

CAROLINA

# ARTS & SCIENCES

FALL • 2022

## IN THE FIELD

A summer of discovery for Carolina researchers

### ALSO INSIDE:

- When IDEAs meet action
- Meet Dean Jim White
- Exploring the multiverse

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL



## A fall of firsts

These past few months have been filled with many firsts since I assumed the deanship of the College of Arts and Sciences in July and began learning my way around this beautiful campus. I've enjoyed my first student convocation, first time greeting students lined up at the Old Well for their good luck sip, first meetings with my department chairs and faculty, first advisory board meetings and visits with alumni, and, now, my first dean's message in *Carolina Arts & Sciences*. (You can read more about my background and my aspirations for the College on p. 20.)

But the "first" I am most excited about is that the College has launched its revolutionary new IDEAs in Action general education curriculum this fall. The Class of 2026 is the first group of students to experience it, but when fully implemented over the next four years, it will be the core education that every Carolina undergraduate receives, regardless of their major.

Years in the making, IDEAs in Action is designed to be innovative, inclusive and global. It emphasizes critical thinking and experiential learning. It prepares students for careers and lifelong learning. It's an easy prediction that our pioneering approach will become a model for others to emulate. Once again, Carolina has set the bar high. Please join me in my excitement by reading more about IDEAs in Action starting on page 2.

Sincerely, Jim White



Kerry Irish

*I visited the College's coastal marine lab in Morehead City in August and accompanied students as they took sediment samples in Bogue Sound.*

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Using mapping technologies to help communities, telling stories below the seafloor, boosting the College's DEI efforts, exploring a cosmologist's theory of the multi-verse and celebrating art + science in a new mural on the N.C. coast.

### Cover Photo:

Emma Reinhardt, a UNC-Chapel Hill Ph.D. student, stands in a field near Molas Pass in Southwest Colorado in search of Lincoln's sparrows. This past summer, a team of students spent six weeks studying these small, brown birds to answer basic biological questions.

*(Photo by Alyssa LaFaro)*



BY MICHELE LYNN

# LIFELONG LEARNERS AND LEADERS



Donn Young

***A new general education curriculum launched this fall at Carolina and is designed to support students as they engage in their communities and the world.***

With the goal of ensuring that Carolina undergraduates gain the skills and knowledge needed to become lifelong learners, UNC launched a new undergraduate general education curriculum this fall. Known as IDEAs in Action, the curriculum is designed to be innovative, inclusive and global. Students will develop their own path while honing strategies needed to contribute to the world as engaged citizens, scholars, community members and leaders. They will also strengthen their abilities to think critically, work collaboratively and communicate persuasively.

All first-year and transfer students were introduced to the new curriculum as they signed up for their fall semester courses; upper-class students will finish their academic careers under the old curriculum.

A diverse group of faculty and other stakeholders worked for more than five years to develop and pilot several aspects of the new curriculum, which was approved by the Faculty Council in 2019. (The pandemic delayed the curriculum's implementation). IDEA stands for identify, discover, evaluate and act — and it focuses on four main outcomes for students:

*Andy Lang teaches a College Thriving class, which is designed to help first-year students learn to successfully navigate life at Carolina.*

- **I**dentify pressing questions, problems and issues
- **D**iscover ideas, evidence and methods that inform these questions
- **E**valuate these ideas, evidence and methods
- **A**ct on the basis of these evaluations.

A key element of the curriculum is a more structured first-year experience, with a set of required courses. First Year Foundations is composed of five classes that students may take in either semester. Three of the five — First Year Seminar/ First Year Launch, University Writing and a Global Language — existed in the prior curriculum. The new classes — Ideas, Information and Inquiry (known colloquially as Triple-I) and College Thriving — were piloted for a year or more in advance of the formal launch of IDEAs in Action.

“The literature indicates that it’s beneficial for students to have a shared and introductory experience in their first semester,” said Nick Siedentop, director of undergraduate curricula in the Office of Undergraduate Education. “Giving students the foundation for how to succeed as a college student — how to be resilient when they experience challenges during their academic career and how to explore UNC’s different programs and majors — offers them a great start.”

Marsha Dopheide, a teaching assistant professor in psychology and

neuroscience, leads the new College Thriving initiative. She said College Thriving provides first-year students early exposure to a variety of tools to succeed not only on campus, but in their lives.

“The biggest goal is for students to develop meaningful connections on campus, create strategies for academic success and reflect on the ways that resilience and well-being will support their ability to reach their full potential both in and out of the classroom,” Dopheide said.

Students will encounter a broad array of academic ideas through classes that fulfill different “focus capacities.” These include: Aesthetic and Interpretive Analysis; Creative Expression, Practice and Production; Engagement with the Human Past; Ethical and Civic Values; Global Understanding and Engagement; Natural Scientific Investigation; Power, Difference and Inequality; Quantitative Reasoning and more.

## **THRIVING IN COLLEGE — AND IN LIFE**

Justin Forbes '25 said that it can be a tough transition from high school to college. After juggling many extracurricular activities while excelling academically in his Pennsylvania high school, he assumed that the same tactics he used in high school would work at UNC.

“College is different in many ways, especially as someone who came from a small high school where I knew all my



teachers by name, and they knew me,” said the biomedical engineering major.

After completing one of the College Thriving pilot classes, Forbes said he believes this new addition to the curriculum is valuable in providing students ways to balance academics and extracurricular activities and prioritize mental health.

College Thriving is designed to

and neuroscience who helped develop the pilot.

Integrated, cross-departmental Thrive Hubs provide opportunities for the Academic Advising office “to partner with students to consider how their unique undergraduate and co-curricular experiences fit in with the larger goal of creating a life with purpose and meaning,” Dopheide said.

students to be savvy consumers and producers of data and information, which will serve them well whether they go to graduate school or pursue a career,” said Andy Lang, associate dean of information technology and data analytics, who developed this element of the new curriculum. Lang is also teaching a College Thriving class.

“Data science is no longer just a STEM or technology-related field,” said Arnav Gunwani ’25, who plans to major in business and was in one of the pilot data literacy sections last year. “Even fields like government, anthropology and other liberal arts subjects all use some form of data analysis now.”

“We’re trying to help students become critical consumers of the information that they are bombarded with,” added Caitlin Smith, faculty director of the data literacy component. “It’s vital to be able to critically examine information that supports a particular statement.”

Throughout their undergraduate years, students will reinforce the concepts they are learning in the classroom by immersing themselves in hands-on learning experiences. These include high-impact experiences such as mentored research, study abroad, service learning and internships.

“How is this new curriculum benefiting our students? We’ve asked ourselves that every day over the last few years, and we’ll continue to evaluate how well our intentions are actualized in students’ learning going forward,” said Abigail Panter, senior associate dean for undergraduate education. “We want all students to succeed — to be able to transition from high school to this large public research university and then to graduate study, a career and lifelong learning. We want to provide them with opportunities to practice the skills needed for life, such as producing high quality intellectual work, discovering, collaborating and communicating. Through IDEAs in Action, students will explore their passions, reflect regularly on their learning and integrate ideas in new ways to prepare them for life beyond Carolina.”

► [Learn more at ideasinaction.unc.edu](https://ideasinaction.unc.edu).



From left, Rebecca Carter, Karina Goping and Morgan Griffith engage in a discussion in Lang’s class as the fall semester kicks off.

empower students to participate fully in the opportunities of a major research university. Instructors hold weekly small group meetings with first-year students to provide a safe learning space for them to foster connections with peers, engage with varied campus resources and develop their skills to thrive at Carolina and beyond.

“When students learn strategies to cope with stress, practice self-compassion and self-care and make positive connections to others on campus, they will learn more effectively and be able to fully benefit from the opportunities available to them at a diverse liberal arts university,” said Erica Wise, an adjunct professor in psychology

### TRIPLE-I AND DATA LITERACY

Triple-I courses are another required component of the new curriculum. The classes are team-taught by three professors from different disciplines, offering a range of perspectives on a topic. This fall, courses include “Gender,” “Fake News, Real Science,” “The Future of Food: Technology, Policy, and Culture,” and “What is Art? Where is Art?,” among others.


Each Triple-I class is paired with a one-credit data literacy lab. In that lab, students formulate research questions, learn how to organize a research paper, discuss ethical issues that arise and learn techniques to analyze and use data.

“The data literacy course prepares









*Four UNC students  
spent their summer  
in Colorado studying  
Lincoln's sparrows  
in search of answers  
to fundamental  
biological questions.*

In the San Juan Mountains near Silverton, Colorado, four UNC-Chapel Hill students wake at 5 a.m. to melodic phone alarms and amble out of their dew-soaked tents. They sleepily shimmy into rainproof jackets, pants and knee-high rubber boots. After breakfast, they clamber into their white van to head to the field site a half-mile down the road.

Armed with notebooks, binoculars and a directional microphone, they hop on the Colorado Trail near Molas Pass and make a 10-minute trudge through shin-high grasses slick with frost before plopping down in a meadow. Then, they listen for birdsong.

This is the first of many research activities the students will engage in throughout the day. They're here as part of biologist Keith Sockman's lab, collecting data on elusive Lincoln's sparrows.

*continued*

*Emma Reinhardt, a doctoral student in biology, spent summer 2022 studying the birdsong of Lincoln's sparrows in Southwest Colorado to determine if the order of notes in a song matters and how songs evolve over time.*

# CROUCHING RESEARCHER, HIDDEN SPARROW

STORY & PHOTOS BY ALYSSA LAFARO





**ABOVE:** Lincoln's sparrows typically lay one egg per day for four days. **RIGHT:** Nico Frasson searches for the birds near one of their nesting sites.

For Sockman and his lab, Lincoln's sparrows are a goldmine of information. But getting to them isn't easy. Their nesting site sits at nearly 11,000 feet, so the air is thin and, like most mountain ecosystems, the weather is unpredictable — even in summer. The small brown birds with striped heads nest on the ground at the base of chest-high woody bushes in an open wetland. Hunting for their tiny nests can be a grueling, hours-long process.

Sockman has been studying this population of sparrows since 2005 and has made multiple discoveries during that time. Egg order, for example, matters. Lincoln's sparrows typically lay one egg per day for four days. The first egg is least likely to hatch, while the fourth is least likely to fledge the nest. Hatching order also predicts bill shape. Last-hatched nestlings have wider, flatter bills than their older siblings, which can make their songs less attractive to potential mates.

But the most important discovery, according to Sockman, is that a female Lincoln's sparrow will modify the size of her egg based on how previous eggs performed — which shows their ability to adapt, something called plasticity.

"By studying one population for a long time, I can make more ecologically important discoveries," Sockman says.

This year, two of Sockman's Ph.D. students are collaborating with him and running their own projects in the process. Emma Reinhardt is recording male birdsong and remixing it randomly to study its evolution and



determine if the order of notes in a song matters. Nico Frasson is collecting tissue samples to identify where the birds migrate in the winter to learn how migration affects health, survival and breeding success. They are accompanied by two undergraduates — junior Torin O'Brien and senior Colleen Whitener.

