INTERVIEW BY KIM WEAVER SPURR ’88

Troy Blackburn (B.A. exercise and sport science ’98, Ph.D. human movement science ’04) is a professor of exercise and sport science and associate dean of the Office for Undergraduate Research. He says becoming involved in undergraduate research at Carolina “literally changed my life. It was without question the best experience I had as an undergrad.”

• *Troy Blackburn (pictured at a 2019 undergraduate research celebration) said students who participate in research learn valuable communication and leadership skills.*

Q: ***Tell us briefly about your research in the department of exercise and sport science.***

A: My research focuses on trying to identify biomechanical and neuromuscular factors that cause knee osteoarthritis, as well as rehabilitation approaches to prevent development of this disease or slow its progression. We primarily conduct studies on people who have injured their anterior cruciate ligaments, as they are at heightened risk for development of rapid knee osteoarthritis.

Q: ***What would you say to a student who is reluctant to get involved in undergraduate research?***

A: I always tell students that I’m still not 100% sure what I want to do when I grow up, but that I’m certain of a lot of things that I do not want to do because I’ve tried them. You never know until you try, and there are limitless things to try at Carolina. When I came to UNC as an undergraduate, I had no idea what research was, much less that I could do it and actually like it. Students should be bold and actively seek out opportunities to identify their passion.

Q: ***How can students find out about research opportunities and funding for their projects?***

A: Start by taking classes and going to campus events to find out what interests you and how those interests might be part of research going on at Carolina. The Office for Undergraduate Research has numerous ways to help students get involved with research, including workshops, an online database of research opportunities and appointments with staff members. Students can also meet with peer mentors in our Student Ambassador program. Students should remember that faculty are generally very passionate about their research, and it’s a topic they love talking about. Striking up a conversation with a faculty member during office hours is a great way to learn more about research and how to get involved.

Q: ***The University will launch the new IDEAs in Action general education curriculum in fall 2022. What role will undergraduate research play?***

A: Undergraduate research will play a central role in the IDEAs in Action curriculum. All students will engage in novel research to satisfy the Research & Discovery requirement through approved courses or mentored research experiences. This will be a great opportunity for students to learn problem-solving skills, build tolerance for obstacles and apply classroom knowledge to real-world problems. While the goal of the R&D requirement isn’t necessarily to develop future researchers per se, students should be careful … they just might like it!

Q: ***Tell us about University Research Week, which will be celebrated Nov. 8-12.***

A: University Research Week (researchweek.unc.edu) is designed to celebrate the vibrant research community at Carolina and provide opportunities for students to learn more about research and discover ways to get involved. Programming for the week involves symposia, workshops, tours of research facilities and interest group meetings. The theme is “Research Perseveres,” and much of the programming this year will focus on how the groundbreaking research being conducted at Carolina benefits the citizens of North Carolina, the United States and the world.

Q: ***What skills do students gain doing research that they can use in their future careers?***

A: Undergraduates who participate in research display greater gains in communication and leadership skills, tolerance for obstacles, independence, self-confidence and problem-solving skills compared to their peers who do not participate in research.

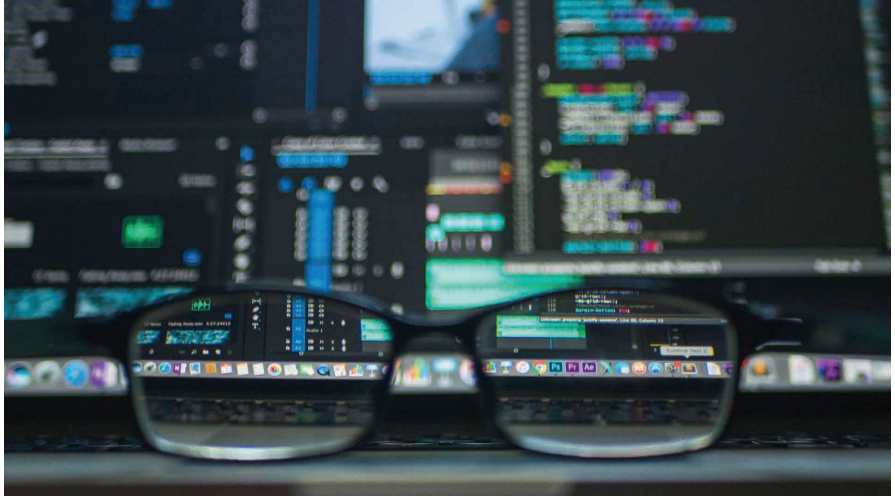
➤ *Learn more about undergraduate research at our.unc.edu.*