They spent six weeks primitive camping through hard rains and cold nights, waking up in the pre-dawn hours to record as much as they could about these little brown birds.

## THE BIRD DJ

"Over there!" Reinhardt whispers excitedly to the group.

In unison, they lift their binoculars. A male Lincoln's sparrow has just flown into a nearby tree. Reinhardt creeps





**ABOVE:** *An adult Lincoln's sparrow hangs out in a willow shrub near its nest.*

across the meadow to a neighboring bush and hides a turquoise speaker among the branches. After rejoining her teammates, she signals to Whitener to start recording and presses “play” on her iPhone. Birdsong emanates from the small speaker and eventually, after a minute or two, the male sparrow flies down to the bush and listens. Then, he begins to sing a beautiful, complex song.

This is Reinhardt’s second field season at Molas Pass, and she couldn’t be more excited. She began her Ph.D. program at UNC-Chapel Hill in 2020 — a time when she didn’t know what the next day would bring, let alone when a field season would happen. During that period, Sockman suggested she begin listening to his past recordings of Lincoln’s sparrows and how they use syllables, the repeating segments within their birdsong.

One song contains anywhere from four to eight different syllable types, which can vary in the number of times they’re repeated and their position in the song. As Reinhardt dove into decades-worth of Sockman’s data, she grew more and more entranced. At first, she wanted to know how the syllables changed over time and began creating a lexicon of the birdsong.

“It’s almost like an evolutionary tree for the sounds these birds are making,” she says.

This stimulated more and more questions. Are new syllables appearing in later years? And if so, are they similar to the ones from previous years?

“I noticed that some of these syllable types will only occur in the first part of a song, or they’ll only occur adjacent to another syllable type. I found that interesting — that it was so highly stereotyped. Even though there’s a high variability between songs and between males, they tend to stick to the same syntax.”

Syntax is how words and phrases are arranged to form a sentence. Reinhardt wants to know if syntax matters in birdsong and how females’ mate selection influences both sexual and cultural evolution.

“There is some evidence of syntax in songbirds, but it’s understudied and not well understood,” she explains. “I think there’s a general assumption that birdsong lacks complexity, that birds are just kind of repeating things they

*continued*





**ABOVE:** *The students spent six weeks primitive camping at Molas Lake Campground, fewer than five minutes from their field site.*

know, and that order doesn't necessarily have meaning. It would be interesting if we could show that order really does matter, and that syntax conveys salient information for when females are selecting mates."

To study this, Reinhardt remixes previously recorded birdsong from Lincoln's sparrows using a random number generator. She also uses a standard, unmixed recording that acts as a control. Then, out in the field, she plays these tracks — the scrambled song on one day and the control on another — and records the responses and behaviors of male Lincoln's sparrows.

Reinhardt delights in the fact that the sparrows are responding to the recordings at all. She wasn't sure her experiment would work. Now back in Chapel Hill, she is analyzing the recordings she collected.

## THE MIGRATION DETECTIVE

Each morning, Frasson is the first one out of his tent — about 15 minutes earlier than his fellow researchers — to soak in the quiet. He uses this extra time to gather his thoughts and make tea for the team, which he hand-delivers to each member before they depart the campsite.

After completing his biology degree in France, Frasson explored his interests to figure out if he wanted to attend graduate school. He worked with labs across France, Italy, Canada and the United States, studying a variety of animals, from small fish called sticklebacks to elephant seals.

Now a first-year Ph.D. student at Carolina, Frasson focuses on physiology, behavior and speciation — how populations diverge to create new species. He studies this in Lincoln's sparrows via their migration patterns, which can provide information about health and breeding. To uncover where these birds migrate to in winter, Frasson collects toenail clippings, feathers and blood for isotope analyses.

Isotopes are made up of two or more forms of the same element and are in everything — from the food we eat to the air we breathe. This means they're a reflection of the environment an organism spends time in and can be traced through the tissue samples Frasson collects.

Frasson and Reinhardt capture Lincoln's sparrows two ways. The first involves laying 50 strategically placed traps along a 1.5-mile route that encircles the field site and resides near nesting areas. Each morning around 7:30 a.m., when Reinhardt wraps up her birdsong experiments, the





**ABOVE:** *The research team, from left to right: Torin O'Brien, Nico Frasson, Colleen Whitener and Emma Reinhardt. LEFT:* *A view of a mountaintop near Spencer Peak reflects in a parking lot puddle at the Molas Pass trailhead.*



undergraduates head out to open the traps and bait them with birdseed.

On a good day, they catch four to five Lincoln's sparrows. When they do, they carefully remove them from the trap and check whether the bird has been banded with a bracelet with a federal identification number. If it hasn't, they give it one so they can track it over the course of its life and upload the data they collect to the U.S. Bird Banding Laboratory's website.

They proceed to take a series of measurements, including the bird's weight and the size of its beak, legs, wings and tail feathers. Once they've recorded these stats, Frasson

clips a few toenails, collects two tail feathers, and carefully draws a small vial of blood for analysis. Then, he splays his palms, and the bird soars into the sky.


For birds that elude these traps, the researchers use a mist net — a lightweight net they can place anywhere within the field site.

After a successful field day — which lasts anywhere from six to 10 hours — Frasson returns to the campsite to process his tissue samples. He pulls large, shallow boxes overflowing with glass vials out of a shared trailer and adds his specimens from the day. He pops the hood on the passenger van and hooks up a battery big enough to power the centrifuge, which spins the blood to separate red blood cells used to identify the stable isotope signature of the birds. After 15 minutes, he removes the samples and stores them in the fridge.

Then it's time to relax — until the next day in the field.

Everyone heads to Reinhardt's trailer to play cards, but they don't totally escape thoughts of their flying friends — the deck features a dozen North American hummingbirds.





OLD FORT  
GATEWAY TRAILS

# A new day for

BY KIM WEAVER SPURR '88

# OLD

Jess Abel

**A creative collaborative supported by Southern Futures is conceiving a bright future for Old Fort in McDowell County, North Carolina, focused on sharing the town's history and creating opportunities in the outdoor economy.**

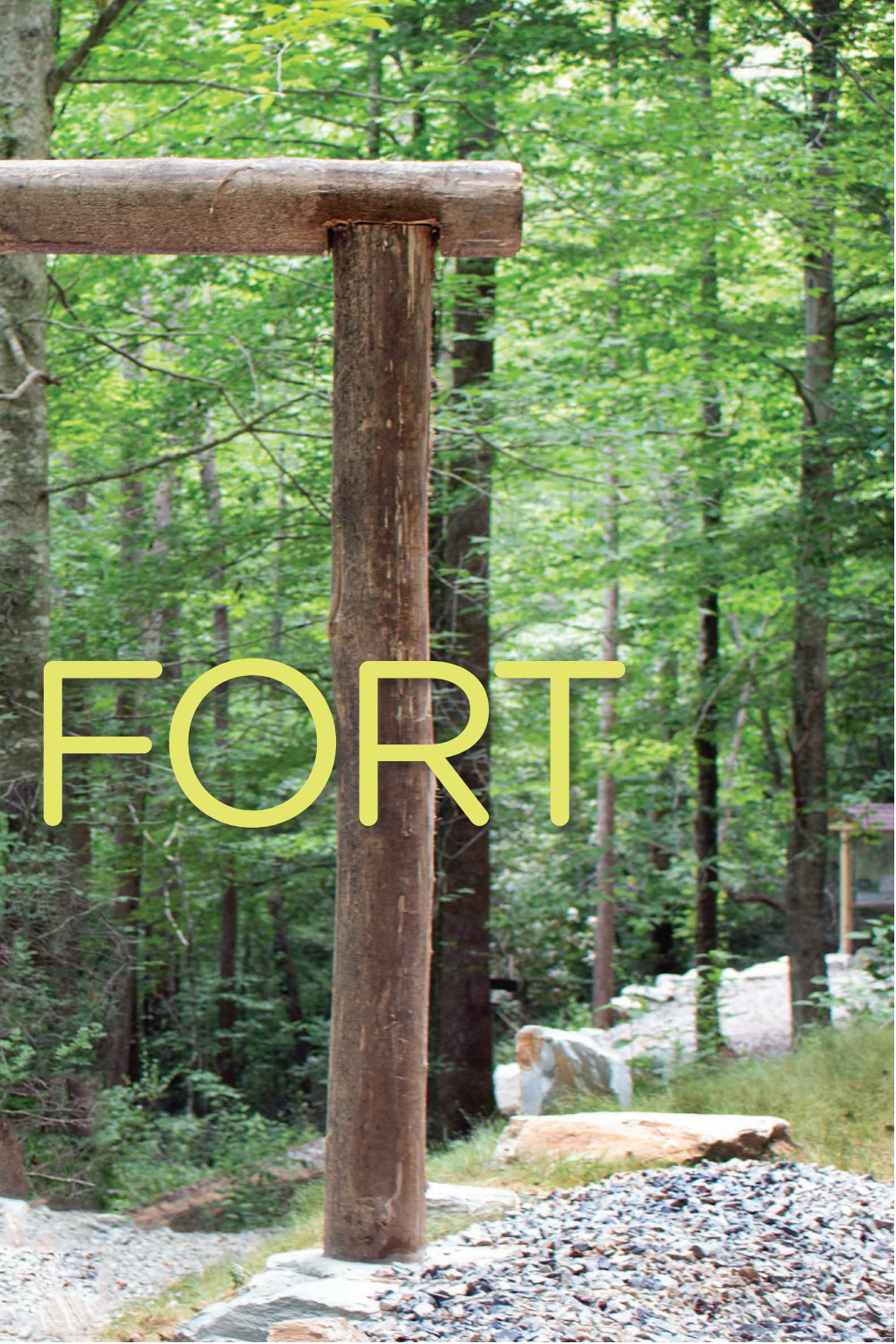
Old Fort native Lavita Logan remembers fondly the childhood summers she spent swimming in Curtis Creek. Her father introduced her to a love of the outdoors, a passion she still shares today.

In June, a ribbon-cutting celebrated the opening of six miles of accessible, multi-use trails at the Old Fort Gateway Trailhead in the Pisgah National Forest near that same gurgling creek.

Hundreds of trail enthusiasts gathered on a cloudy day to explore the first phase of a 42-mile trails project that will roll out over the next five to 10 years. Mountain bikers high-fived hikers, kids splashed in the creek searching for water critters, and riders saddled up horses for their turn on the trails where the rhododendron was in full bloom.

Logan leads the group People on the Move Old Fort, a program of the West





# FORT

Marion Community Forum. It is part of a diverse partnership called the Catawba Vale Collaborative that spearheaded the trails project and is re-imagining a new future for Old Fort — one in which locals, especially people of color, take advantage of the town's outdoor recreation assets and play a key role in tourism-related small business development.

The collaborative also includes Camp Grier and its nonprofit G5 Trail

Collective, Eagle Market Streets Development Corporation, the U.S. Forest Service Grandfather Ranger District and university archaeologists from UNC-Chapel Hill and Texas Tech University. The project is supported by Carolina's Southern Futures initiative — a cross-campus collaboration that works toward equity, justice and possibility in the U.S. South.

Logan, who wants to get more

Black people out on the trails, said, "There's nothing like coming home to the mountains.

"I was driving down Highway 70 one day and I thought, 'This is so beautiful.' That's what has kept me here. This is the place where I need to be. I always wanted to make a change in my community."

## STORIES THAT MATTER

Jennifer Gates-Foster, associate professor of classics and archaeology at UNC, wants to dispel the romanticized version of swashbuckling archaeology as portrayed in movies. Archaeology is about supporting communities who seek to understand their past and how it shapes the present, she said.

Gates-Foster played a critical role in an important process that had to happen before the onset of the Old Fort trail construction. The National Environmental Policy Act, also known as NEPA, requires federal agencies to assess the environmental effects of their proposed actions prior to land development and "to create and maintain conditions under which man and nature can exist in productive harmony."

UNC's Research Laboratories of Archaeology has also supported the work.

"People tend to think of archaeology as the 'big dig' model, but it's also about the palimpsest of human impacts on the landscape — some of those are constructed impacts like remains of old homesteads or roads, but part of what landscape archaeologists do is look at human relationships with the land over the long term," she said.

In delving into the U.S. Forest Service archives, archaeologists are also learning about the history of the forest itself and its relationship to the community.

The dense forest that exists today is itself an artifact of human intervention due to the Weeks Act, a 1911 law that authorized the U.S. government to purchase land for conservation. It would be unrecognizable to the American Indian communities who lived there 200 to 300 years ago, or to people who occupied the area 10,000 years ago. Before becoming national forest, the land was logged for the timber and tanbark industries. *continued*





“The idea of telling the story of the forest is absolutely fascinating,” said Christopher Witmore, a colleague of Gates-Foster who is a professor at Texas Tech University and a North Carolina native. “It’s about how a forest that was completely clear-cut can return and indeed thrive. It’s a story of resilience.”

Archaeologists are working with a local stonemason and an architect to design cairns — stacked stone storytelling pillars — that offer opportunities for reflection and contemplation on the trails. Three of those markers will be placed in November, one at the gateway trailhead and two others at trail connector points.

Gates-Foster noted that these “pause points” will be very different from traditional wayfaring and interpretive park signs that people are used to seeing. Archaeologists will consult with tribal leaders of the Eastern Band of Cherokee Indians and the Catawba Nation (assisted by UNC’s Heather Lapham), the Forest Service and the community of Old Fort on the proposed designs.

“We want to highlight that the forest is a place that doesn’t have a single narrative,” she said.

“The whole project is driven by the idea that everyone should feel welcome. We’re not dictating a particular way of moving through the spaces, but rather inviting people into them.”

### THE VALUE OF STUDENT RESEARCH

Last fall, the nonprofit RAIL Project erected a memorial in Old Fort to the incarcerated workers who built the Mountain Division of the Western North Carolina Railroad, which still meanders through downtown today.

Cayla Colclasure, a UNC Ph.D. student in anthropology, received a Southern Futures Townsend Fellowship for work focused on prison labor and the railroad.

It was difficult and dangerous to build the railroad — workers blasted through mountain rock to construct multiple tunnels — and many died.

“After Emancipation, Black people were often unfairly arrested for crimes like larceny and put in prison camps to work on construction projects like railroads,” she said. “I’m interested in the camps themselves — built in the 1870s and 1880s — and how people are discussing this now and grappling with this history, especially in context of the larger project in Old Fort.”

[Visit [college.unc.edu](http://college.unc.edu) for a companion University Research Week profile on Colclasure.] The collaborative is involving UNC undergraduate students in the Old Fort project as well. A senior public policy capstone team will examine the economic impacts of the outdoor recreation industry on small mountain towns.



Colclasure and Gates-Foster also conducted a downtown walking interview with Stephanie Swepson Twitty and her husband, Paul — both natives of Old Fort — to further understand the town’s history, which has been affected by the closure of multiple manufacturing industries.

### IGNITING ECONOMIC DEVELOPMENT

Swepson Twitty is the CEO of Eagle Market Streets Development Corp., one of the collaborative partners. In July, EMSDC opened the Catawba Vale Business HUB, a coffee shop and co-working space, in a building on Main Street that dates to 1924.

On one side of the building, a colorful mural was painted in 2020 to honor two of the town’s civil rights heroes: George Sandlin and Albert Joyner.





Jess Abel



Darrell Cassell

**CLOCKWISE FROM TOP LEFT:** • A coffee shop and co-working space recently opened in this building, which features a mural honoring two Old Fort civil rights heroes. • Bikers celebrate the opening of the Old Fort Gateway Trails. • UNC associate professor Jennifer Gates-Foster shares information on archaeological work on the Old Fort trails with a visitor. • A forest ranger and trail-users enjoy conversation and the cooling waters of Curtis Creek. • Gates-Foster and UNC doctoral student Cayla Colclasure at the new trailhead gateway sign. • Lavita Logan (standing) with Catawba Vale Collaborative partners, from left, Stephanie Swepson Twitty, Jason McDougald and Lisa Jennings.



Jess Abel



Jess Abel

the idea of building a better community.”

Now that the first phase of trails is open, the work is just beginning. The second “Outdoors for All” summit in mid-October will again bring together diverse community participants, industry partners and trail enthusiasts to continue the discussion about creating equity in shared outdoor spaces.

Work is continuing on renovation of the old fire

Opportunity Appalachia recently awarded EMSDC and Camp Grier/G5 Collective two grants to spur economic development. Camp Grier will use the funding to develop a 75,000 square foot facility that will contain light commercial space, camping and van spaces, and long- and short-term rental lodging. EMSDC is working to rehabilitate an old furniture warehouse on Commerce Street into a mixed-use facility that would feature light manufacturing, commercial offices, retail and food space.

“Among our partners, there was an understanding that land is an asset, and that asset can drive the economy,” Swepson Twitty said at a community forum that was held in the train depot the day after the opening celebration. “This is a win-win for all the things that need to happen for a healthy, thriving community.”

### CHANGE IS POSSIBLE

The collaborative partners are aware of the pitfalls that can come with economic development leading to gentrification; they say they are committed to doing it right in Old Fort.

Lisa Jennings, recreation manager for the U.S. Forest Service Grandfather Ranger District, said when it comes to trail-building projects, Old Fort offers a unique model.

“The diversity of the collaborative and the areas that we all represent — trail users, the community, the archaeologists, the community college, small businesses — that’s what makes this project holistic,” she said. “That trust takes time, and it takes effort.”

Jason McDougald, executive director of Camp Grier and G5, adds that the team is the “secret sauce” that makes it work: “What keeps me here and engaged is

station in downtown Old Fort; it will house the McDowell Tech Workforce Education Center to support ecotourism, trail development and sustainability. A UNC journalism alumnus is working on a documentary film about the project. Gates-Foster and Colclasure have already done archival work and fieldwork for phase II.

As Jennings helped to put finishing touches on the trail gateway arch before opening day, the significance of this project to the town’s future hit her.

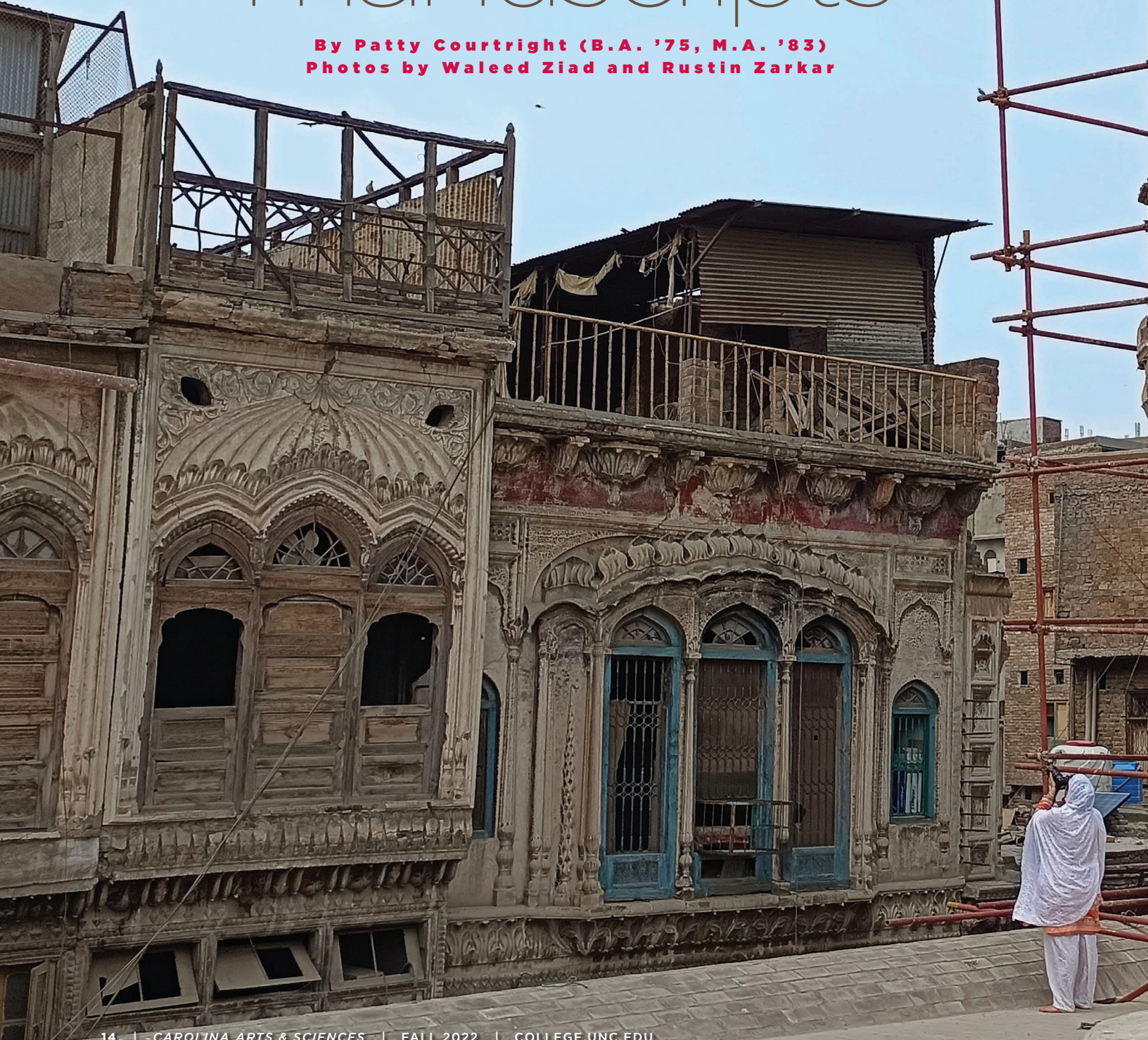
“We took photos and I thought, ‘How many people over hundreds of years will take pictures under this one spot, under this one sign?’ It’s a legacy that this collaborative can leave on the landscape forever.”