New data science minor launched this fall

A multidisciplinary data science minor, based in the College but open to all undergraduates, will introduce students to methods and applications that are used in basic and applied sciences, the humanities, social sciences and other disciplines.

The department of statistics and operations research, better known as STOR, introduced the minor this fall. It is an important component of the soon-to-launch data science initiative, a pan-University effort.

When people hear "data science," they might think of tech jobs: programming the algorithms that generate the ads that pop up on social media or the statistical analysis used to predict online behavior. But data science is applicable to a wide variety of social science and humanistic fields where numbers-crunching, analysis and data interpretation are required.



• *Five courses are required to fulfill the minor. Students can choose data science electives from more than 20 departments both inside and outside the College.*

"So many jobs these days involve working with data of some form, and new hires are increasingly expected to know how to draw insights from it," said Mariana Olvera-Cravioto, associate professor in STOR who is leading the new minor.

To minor in data science, a student will take five courses in all. Three of the courses fulfill core requirements: Data and Computational Thinking; Data and Statistical Thinking; and Data, Culture and Society. Students will also take two elective courses, selecting among dozens of offerings from more than 20 departments. Most of the electives are in College departments, but the Gillings School of Global Public Health, the Hussman School of Journalism and Media, and Kenan-Flagler Business School also have elective courses in the minor.

➤ *Learn more at datascience-college.unc.edu.*

Photos by Donn Young

• *Karla Slocum and Greg Copenhaver*

Two new faculty join dean's senior leadership team

Two new faculty members have joined the dean's senior leadership team: Karla Slocum, the associate dean for diversity, equity and inclusion, and Greg Copenhaver, associate dean for research and innovation.

In 2021, Dean Terry Rhodes announced that the College would be elevating the director of faculty diversity initiatives to an associate dean position. Slocum, the first person in that role, has distinguished herself as a leader in her 25 years at Carolina. She is the Thomas Willis Lambeth Distinguished Chair in Public Policy in the department of anthropology and has served as director of the Institute of African American Research since 2013.

At IAAR, she led a number of programs that facilitate and raise the visibility of diverse approaches to scholarship on race. This past year, she oversaw the IAAR's SLATE initiative — Student Learning to Advance Truth and Equity, an initiative to engage undergraduates in a critical understanding of race, racism and racial equity, especially as they concern African Americans.

Slocum's research interests focus on the social dynamics of race and community, especially historic rural Black communities in the African diaspora.

Copenhaver replaces Chris Clemens in the research and innovation dean role.

A member of the UNC faculty since 2001, he shares joint appointments as a professor in the department of biology and the Integrative Program for Biological and Genome Sciences. He also served on committees that led to the formation of the College's Shuford Program in Entrepreneurship. He has taught in the program since 2008. In addition, he is affiliated with the UNC Center for Bioethics, the Lineberger Comprehensive Cancer Center and the curriculum in genetics.

He has also made important contributions to science outside the university setting and has experience launching a startup: He co-founded and grew a biotechnology company and has been at the forefront of promoting open-access science by serving as editor-in-chief at *PLOS Genetics*.

Carolina Performing Arts announces Southern Futures initiative

• *Rhiannon Giddens will begin a three-year residency in the spring focused on Southern Futures.*

Carolina Performing Arts has announced "Southern Futures at Carolina Performing Arts," an initiative that meets a pivotal moment in history by engaging artists and community partners in restorative justice and co-creation.