Read a previous story at [go.unc.edu/oldfort](https://go.unc.edu/oldfort).



# Preserving endangered manuscripts

**By Patty Courtright (B.A. '75, M.A. '83)  
Photos by Waleed Ziad and Rustin Zarkar**







*Religious studies scholar Waleed Ziad and UNC librarian Rustin Zarkar traveled to the Afghanistan-Pakistan border to work with local communities on digitizing and cataloguing endangered Sufi archives.*

• *LEFT: Lead archivist Nazia Akram documents historical buildings from the roof of a 17th-century mosque in Peshawar.* • *RIGHT: Setting up digitization equipment in Thana, Malakand.*



**continued**





The troubled border between Afghanistan and Pakistan has a rich, complex history that belies its current association with religious extremism. For the past 120 years, colonial writers have painted the people there as inherently fanatic and violent, a narrative so potent that even local communities accept it as reality, said UNC religious studies scholar Waleed Ziad.

Ziad, who has studied religious networks in the area for many years, wants not only to change that perception and show the cultural diversity of the area, but also to help preserve its wealth of literature and artifacts in a way that makes them accessible to people all over the world.

“For 98 percent of its history, this area has been a crossroads of civilization. It is an important intellectual and spiritual center, a place where multiple languages have coalesced and through which a significant part of the Silk Road trade has passed,” said Ziad, assistant professor of religious studies and Ali Jarrahi Fellow in Persian Studies.

“It is critical for the people who live along the Afghan-Pakistan border to know that their history is not one of lawlessness, ignorance and intolerance, that they are inheriting a legacy of religious and cultural diversity which cannot be erased by a few decades of political turmoil,” he said.

With support from a Modern Endangered Archive Program (MEAP) grant from the UCLA Library, Ziad and Rustin Zarkar, UNC Middle East and Islamic Studies Librarian, are working with a team of 15 local librarians, graduate students, historians and archive custodians on site to digitize and catalogue endangered Sufi archives of the 20th and 21st centuries along the Afghanistan-Pakistan border. (Sufism is the mystical dimension of Islamic belief and practice that seeks the truth of God’s love and knowledge and fosters it in the world.)

The rich sacred materials housed there include locally produced biographies and letters, poetry, texts on subjects ranging from magic to metaphysics, art from shrines and monasteries and anti-extremist posters in the Persian, Pashto, Arabic and Urdu languages.



TOP TO BOTTOM: • Waleed Ziad (second from left) interviewing an elder of the Naqshbandi Sufi order in Thana, Malakand. • Inside the Mahabat Khan Mosque in Peshawar. • Historical architecture in Peshawar.



## The inspiration for the project

The passion to preserve these artifacts began a decade ago when Ziad researched an important mystical network stretching from southern Asia to Siberia, based in Peshawar near the Pakistan-Afghanistan border. Today, he said, Peshawar is seen as a frontier city, but it once was the capital of one of the world's largest empires.

During his journeys, Ziad discovered information about a local saint who until his death in 2006 lived in the heart of the tribal areas as he managed Sufi monasteries on both sides of the border. He set up a Sufi center in North Waziristan — referred to by former President Barack Obama as “the most dangerous place in the world” — where he attracted thousands of spiritual seekers, both men and women. Throughout three extremely bloody wars in the 20th century, the man taught ancient meditative practices to help people in their spiritual journeys; he wrote poetry in four languages; he resolved intense tribal conflicts; and he wrote and published books on metaphysics, philosophy and history.

Ziad wanted to understand how the mystical networks remained viable in the midst of incredible turmoil and began the quest to gather documents and talk with the man's many disciples. That, combined with the discovery of thousands of rare works and manuscripts in a centuries-old Sufi center in Peshawar, spurred the inspiration for the current archival project.

Although the varied artifacts are housed primarily in Sufi shrines and monasteries, they embody the broader cultural, political and economic landscape of an area that was central to a large trans-national network of religion and communication — much as the Vatican Library preserves age-old information about science as well as faith, Zarkar explained.

## Digitizing, filmmaking and collaborating

Ziad has spent the past six months in the region gathering information for the project, and Zarkar was there for the first five weeks to work with the local teams who would comb through the materials, organize and digitize them.

“These are people who want to preserve valuable materials so they can tell the stories to the world — people who have the technical capacity and infrastructure to handle the entire process,” Zarkar said. His role was to set up the work flows and data management for the digitizing and cataloguing processes and train the local team to perform the work for the duration of the project.

*continued*

**TOP TO BOTTOM:** • Archival technician Shoaib Awan examining rare manuscripts at the Amir Shah Qadri Monastery Library. • The jeweler's market in Peshawar. • Late night kabobs with the MEAP digitization team.







The onsite process includes using a high-resolution camera to capture images, which are uploaded to a computer database. A black canvas cover blocks reflections on the glass plate that holds each artifact, and a series of lights is rigged to provide consistent lighting day and night. Setting up the ideal apparatus took more than a month.

While the digital files ultimately will become available worldwide, the materials will not leave home. This post-custodial model, as it is known, allows the people who have the greatest stake in the materials to care for and hold onto them.

Within the first six weeks alone, the team digitized more than 10,000 pages from library collections as well as shrine artifacts and gravestone art. When the two-year project is complete, the digital assets will be housed on a new interactive multilingual English, Persian/Dari and Urdu website that walks users through the sacred geography and history of the shrines and monasteries.

The libraries at UNC and UCLA also will have access to the files. Carolina alumna and former University Libraries post-doc Kimber Thomas, now at UCLA, is the program manager for MEAP and assists with any troubleshooting in the field and ensures that the images and metadata meet library standards.

Ziad and Zarkar are working with UNC's Center for Middle East and Islamic Studies to organize a lecture and book showcase this academic year.

The path to discovering — and sharing — the abundance of artifacts was made possible because of the trust Ziad has cultivated with the local communities through the years. For the past six months, he has focused on three key mosque-monastery complexes in Pakistan.

One in Malakand, in the highlands north of Peshawar, is part of Buddhist sacred land. It is the birthplace of Padmasambhava, a pivotal figure who spread Buddhism in the area before the Muslim tradition was established there. The two mystical traditions flowed together through the years, Ziad said, and the team is documenting in film and photography both Buddhist and Muslim sacred sites there.

In Peshawar, the team is focusing on exceptionally rare books and manuscripts held at the largest monastery library in the city.

And in a third location, the focus is on preserving materials acquired from North Waziristan. Ziad will return to the region this winter to document the sacred sites and shrine art there.

TOP TO BOTTOM: • The genealogical tree of the Naqshbandi Sufi Order. • The ancient shrine of Ghaws Baba in Thana, Malakand. • Documenting the shrines of the Gilani saints in Peshawar.





Nazia Akram, an archival photographer and filmmaker, is working with Ziad to produce two documentaries highlighting the team's discoveries: one on the modern saint of North Waziristan who spent 70 years writing and teaching in the midst of three wars, told from the perspective of people who knew him; the other on female Sufi leaders in the area, which will be the basis for Ziad's next book on Afghan female scholar-saints.

Already, Ziad has scoured the Indus Valley regions in hopes that future funding will support that project. "We are visiting libraries and collecting oral histories to understand what's out there," he said. "One library of 20,000 manuscripts has already put its resources at our disposal."

On campus, the University Libraries is the beneficiary of work tangential to the archival project. Zarkar met with publishers in and around Peshawar and acquired some 300 books in multiple languages for Carolina. "The books came from an area where we don't usually collect and in languages we can't always access," he said, "and the material will be available to any scholar anywhere who is conducting research of or in that area."

Both Ziad and Zarkar see the archival project as a model for international collaboration that prioritizes using the expertise of local people and keeping the material accessible to those who produced it.

"The area we are researching is a rich, multidimensional land with tremendous resources and skillsets on the ground to preserve the material," Ziad said. "I am in awe of the librarian heading the project in Peshawar, the way he mobilized the manpower and found people who have worked with Arabic, Persian and Pashto materials and brainstormed solutions with us. We truly could not do this on our own."

**TOP TO BOTTOM:** • Syed Noor ul Hasnain Gillani, leader of the Amir Shah Qadri Monastery. • Custodians of the Peshawar, Malakand and Waziristan Sufi collections. • Technicians at work in Thana, Malakand.





# From Colorado to Carolina

*Jim White, the College's new dean, is a climate scientist and a consensus-builder.*

BY GENEVA COLLINS

It's 8 a.m. on an unseasonably cool and overcast August morning at the College of Arts and Sciences' marine lab on the Carolina coast, and the 11 undergraduate students taking part in the Morehead City field site semester gather near the docks for their first class.

Jim White, who became dean of the College on July 1, is there to observe. After a brief orientation, the students, who are studying the human impacts on North Carolina estuaries, scramble aboard two 18-foot skiffs, accompanied by White and several faculty members in the department of earth, marine and environmental sciences, or EMES.

As the boats motor out, a brief downpour drenches everyone. It becomes a morning of mud and muck and soaked clothes as the students deboard to collect sediment cores in the marshes in an intermittent drizzle. White is unfazed: As a climate scientist, he has collected tree core samples amid clouds of insects in alpine woods and in Louisiana swamps with lurking alligators. He has drilled ice cores from glaciers in Greenland and the Antarctic in minus 40-degree temperatures.

As the students show off their core samples, he peppers them with questions: What can you learn from these? Can you date this core? Can it tell you the health of this ecosystem?

"I could totally see myself in those students," White said later.



Donn Young

*ABOVE: Dean Jim White comes to Carolina with experience as acting dean of the University of Colorado Boulder. RIGHT: White chats with students lined up for a sip from the Old Well on the first day of class.*

The tour of the Institute of Marine Sciences, EMES' coastal research facility, was part of White's introduction to Carolina and the vast reach of UNC's largest school. The College is home to 43 academic departments and curricula and numerous centers and institutes, and White has been a quick study in his first few months on the job, meeting countless faculty, students, staff and alumni as he orients himself to his new home.

White came to UNC-Chapel Hill from the University of Colorado Boulder, where he was acting dean of the College of Arts and Sciences for five years.

"Jim's accomplishments across his 34-year career at CU Boulder are too numerous to count," said his old boss, Philip DiStefano, chancellor of CU Boulder. "As acting dean, he led the



Donn Young

College of Arts and Sciences through a period of great change, including the COVID-19 pandemic, and did so with empathy, integrity and foresight. He helped us to implement a new governance structure for the college and helped Arts and Sciences find long-term stability across several lean budget years. He consistently championed diversity, equity and inclusion across the college."

A member of the geological sciences faculty at Colorado, White previously directed CU Boulder's Institute of Arctic and Alpine Research and founded and directed the Environmental Studies Program. (At





*ABOVE: White, shown in the foothills of the Rockies, is a climate scientist who was elected to the American Association for the Advancement of Science for his contributions to the field.*

*LEFT: Students show White the sediment cores they have collected. He accompanied them on a class outing to Bogue Sound on the Carolina coast.*

UNC, he is a faculty member in EMES.)

“Jim left a wonderful legacy to our students here in creating the environmental studies program. He built an environmental studies community,” said Max Boykoff, current chair of environmental studies at Colorado.

Other colleagues praised his consensus-building skills. “Jim is the person who can take a group of people grappling with a difficult situation within the University system and reach a consensus where everyone feels good about the result,” said Gifford Miller, distinguished professor in geological sciences at CU Boulder.

White’s research interests are broad but revolve around the use of environmental stable isotope ratios. His contributions to the field are vast; Web of Science

ranks him as a highly cited researcher, and he was elected to the American Association for the Advancement of Science in 2014. He is a popular public speaker on climate change topics.

White was chosen after a national search to lead the College upon the retirement of Dean Terry Rhodes.

“I wanted to come here because Carolina has an outstanding reputation—not just for the excellence of its liberal arts education but also the exciting research that is happening here,” said White. “I was impressed by the new IDEAs in Action curriculum [see story, page 2], by the leadership of both Chancellor Kevin Guskiewicz and Provost Chris Clemens — who both came into their roles from the College — and by the devotion and commitment to this place that I heard from everyone during my campus visits.”

Guskiewicz, in turn, said of White:

“Jim has hit the ground running, impressing people with his keen insights about the College’s strengths and challenges. He is a strategic decision-maker who is carefully listening to the dreams, aspirations and goals of our students, faculty and staff. Jim is emphasizing the importance of innovation and bold solutions. He has already made important contributions as part of my leadership team, and I am so glad he is here.”

White has assumed the helm of the College at a pivotal time: Not only did the school launch its reimagined general education curriculum this year — an action that will touch every undergraduate at UNC-Chapel Hill, regardless of their major — it is also returning to post-COVID normalcy: Classes are in person; study abroad has rebounded, research endeavors are running full throttle.

The College is also closing in on its \$750 million fundraising goal, part of the University’s \$4.25 billion *Campaign for Carolina*, which concludes in December.

One priority White has made paramount is to advance diversity, equity and inclusion initiatives in the College. At Colorado, White appointed the college’s first associate dean for inclusive excellence. At UNC, an early action was to elevate Karla Slocum’s position from associate dean to senior associate dean for diversity, equity and inclusion.

“You cannot provide an excellent liberal arts education without providing an environment in which diverse backgrounds, ideas, cultures and perspectives can flourish,” said White. “DEI is a core tenet that starts at the dean level. It is time to make diversity an everyday part of what we do.”

When asked about other priorities for the College, White said, “I still consider myself in my learning and listening phase. It would be presumptuous of me to come in here and prescribe changes before I understood the workings of the College. My overall goal is that I want to preserve what is working well and improve on what needs improving.”



• the CAMPAIGN for CAROLINA •

# Arts & Sciences



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## Leading Blue Heaven

*Wing Commander Rachel McCarthy is the highest-ranking cadet in DET 590, aka Blue Heaven, but the senior's path to ROTC wasn't a traditional one.*

BY JESS ABEL '19

Carolina was not part of senior Rachel McCarthy's original plan.

The Rochester, New York, native grew up with her eyes on the United States Naval Academy, where her dad and brothers graduated. But as college application deadlines neared, she decided she wanted a more balanced college experience. With the encouragement of her mom, a UNC alumna, she applied to UNC.

It was a dreary, rainy day when she toured the campus. It didn't matter. "After visiting and being around the students — seeing how much pride they took in the school — I knew that I wanted to come here," McCarthy said.

During her first year, she took an international relations class that was cross-listed as a peace, war and defense course. It quickly became her favorite class of the semester, and she decided to pursue the major.

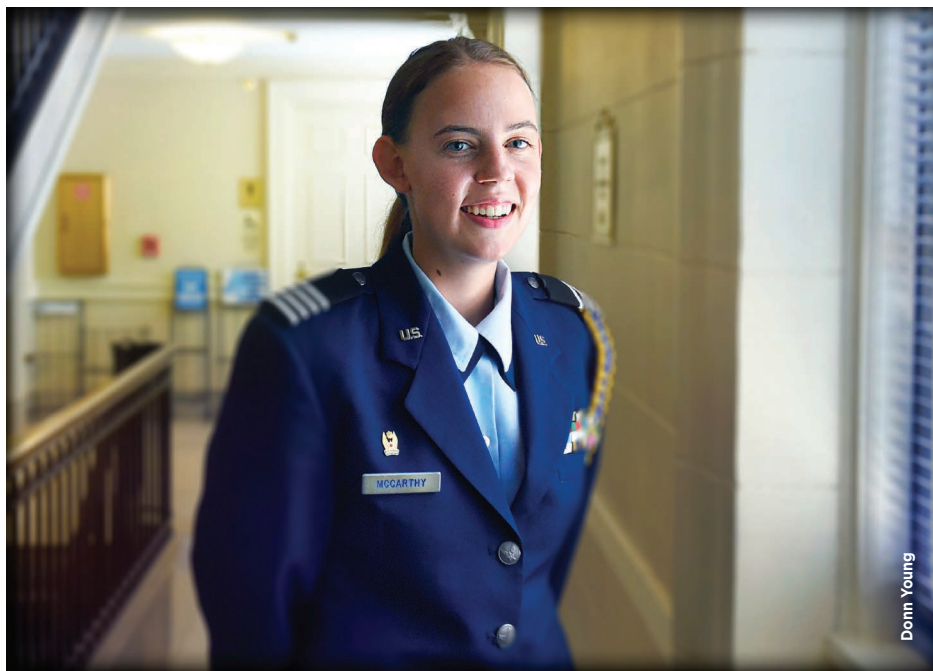
"I was talking to my parents about it. And they said, 'You kind of need a plan because peace, war and defense is a very unique major,'" she said. "And that's when my dad suggested that I should at least try out ROTC."

She took her dad's advice and joined UNC's Air Force ROTC detachment 590, although she didn't expect it to stick.

"I went in thinking, 'OK, I just need to prove to myself that the military isn't what I want to do,'" McCarthy said. "And then I ended up really liking it and being good at it."

As a sophomore, McCarthy worked to fit the first two years of the military course curriculum into one year to catch up, and she also had to navigate the difficulties of enrolling during the early days of the COVID-19 pandemic. But her greatest challenge came between her sophomore and junior year during field training in Mississippi, where she was evaluated on what she had learned in her early military courses.

"I actually didn't do very well at field training. I was ranked low," said McCarthy. Although the physical fitness assessment and leadership reaction courses proved challenging, she still passed and channeled her discouragement into a renewed



• After graduation, Air Force ROTC Wing Commander Rachel McCarthy will serve as an intelligence officer, completing her training at Goodfellow Air Force Base in San Angelo, Texas.

fervor to be even better, both as a cadet and as a leader in charge of training younger cadets.

"I thought, 'All right, that wasn't my greatest moment,'" said McCarthy, reflecting on her field training score, "but I can train my cadets to be better than me."

She did that and more.

During her first semester back, the cadets she was responsible for won awards for the top academic performance and best physical training performance.

And McCarthy wasn't done. She, along with every member of her class, ran for the highest leadership position: wing commander. The only woman in her class, she was excited about the prospect to lead, but it was up to her fellow officers to choose.

They chose her.

This year McCarthy has a full schedule. In addition to her responsibilities as wing commander, she also works for Carolina Housing in the package center on campus, and she hopes to soak in all the traditions of being a senior. Her most anticipated item on her to-do list? Creating a time capsule filled with notes of encouragement to new cadets.

After graduation, McCarthy will serve in the Air Force for at least four years as part of her commitment to ROTC. She was chosen by the Air Force to serve as an intelligence officer, her first-choice position, and will complete her initial skills training at Goodfellow Air Force Base in San Angelo, Texas, in 2023.

Her parting advice to any Tar Heel who is curious about a pathway to a military career?

"Just show up, try it out. Because you might end up really liking it. You just might end up being the wing commander."



## Creative cartography

Geographer Javier Arce-Nazario uses innovative mapping technologies to help communities in the Galapagos Islands, Puerto Rico and beyond.

BY DEB SAINE '87

Maps are vital in connecting one place to another, and technology makes this possible in mere seconds. Javier Arce-Nazario sees an equally vital use for maps: supporting communities.

Arce-Nazario, associate professor of geography, is leading a research effort to help farmers in the Galapagos Islands, an Ecuadorian archipelago formed by volcanoes and hundreds of miles from the mainland. His work is affiliated with UNC-Chapel Hill's Center for Galapagos Studies, which conducts research and outreach in partnership with Ecuador's Universidad San Francisco de Quito.

"From the scientific point of view, we are trying to understand the agricultural uses of small islands," he said. "These islands often have to import most of their food, but the farmers still have very important roles, especially in emergency situations. It's important to learn how to make the islands more sustainable."

Drone technology is the foundation of maps that give farmers the ability to see their agricultural landscape in a new way. Few photographic archives exist to enable mapping of how the islands have changed over time. The farmers are making up for that by sharing their knowledge of this history.

"Engaging with farmers in the Galapagos has been easy because they see a lot of use for the mapping technology," he said. "That makes you feel good because what you are doing has value for them. The first thing is that they see their land looking so beautiful from above. The second thing is that they now have a map for planning how they manage



• "Mapping is both a scientific endeavor and a humanistic process that can build conversations," says geographer Javier Arce-Nazario.

their spaces where they are working."

Arce-Nazario's innovative work in mapping began when he was researching his doctoral dissertation on "how humans and rivers shape the Peruvian Amazon landscape." He received his master's and doctoral degrees in ecology, evolution and environmental biology from Columbia University, after receiving his bachelor's degree in biology from the University of Puerto Rico, Rio Piedras Campus.

Arce-Nazario joined the faculty of the University of Puerto Rico at Cayey in 2009. He received the Presidential Early Career Award for Scientists and Engineers in 2012; the highly prestigious U.S. government honor recognized his research on climate-related water challenges and his scientific outreach to communities along Puerto Rico's La Plata River.