Southern Futures at CPA will produce new works, collaborations and research on social justice, racial equity and the American South. The organization has named Grammy and MacArthur Award-winning musician Rhiannon Giddens to a three-year research residency beginning in spring 2022. Giddens will focus on discovering and sharing cultural artifacts and local histories that challenge entrenched narratives and monolithic thinking on topics central to Southern Futures, an initiative of the College of Arts & Sciences, University Libraries, CPA and the Center for the Study of the American South.

CPA will commission artists to make new works on themes central to Southern Futures. The artists will complete residences in Chapel Hill, partnering with community members to co-create works through restorative justice practices.

"The Southern Futures mission statement is a call to collective action: Reimagine the American South," said Elizabeth Engelhardt, co-director of Southern Futures and senior associate dean for fine arts and humanities. "We bring artists and performers together with students, faculty, archivists, community leaders, scholars and researchers in service of an American South that is ethical and just for everyone."

Southern Futures is co-led by Jacqueline Lawton, associate professor of dramatic art.

• *Lamar Richards speaks at the fall New Student Convocation.*

Student Body President named Presidential Fellow

Lamar Richards, a UNC junior and student body president, has been named a 2021 Presidential Fellow.

The Center for the Study of the Presidency and Congress sponsors highly qualified, academically gifted and service-oriented students from top schools around the nation. This year approximately 55 scholars were chosen.

Presidential Fellows complete research on their individual campuses in a specific area of social science and present that research in front of members of Congress and the Executive Branch. A publication will highlight the fellows' research. The scholars will receive financial support throughout the duration of the nine-month fellowship.

Richards is a public policy major in the College and a human organizational leadership and development major in the School of Education. He is also pursuing a psychology minor. He is passionate regarding matters of social justice, racial equity and civil rights.

Richards has served the University in many leadership roles prior to being elected student body president in February — including vice chair of the finance committee in the Undergraduate Senate, chair of the Commission on Student Equity and chancellor appointee to the Campus and Community Advisory Council.

He is also a Buckley Public Service Scholar and has recently finished up work this past summer as a 2021 SECU Public Service Fellow.

• *A ribbon-cutting ceremony marks the opening of the Asian Asian American Center on Cameron Avenue.*

New Asian American Center opens

The new Asian American Center, led by Heidi Kim of the department of English and comparative literature, gives students, faculty and staff of Asian descent a place to call their own.

The center opened on Cameron Avenue with a small ribbon-cutting ceremony in August.

The creation of the center during the COVID-19 pandemic and a surge in violence against Asian Americans was particularly profound timing, Kim said.

"I can't think of a year in history that more clearly demonstrated the need for an Asian American Center that is devoted to supporting the Asian American community and educating our students and our state on the complex and diverse history of Asian America, with all of its painful and glorious moments," Kim said at the ceremony.

Chancellor Kevin M. Guskiewicz recalled making dumplings with donor Barb Lee, former chair of the Board of Visitors, at an early fundraiser for the center, and called the trustees' vote to establish the center one of the highlights of his administration.

"There is still much work to be done as we build our community together," he said. "But today is really about celebrating important work of building diversity here on our campus."

The University's largest ethnic minority — currently 17% of the student body — have been talking about a center of their own since the 1980s.

"It's actually unbelievable — to have a home and a living room for Asian Americans on campus," said Eugene Lao '91, who co-founded the Asian Students Association more than 30 years ago and made the first gift to the new center.

Four faculty inducted into national academies

Four College faculty members were recently inducted into the National Academy of Sciences and the American Academy of Arts & Sciences.

Elected to NAS, all from the department of biology, were:

• **Kerry S. Bloom**, chair and Thad L. Beyle Distinguished Professor. Bloom takes an integrative approach to understanding the structural basis of chromosome segregation. His research represents the forefront in the challenge to deduce structures of large macromolecular complexes in living cells in real time.