As an expert in landscape ecology, Arce-Nazario regularly spoke to community groups, and some of their meeting spaces featured photographs of Puerto Rico spanning several decades. That led him to consider how mapping could create a compelling view of how Puerto Rico's built landscape had evolved over the decades. His research and outreach, in collaboration with UPR-Cayey's Environmental Cartography Collective, culminated in a 2017 exhibit — *geo/visual/island* — at the Institute of

Puerto Rican Culture.

A faculty member at UNC-Chapel Hill since 2017, Arce-Nazario maintains his connection to UPR-Cayey as an adjunct professor.

Undergraduate and graduate students are making important contributions to mapping research, he said, adding that some UNC students who have taken his courses formed a mapping organization. The Carolina Cartography Collective created an exhibit, *Geovisualizing Vieques*, covering landscape changes on the Puerto Rican island over 150 years — which was held on Vieques from December 2021 to May 2022.

"The Vieques exhibit was started by students," Arce-Nazario said. "They organized it, they traveled there, and they talked to stakeholders. They were essential in its design and creation."

The collective, which now includes both UNC students and alumni, also has embarked on a project to map Black-founded communities in the United States. Arce-Nazario said mapping projects need the perspectives of community members and stakeholders.

"Mapping is both a scientific endeavor and a humanistic process that can build conversations. We want to explore new ways of mapping and new ways to engage."



## Creating community in the classroom

*Ariana Vigil teaches and conducts research in Latina/o literature, militarization, and gender and sexuality.*

BY DEB SAINE '87

Ariana Vigil, chair and professor of women's and gender studies, remembers teaching a course in 2016 on "Gender, (Im)migration and Labor in Latina/o Literature" and an important insight that her Carolina students shared during that course.

In their discussions, students kept returning to the portrayal of mothers. Vigil said her goal had not been to talk about mothers, but the class discussion got her thinking about how migrant mothers are portrayed and how they defy stereotypes.

From that unexpected (and appreciated) class observation, Vigil has now begun a project on migrant mothers.

Throughout her academic career, Vigil has explored questions of equality, diversity and gender, and economic power, military power, media representation and transnationalism as they relate to Latina/o communities. Among her many publications are three books: *War Echoes: Gender and Militarization in U.S. Latina/o Cultural Production* (2014), *Understanding Francisco Goldman* (2018) and *Public Negotiations: Gender and Journalism in Contemporary Latina/o Literature* (2019).

In her first book, she examined Latina/o responses to U.S. military intervention in Central America and the Middle East, and that work established her as a Latina/o military scholar. "To this day, people come to me to talk about militarization. I think I helped create a subfield of importance."

In research for *War Echoes*, Vigil read extensively from reporters' accounts of U.S. policies relating to Central America in the 1980s. She became interested in the ways journalism engages with Latina/o literature and in the ways media outlets advance (and fail to advance) important issues within these communities. Her research led to the ideas within her book *Public Negotiations*.

Vigil recently was named the Druscilla French Distinguished Professor in Women's and Gender Studies, effective January 2023. She said she leads and teaches within a department covering many disciplines, including literature, history, sociology and psychology. "Our students inspire us with the work they are doing, and our faculty are very diverse."

She moved from her home department of English — and halfway across the country, from the University of Nebraska-Lincoln — to join the UNC-Chapel Hill faculty in 2011.



• Ariana Vigil says teaching Latino literature allows her to draw from multiple academic areas and personal experiences. She is of European/Jewish and Chicana/Mexican ancestry.

One factor that drew Vigil to Chapel Hill was the opportunity to become affiliated with the UNC Latina/o Studies Program. In addition to her bachelor's, master's and doctoral degrees in English, Vigil has concentrations in Latina/o studies and feminist, gender and sexuality studies.

Vigil's family history provides additional perspective.

"I am of European/Jewish and Chicana/Mexican ancestry — from my mother and father, respectively," she shares on her website.

Teaching Latina/o literature allows Vigil to draw from multiple academic areas and personal experiences. She focuses on diverse communities, including Mexican American, Dominican American, Puerto Rican and Colombian American experiences. Students have many different reasons for taking her courses, she said, adding that they usually fill to capacity.

"My students say this is an opportunity to have their own experiences affirmed in the classroom and in classroom material. I try to impart to my students that these courses wouldn't exist without activism. They are in the classroom and I'm in the classroom because students demanded these courses."

Vigil also is an executive board member on the Carolina Latinx Faculty Council.

Vigil said she values the ways her research creates community within the classroom — and beyond. During the pandemic, she has spoken virtually to Carolina's Hispanic Student Dental Association and Chapel Hill-Carrboro City Schools on "Latinx in the U.S." She also gave a virtual presentation on women's and gender studies for a conference in the People's Democratic Republic of Algeria.

"I enjoy creating community and working with people. That is who I am," she said. "I do hope that my work contributes to people understanding their place in this world and the forces that shape the community in which we live."



## Serial entrepreneur

*Gina Bartasi '91 is the founder of five companies; her latest venture focuses on streamlining fertility benefits to improve the patient experience.*

BY DELENE BEELAND

Kindbody founder and chairwoman Gina Bartasi (RTVMP '91) discovered her entrepreneurial drive while still a student at UNC. Bartasi enjoys art and painted pictures of 18 of Chapel Hill's most popular bars, which she then sold prints of for \$20 apiece.

"It was good pocket change. Then my sorority sister's dad bought my business for \$3,200," Bartasi said, laughing. "And I was like, 'Wow!'" The experience recalibrated her career focus from becoming an ESPN sportscaster — à la Robin Roberts — to starting businesses.

Bartasi is now an accomplished entrepreneur living in New York City. She is the founder of five companies, with the three most recent involving fertility services and benefits.

In 2009, Bartasi founded FertilityAuthority to help educate fertility patients about the challenges in the industry and to encourage them to take charge of their reproductive health. In late 2014, FertilityAuthority was acquired by two Silicon Valley-based venture capital firms, and Bartasi was hired to scale the legacy business to employers. The new company became Progyny and is now a \$4 billion public company.

Bartasi's fertility ventures were born from her own bumpy experience navigating fertility services when starting a family. Many people lack the funds to cover in-vitro fertilization, or their coverage lapses mid-treatment. Progyny sought to replace the legacy fee-for-service models in healthcare with a bundled case rate. It charges a commission, similar to an insurance company, to refer patients to physicians.

However, Bartasi heard consistently from employers seeking fertility benefits that, "what they really wanted was to contract with fertility doctors directly." Bartasi listened and launched Kindbody in 2018. Like Progyny, it also offers fertility benefits, but its 30 clinics across the country allow employers to contract directly, saving them millions of dollars annually. "We were a bit of an anomaly early in the pandemic, when many people decided to start families," Bartasi said. "But it's been wildly successful."

Bartasi was named to the *Inc. Magazine* Female Founders List in 2021 for making fertility services more accessible, with the recognition that all of Kindbody's physicians are women and half are people of color. Her team at Kindbody has received other awards and honors, including being named to *Forbes'* Best Startups (2021, 2022), and *Inc.'s* 2021 Best in Business list for Health Services.

Two core traits fostered her success: self-confidence and humility.



courtesy of Gina Bartasi

• Entrepreneur Gina Bartasi was named to *Inc. Magazine's* Female Founders List in 2021 for making fertility services more accessible.

"UNC-Chapel Hill lays that foundation of how you will behave both personally and professionally throughout your life," she reflected. "What I learned from Chapel Hill, and what's rooted in me today, is that you must be wildly self-confident to be an entrepreneur. But you also have to balance the self-confidence that the University teaches with humility."

As a female entrepreneur, Bartasi faced long odds. "Women are half the population. But only 2.7% of all venture capital goes to women," she said. While Bartasi concedes she's seen the gender gap improve slightly in the past 20 years, she emphasized the need to diversify the entrepreneurial field.

Bartasi is giving back to UNC by serving on the advisory board of the Shuford Program in Entrepreneurship. The program offers a minor in entrepreneurship based in the College and open to all students regardless of major. The program also seeks to elevate those who are underrepresented in entrepreneurship.

She is hopeful that under the leadership of executive director Bernard Bell, the program will train a new generation of diverse science- and tech-focused entrepreneurs.

"I've spent six or seven years of my career back and forth to the West Coast," Bartasi said. "But does the entrepreneurial pipeline there really have to be unique to Silicon Valley, or can we emulate those programs in other pockets of the nation? Why not Chapel Hill?"





• Anna Atencio uses the leadership skills she gained in the Chancellor's Science Scholars program and her love of geological and marine sciences in her work with Geodynamics.

## Surveyor and storyteller

*Anna Atencio was a member of the first Chancellor's Science Scholars cohort. Now she helps tell the unseen story below the seafloor as a geophysicist on the coast of North Carolina.*

BY JESS ABEL '19

Anna Atencio (B.S. '17, M.S. '18) chose Carolina specifically to be part of the first Chancellor's Science Scholars cohort.

"At the time, I was pretty set on NC State for engineering," she said. "But after receiving the CSS scholarship, and talking with my parents about the financial support, they encouraged me to accept. It definitely turned out to be the right choice."

Atencio was excited to experience all that the program had to offer: community-building, leadership opportunities, research and internship guidance, professional development and more.

What she didn't realize at the time was how quickly she would give back to the program.

"As part of the CSS program, you have to major in one of the hard sciences," she said. "Throughout that first summer, they encouraged pursuing a major in

math, chemistry, physics or biology. But none of them really spoke to me."

She wanted a major that offered smaller classes and a tie to her love of the outdoors. Geological sciences seemed promising, and, after consulting with CSS leaders, they agreed. It was added to the approved major list.

Her major eventually led Atencio to both her mentors, Brent McKee and Antonio Rodriguez, who guided her research at Carolina.

McKee, a researcher of land-ocean interactions and global change in the College's department of earth, marine and environmental sciences, introduced Atencio to his lab in Chapel Hill focused on studying fluvial systems — habitats dominated by rivers and streams. Atencio worked in McKee's lab during the school year and, in the summer, spent her time at UNC's Institute of Marine Sciences in Morehead City, North Carolina, with the Rodriguez lab, collecting and analyzing

sediment core samples from marshes.

Her undergraduate research experience in both labs was a natural foray into graduate studies in marine sciences at UNC.

After finishing her master's, Atencio moved to Charleston, South Carolina, to guide kayak expeditions, a way to leverage her love of continuous learning, teaching and coastal research expertise. While she was guiding, she asked her network of researchers, scientists and friends to recommend organizations that had the same opportunities for learning, collaboration and growth that CSS had provided.

A friend introduced her to Geodynamics, a coastal surveying company that uses cutting-edge technologies to provide clients crucial information to safely and effectively pursue projects in and around beaches, shallow waters and the continental shelf. They emphasized an "always learning" company culture that spoke to Atencio immediately, and she moved back to Morehead City for the job.