• **Joseph J. Kieber**, Kenan Distinguished Professor. Kieber studies how cells communicate in plants to control their growth and development and to respond to changes in their environment. Cell signaling touches nearly all aspects of biology, including many processes central to human health.

• **Edward D. Salmon**, James Larkin and Iona Mae Ballou Distinguished Professor emeritus. Salmon is a cell biologist and biophysicist who pioneered the development of video and digital imaging microscopy methods for analysis of molecular and structural dynamics in living cells.

• In addition, **Arturo Escobar**, Kenan Distinguished Professor Emeritus of anthropology, was elected to the AAAS.

Escobar's main research interests are political ecology, autonomous design theory and the anthropology of development and social movements. He works to understand why hunger exists worldwide.

Since Escobar retired in 2018, he has directed much of his time toward designing a new model of sustainability for the Cauca River Valley — a 500-kilometer valley between two mountain chains — in his native Colombia.

Dean Terry Rhodes to retire in June 2022

Terry Rhodes, dean of the College of Arts & Sciences, will retire at the end of the academic year after a 35-year career at Carolina.

Rhodes has been dean of the College since March 2020, previously serving as interim dean for a year. Her two-year term as permanent dean will end in June 2022, which has been her target retirement date since assuming the interim role in July 2019.

Rhodes was senior associate dean for fine arts and humanities from 2012 to 2019. In 1987, she joined the faculty and has served the University in a variety of roles, including director of UNC Opera, chair of the department of music and faculty marshal. She is the first faculty member from the fine arts to be named dean of the College since it took its modern-day name in 1935.

"It has been an honor — and distinct joy — these past few years to lead the school from which I graduated," Rhodes said in a message to faculty. "I'm a Tar Heel born and bred, a Raleigh native who graduated from Carolina with a bachelor's degree in music in 1978. What I value above all are the people with whom I have worked and students I have taught: my leadership team in the Dean's office, the College's department chairs, faculty, staff and students, and my colleagues across the University."

The College is the largest academic unit at Carolina, with over 17,000 undergraduate students and 2,000 graduate students, and more than 70 academic departments, curricula, programs, centers and institutes. Under Rhodes' leadership, the College is preparing to launch a new general education curriculum, IDEAs in Action, in fall 2022. This new curriculum represents the core requirements that every Carolina student will take regardless of major.

Last year, the College played a significant role in launching Carolina Away, an entirely remote learning experience for first-year and transfer students, in response to the COVID-19 pandemic. The program is continuing this semester.

Rhodes oversaw the debut of a new academic department: earth, marine and environmental sciences, created from the merger of the departments of geological sciences and marine sciences and the Institute of Marine Sciences. She also introduced Southern Futures, a pan-University collaboration designed to make Carolina the place to which the nation and world turn to understand and imagine the South's future.

Rhodes has sought to strengthen scholarship and increase diversity and inclusion in the College. She designated six faculty lines to be part of a Health and Wellness in Communities of Color cluster hiring initiative as well as two other faculty lines focusing on U.S. slavery. She also appointed the College's first associate dean for diversity, equity and inclusion.

• *Terry Rhodes became the first College dean from the fine arts.*

Other important initiatives launched during her tenure include:

• The Program for Public Discourse, a program of curricular and extracurricular offerings designed to build students' capacity for civil debate, dialogue, discussion and conversation.

• Reckoning: Race, Memory and Reimagining the Public University, a shared learning experience that supported student inquiry and dialogue. In fall 2020, its successor, Student Learning to Advance Truth and Equity, or SLATE, led by the Institute of African American Research, was launched and is continuing this fall.

• Countering Hate: Overcoming Fear of Differences, a collection of programming and courses that enabled the University community to explore the phenomena of antisemitism, Islamophobia and other forms of intolerance and prejudice.