Now in her third year with Geodynamics, Atencio leads a team in the geophysics department. The role requires a breadth of skills: collecting and analyzing data from surveys of the coast, project and people management, client relationship-building and above all — perhaps surprisingly — storytelling. It is Atencio's job to take data from below the seafloor and tell the unseen story of the ocean so her clients can make informed decisions about their project, which could be anything from nourishing eroding beaches with sand to laying cables for wind farms.

For someone who enjoys teaching as much as she enjoys learning, the position has been a perfect match, and Atencio said Geodynamics is a place where she can continue to grow.

"This place really pushes me to do my best and to think outside of the box," she said. "And because of that, I feel a lot of pride and ownership. I absolutely love it."





• Robert and Pearl Seymour in 2009 (photo courtesy of Frances Jane Seymour and Robert E. Seymour III).

## Pillar of Chapel Hill community leaves gift to College's diversity, equity and inclusion efforts

BY ANDY BERNER

During his 60 years in Chapel Hill as pastor of Binkley Memorial Baptist Church and in retirement, Robert E. Seymour Jr. was a champion of social justice who led a congregation that challenged racial segregation and advocated on behalf of the aged and poor.

Seymour died in 2020 at age 95, leaving a gift in his estate to the College of Arts and Sciences. His children, Frances Jane Seymour '81 and Robert E. Seymour III, directed the gift to causes that he cared so much about throughout his life, thus establishing the Dr. Robert E. Seymour Jr. Dean's Diversity, Equity and Inclusion Fund.

The Seymour Fund will provide support for the dean to promote **diversity, equity and inclusion** efforts across the College of Arts and Sciences. A second portion of the gift will be used to support the same purpose through the **Arts and Sciences Fund**, the dean's discretionary fund. With these two sources of funding, Seymour's gift will provide vital support to the senior associate dean for diversity, equity and inclusion in the College and expand DEI programming for both students and faculty.

Seymour's ties to Carolina were strong. The young pastor and his wife, Pearl, who was the church organist, moved to Chapel Hill from Mars Hill, North Carolina, in 1959. The congregation of the newly founded Binkley Baptist Church met on campus in Gerrard Hall until 1965 when the church moved into its current location on Willow Drive in Chapel Hill. UNC had desegregated in 1955. By 1960, about 30 Black students attended UNC, with at least 12 worshipping at Binkley.

For nearly 30 years, he pastored legendary UNC basketball coach Dean Smith. The story goes that when Coach Smith was teaching Bible class at Binkley Baptist in the 1960s, Seymour gave him an assignment to desegregate the Tar Heel men's basketball team. In 1966, Smith made good on this assignment when he recruited **Charlie Scott**, UNC's first African American scholarship athlete. Although Seymour was not a huge sports enthusiast, his wife was a die-hard Tar Heel fan, and they regularly attended games. The couple also enjoyed taking in music and theater performances on campus.

As a pillar of the Chapel Hill community, Seymour recruited church deacon Fred Ellis in 1961 to run for the Chapel Hill-Carrboro School Board to work on integrating the



• Seymour giving the benediction at the memorial service for Coach Dean Smith on Feb. 22, 2015.

town's segregated public schools. After being elected, Ellis cast the deciding vote on integration in 1963 and the schools became fully integrated in 1966. In 1962, the Student Interracial Ministry of Union Theological Seminary in New York ran a program to place students of color in white congregations as interns and vice versa. Through this program, Rev. Dr. James A. Forbes Jr., now senior minister emeritus of Riverside Church in New York, came to Binkley as an intern. No other church in the area would accept a Black student.

"You might have felt as if you were his relative," Forbes said of Seymour in *The Daily Tar Heel*. "It's a very unusual thing for Black people to experience white people where the issue of race becomes insignificant in your exchanges."



## THE SCOOP

*“The spring is the dream of an inclusive society becoming a reality, and I think we are moving toward that. I’m optimistic about the future and feel that some of the racism that now erupts may be the death rattle of a dying culture.”*

— ROBERT SEYMOUR



- Charlie Scott (#33), Rusty Clark (#43) and Dean Smith.



- Seymour’s work integrating his church and community was noticed internationally, as with this news clipping from *The London Times* on March 24, 1963. The woman on the left was Grace “Rusty” Wagoner, who worked at UNC-Chapel Hill for 32 years, rising to the title of director of the property department.



- Seymour (back right) is featured in a photo from a 1984 Chapel Hill-Carrboro United Fund brochure.

In 1969, Seymour recruited Howard Lee to run as the town’s first African American mayor, a race he won. “There were a lot of progressive people who thought that my running would disrupt Chapel Hill, which was recovering from some of the nastiest battles that any town had experienced,” said Lee in *Chapel Hill Magazine*. “But [Seymour’s] blessing got people on board.”

Seymour worked tirelessly on behalf of the people of Chapel Hill and Orange County. He served as founding president of the Inter-Faith Council for Social Service, the primary provider of social safety net services in Orange County. He formed Habit for Humanity of Orange County in 1984 in partnership with his church, was active in People of Faith Against the Death Penalty, campaigned to build what is now the Robert and Pearl Seymour Center, which promotes the well-being of those age 55 and older in Orange County, and served on the board of directors for UNC Health Care after observing that older African Americans were going bankrupt because of medical debt.

Seymour’s charitable gift to UNC funds a continuation of that path.

“This gift that Dr. Seymour made to the College will be used to honor his commitment to demanding equality for all, by providing funding to support Karla Slocum, senior associate dean for diversity, equity and inclusion in the College of Arts and Sciences, and to expand programming related to these efforts,” said Jim White, dean of the College. A portion of Seymour’s gift was put to work immediately to fund grants to 13 departments in the College to expand their equity efforts. A grant to the biology department, for example, provided support for diverse speakers and research related to the retention of Black biology majors.

“We are so thankful for the Dr. Robert E. Seymour Jr. Dean’s Diversity, Equity and Inclusion (DEI) Endowment Fund,” Slocum added. “Given Dr. Seymour’s lifelong dedication to inclusion, anti-bias and social justice, it is an honor to receive this generous gift that will move our work forward in the College.”

When asked what her late father would have liked to see happen with his gift to UNC, Seymour’s daughter Frances said, “He would be happy to see these DEI efforts in the College — he always wanted to create spaces in the broadest sense to overcome biases toward race, sex, sexual orientation, age and beyond.”

His son Rob added, “Dad wanted to see this history kept alive. To show how difficult making change was — and still is. He always felt that if we keep plugging along, change for good will happen. He always looked on the bright side.”



## THE SCOOP

### Helping faculty break down silos, be part of 'something bigger'

BY MARY MOOREFIELD (M.A. '20)

When she was recruited for a position on the College of Arts and Sciences' Institute for the Arts and Humanities Advisory Board, Caroline Williamson '83 admits that she didn't know much about the IAH.

She quickly learned that the institute was a dynamic resource that empowers faculty to achieve their full potential by creating community and cultivating leadership. At the heart of its mission is the affirmation of the crucial value the arts and humanities provide to the University and the world.

"When you learn about what the institute does, I think its mission is so encouraging," said Williamson, who joined the board in 2006. "What really stuck with me more than giving faculty sabbatical time to work on a research project was the incidental outcome, which was that when you were a fellow, you joined each other on Wednesdays for lunch and discussed what you were working on. Seeing what came out of those discussions made me realize that learning to listen and have different perspectives at the table not only makes your work better but makes the whole better."

Williamson emphasized what a difference that can make.

"What we've found over the years is that those faculty cohorts broke down a lot of silos because, in academia, you may be relegated to your department, so you rarely meet other people at the University," she said.

In her time on the IAH board and as chair, Williamson has seen an additional, paramount benefit of faculty receiving a fellowship: "It has also helped with retention because it helped faculty feel that they were part of something bigger than just their department or the courses that they taught."

In addition to her service on the board, Williamson regularly supports the institute through philanthropy and has included a deferred gift in her estate plans, helping to ensure collaboration and growth for faculty for decades to come.

Seeing the effectiveness of these IAH-facilitated collaborations has influenced her other volunteer work and her professional life as president, treasurer and director of the B. Robert Williamson Jr. Foundation, she said. (The philanthropic organization — established with support from friends — honors the memory of her husband, Robert, who died unexpectedly in 2012).



ABOVE: Hyde Hall is the home of the Institute for the Arts and Humanities. LEFT: IAH advisory board member Caroline Williamson has included a deferred gift to the institute in her estate plans.

"It is important to have different perspectives around the table so that you don't just hear what you want to hear; you hear what other people are thinking and what other people's experiences have been," she said. "That's the passion for me — how do you bring different people to the table because I know that it bears fruit beyond the situation at hand."

Patricia Parker, director of the IAH, said Williamson's passion for supporting faculty shines through in her work with the board.

"I am thrilled to work with Caroline and the other advisory board members who are so engaged and passionate about our work at the institute," said Parker.

In her time as a student, alumna, parent of students, donor and advisory board member, Williamson has seen how the different aspects of the University work together.

"You can have the best students in the world, but if you don't have great faculty, what good is that? It goes hand in hand — you have to have great faculty and great students to really make the University great."

Williamson said she would like to see continued investment in the Faculty Fellowship Program, as well as opportunities to share its success story beyond the University. For this program, the IAH has awarded 706 fellowships to support faculty research and projects since the inaugural cohort in 1988. These investments showcase how the institute so successfully creates community among faculty.

"This is something we could model to other colleges as a way not only to retain faculty but to lift them up and lift their work up," she said.





Kristen Chavez

## #Throwback: INNOVATION CELEBRATION

In September 2017, the Shuford Program in Entrepreneurship held an innovation challenge to celebrate the naming of the program thanks to an \$18 million transformative gift to the *Campaign for Carolina*. Students created objects out of duct tape, a product of the Shuford family's company Shurtape Technologies. The objects had to be Tar Heel-themed, of course! Winning students are pictured with program executive director Bernard Bell (center) and donor Jim Shuford '88 (MBA '92).



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### WHAT WILL BE YOUR LEGACY?

Naomi Smith '23, a computer science major and cognitive science minor, spent summer 2021 studying in Copenhagen thanks to the [Eleanor Barnes Study Abroad Scholarship](#).

*"This scholarship gave me the resources I needed to begin exploring the world beyond what I was familiar with. It allowed me to develop independence, adaptability, an expanded worldview, and communication skills while exploring Denmark and expanding my comfort zone. I would like to thank my scholarship donors from the bottom of my heart for their role in making this experience of a lifetime possible."*

- Naomi Smith '23

Naomi's scholarship was made possible by a bequest from [Eleanor L. Barnes '70](#), who earned a degree in history from the College. Although Ms. Barnes passed away in 2016 at the age of 67, her love of travel lives on in students today. Each year, several students pursue life-changing study abroad opportunities thanks to the generosity of Ms. Barnes, who visited more than 25 countries during her lifetime.

(Photo: Naomi Smith '23 in front of Kronborg Castle, a UNESCO world heritage site, in Helsingør, Denmark.)