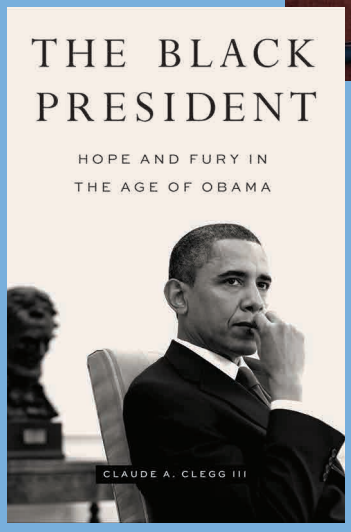
• A new minor in data science, designed to provide students with majors across the arts and sciences with the tools they need to understand and interpret data.

The College's Arts and Sciences Foundation has raised approximately $200 million since since Rhodes started as interim dean in spring 2019. Significant gifts include a $25 million bequest for graduate student funding from an anonymous donor, $8 million for the Program for Public Discourse from Nancy and Doug Abbey, and a leadership gift from Vicki and David Craver to endow the College deanship.

Writing history in real time

BY GENEVA COLLINS

On Election Night 2008, Claude Clegg, eyes glued to cable news, was chatting with a relative on the phone in the moments before Democratic nominee Barack Obama was announced the winner of the presidential election. Both were marveling at the prospect of the first Black man to hold the nation's highest office, and Clegg knew then that he wanted to write a book about the Obama presidency, whatever it may hold.



The result is *The Black President: Hope and Fury in the Age of Obama* (Johns Hopkins University Press, 2021). It is a breathtakingly comprehensive account, beginning with Obama's early years and his journey to the national stage, covering his eight years in office and then the post-Obama era — ending with the January 2021 insurrection that followed his successor's refusal to concede in the 2020 presidential election.

When you're a historian by training, how do you write about events happening in real time?

"Historians are used to looking in the rearview mirror — we're interpreters of what happened," said Clegg, the Lyle V. Jones Distinguished Professor and chair of the department of African, African American and diaspora studies, who holds a joint appointment in the department of history. Watching Obama's terms in office unfold "put me in a situation where I had to collect *everything*, essentially build my own archive, since I didn't know what the eventual historical takeaway would be — news sites and speeches and YouTube videos and memoirs, and interviewing people serving in the administration. I had to collect it all with the hope that I'm not going to overlook something."

One of the book's overarching themes focuses on how the diversity of Black America has led to complex and fractured views of the Obama presidency. For example, there are many Blacks who thought Obama should have done more for them since it was their overwhelming support that got him elected. Clegg acknowledges the dilemma Obama faced — he needed to retain support from whites, the majority of whom did not vote for him, and thus he didn't want to appear to play favorites. His approach was to advance initiatives, such as the Affordable Care Act and support for Pell Grants, in which everyone benefited, but lower-income individuals would benefit most, said Clegg.


Donn Young

• *Historian Claude Clegg said writing* The Black President *took him out of his comfort zone because he was chronicling events in real time, without benefit of historical perspective.*

"In contrast, President Biden, a white male, is able to more fully embrace his Black constituency," said Clegg. "Shortly after he took office he said, 'I'm going to support the Black community because they have my back.' I couldn't imagine Barack Obama saying that."

It was important that his book cover not just Obama's years in office but the period that followed, Clegg explained, because "you can't fully contextualize the Obama presidency outside of the forces and the interests and opposition that made a Donald Trump presidency possible."

On the flip side, he believes that Kamala Harris, as a woman of color, is vice president also because of Obama: "He opened doors for people who don't look like the 43 prior residents of the White House."

Last spring, Clegg taught a course on the U.S. presidency. He said that during the week spent covering Obama, he was struck by "students asking the same kinds of questions, making the same kind of comments about Obama that they were about, say, Franklin Roosevelt."

Students in his classes today were too young to have voted for Obama, but "when they were growing up, it doesn't matter who their parents voted for, when they first knew who the president was, during their formative years, it was a Black guy in the White House for eight years. … I don't think we can fully process how significant that is."

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