Contact us today to learn about making a planned gift to the College of Arts and Sciences.  
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Donn Young

### DEI efforts get a boost

Dean Jim White elevated Karla Slocum’s position from associate dean to senior associate dean for diversity, equity and inclusion in the College of Arts and Sciences in September.

In Slocum’s 14 months as associate dean, White noted that she had made great strides in bringing the College community together. She created new outlets for communications and outreach (such as the Conversations to Uphold Equity series); revamped the College’s diversity website to highlight DEI initiatives and resources available to the community; convened and provided support for the communities of color faculty cluster hire; and worked closely with departmental and unit diversity liaisons and other campus partners to advance DEI issues in the College and across the University. Slocum is leading plans to develop a DEI strategic plan that will be finalized this year.

In May, under Slocum’s direction, the College awarded \$36,000 in grants to 13 academic departments and programs to support DEI initiatives.

Funded proposals included an initiative to create a field guide detailing policy for safe and inclusive fieldwork by the department of earth, marine and environmental sciences and the hosting of faculty mentoring workshops in the women and gender studies department.

“With more than 40 academic departments in the College, it is vital that we support the equity and inclusion work that our colleagues are leading for the betterment of their faculty, staff and students,” Slocum said.

► *Learn more about the grant recipients at [go.unc.edu/DEI-grants](http://go.unc.edu/DEI-grants).*



• *Through a new applied sciences and engineering minor, students select engineering-related electives that complement their majors.*

### Minor teaches skills in engineering, entrepreneurship

An applied sciences and engineering minor that launched in fall 2020 is helping engineering-oriented students build on the foundations of math and science while engaging them to find hands-on solutions to tangible challenges.

The inaugural class of students pursuing the APSE minor graduated in May with skills they’re now using to pursue new academic paths and make an immediate impact in the workplace.

“Through the APSE minor, students learn valuable skills,” said Richard Goldberg, teaching associate professor and director of undergraduate studies in the applied physical sciences department. “They learn how to use important software tools, including tools in the BeAM makerspaces on campus, while gaining exposure to a variety of resources and activities that will help them in their future careers.”

The minor consists of a set of five courses in categories that include “Introduction to Engineering,” “Engineering Fundamentals” and “Engineering Topics.” The minor also requires a set of prerequisite courses that are common to most majors in the sciences.

Through the minor, students select engineering-related electives that complement their majors. Electives draw from a variety of departments, including applied physical sciences, biology, chemistry, computer science, environmental sciences and engineering, marine sciences, mathematics, psychology and neuroscience, and physics and astronomy.

Offering students a variety of engineering-focused electives helps them understand how to use engineering, design and modeling approaches, and these skills can also give students an advantage if they want to pursue graduate school, Goldberg said.

► *For more information, visit [aps.unc.edu/apse-minor](http://aps.unc.edu/apse-minor).*



### Excavations reveal first known depictions of biblical heroines in Jewish art

A team of specialists and students led by Jodi Magness, Kenan Distinguished Professor of religious studies, returned to Israel's Lower Galilee last summer to continue unearthing nearly 1,600-year-old mosaics in an ancient Jewish synagogue at Huqoq. This year's discoveries in the 10th season of excavations include the first known depiction of the biblical heroines Deborah and Jael — as described in the book of Judges — in Jewish art.

The team unearthed a part of the synagogue's floor decorated with a large mosaic panel that is divided into three horizontal strips (called registers), which depicts an episode from the book of Judges chapter 4: the victory of the Israelite forces led by the prophetess and judge Deborah and the military com-



• From left, new mosaic panels unearthed this summer at Huqoq depict a fox eating grapes and the Israelite commander Barak.

mander Barak over the Canaanite army led by the general Sisera. The Bible relates that after the battle, Sisera took refuge in the tent of a Kenite woman named Jael (Yael), who killed him by driving a tent stake through his temple as he slept.

Also among the newly discovered mosaics is a fragmentary Hebrew dedicatory inscription inside a wreath, flanked by panels measuring 6 feet tall

and 2 feet wide, which show two vases that hold sprouting vines. The vines form medallions that frame four animals eating clusters of grapes: a hare, a fox, a leopard and a wild boar.

Students and staff from Carolina and the consortium schools of Austin College, Baylor University, Brigham Young University and the University of Toronto participated in the dig.



• UNC's area studies centers are housed in the FedEx Global Education Center on campus.

Centers receiving funding are the African Studies Center, the Carolina Asia Center, the Center for Middle East and Islamic Studies, the Center for European Studies, the Institute for the Study of the Americas and the Center for Slavic, Eastern European and Eurasian Studies.

### Area studies centers awarded \$12 million in federal grants

UNC's area studies centers will receive approximately \$12 million in competitive federal Title VI funding over the next four years to support language and area studies coursework, global programming and events, and outreach and opportunities for educators across the southeastern United States.

The U.S. Department of Education will award approximately \$5 million under the National Resource Center program and approximately \$7 million under the Foreign Language and Area Studies fellowships program for 2022-25.

UNC is home to six Title VI-funded area studies centers, five of which are designated National Resource Centers for language and area studies. This is more than any other university in the U.S. Southeast. The centers, part of the College, provide programming and resources for instruction, learning and research related to world regions and modern languages.



## Research on rare N.C. earthquake aids preparation, forecasting

Think of earthquakes, and images of cracked highways showing obvious fault lines come to mind. In the eastern U.S., those kinds of sights had not occurred until a 5.1 magnitude quake in Sparta, North Carolina, on Aug. 9, 2020, became the first to reveal a fault line.

On that morning, Carolina geologist Kevin Stewart rushed to Sparta. Stewart is a professor in the earth, marine and environmental sciences department. His specialty is researching structural geology such as faults and cracks in the Earth's crust.

The Sparta earthquake was felt by people across North Carolina, much of the Eastern U.S. and west into Tennessee and Kentucky. Stewart was on site in the small town by noon, along with colleagues from the U.S. Geological Survey and NC State. One of the most visible cracks was in the parking lot of a landscaping company.

Some of Stewart's graduate and undergraduate students joined him for field work along the fault line, placing their hands in the one-of-a-kind geological phenomenon.

"This was the biggest earthquake in 100 years in North Carolina. Globally, it's a moderate earthquake," he said.

Better forecasting may help communities avoid the kind of damage seen in the Sparta area. Stewart and others, including his students and researchers from USGS, NC State and the



• Graduate student Sarah Wells-Hull, left, puts her hand on the Little River fault after an earthquake in Sparta, North Carolina.

North Carolina Geological Survey, mapped the fault, starting with the parking lot crack. Their mapping efforts are providing information that the USGS and state geological service are using for earthquake planning.



Emily Oglesby/North Carolina Botanical Garden

• A monarch butterfly alights atop a blue mistflower seeking nectar.

## How to help endangered monarch butterflies

Many people admire migratory monarch butterflies for their beauty and their annual journey across the Americas, but the beloved orange-

winged creatures have recently found themselves on the Red List of Threatened Species.

Biology professor Allen Hurlbert researches the impact of climate change on biodiversity and the geographic patterns of birds and insects, including butterflies like the monarch. He started Caterpillars Count!, a citizen science project that measures the

seasonal variation of arthropods like caterpillars on trees and shrub foliage.

Hurlbert said monarchs differ from most butterflies due to their migratory nature. He attributes the monarch's decline to several factors.

Deforestation can impact the

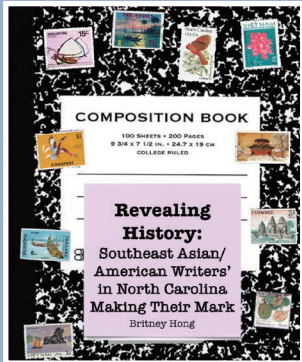
monarch population. Hurlbert said the butterflies are also vulnerable because their caterpillars and larvae are specialists, meaning they can only feed and grow on milkweed plants, while many other butterflies are generalists and feed on different types of leaves.

Hurlbert said small, localized and short-duration weather events, like an intense storm or an ill-timed cold front or heat wave, could potentially take out a large percentage of the monarch population if it happened where many butterflies were gathered.

"The silver lining is the attention being drawn to these declines," he said.

Members of the public can aid the monarch population by growing milkweed, avoiding the use of pesticides and participating in community caterpillar monitoring and reporting.





- Britney Hong's final SURF project was a virtual zine she created featuring the interviews she collected this past summer.

### Virtual 'zine' highlights Southeast Asian American writers in N.C.

When junior Britney Hong began planning her Summer Undergraduate Research Fellowship, she knew she wanted to pursue research that was rooted in her own life experiences.

Hong's SURF project, funded by the Office of Undergraduate Research, was "Revealing History: Southern Asian American Writers Making their Mark." She is pursuing a double major in American studies and human development and family studies with a minor in creative writing.

Through a series of oral history interviews, Hong sought to explore the question: How do Asian American authors from the South use writing to reconcile their intersecting identities?

With the help of her mentor, Kita Douglas, UNC teaching assistant professor of American studies, Hong set her focus on Southeast Asian American authors living in North Carolina. She interviewed five writers who were willing to share their personal and professional experiences.

Each author's experience shed light on Hong's initial question of what it means to be an Asian American writer in North Carolina, research that she compiled into a virtual self-published magazine or "zine." Hong hopes those who read her zine will better understand the value of writing, media and literature for historically marginalized groups in the United States.

- [Read Hong's zine at go.unc.edu/SURF-zine.](https://go.unc.edu/SURF-zine) Stay tuned to [college.unc.edu](https://college.unc.edu) for more stories about College student and faculty researchers during University Research Week Oct. 10-14.



- New CSAS Director Blair L.M. Kelley will spend the next year on an NEH fellowship working on a new book on the Black working class.

### Historian of Black experience to lead Center for Study of the American South

Blair L.M. Kelley, a noted scholar of Black history and the African American experience, will be the next director of the Center for the Study of the American South and co-director of the Southern Futures initiative.

Kelley has been a faculty member in the department of history at NC State since 2002. At UNC, she will join the faculty of the American studies department as the Joel R. Williamson Distinguished Professor of Southern Studies, effective January 2023. Kelley will spend the next year on a John Hope Franklin NEH Fellowship through the National Humanities Center to complete her book, *Black Folk: The Promise of the Black Working Class*, and will begin her directorship of the center in July 2023.

She is an oft-cited historian who has appeared on *CNN Tonight with Don Lemon*, MSNBC's *All In* and *Melissa Harris Perry Show*, NPR's *Here and Now* and WUNC's *The State of Things*. She has written for the *New York Times*, the *Washington Post*, *The Root*, *The Grio*, *Ebony*, *Salon* and *Jet Magazine* and has also produced and hosted her own podcast.

Highlighted as one of the top-tweeting historians by *History News Network*, Kelley was among the first generation of historians active on Twitter (@profblmkelley).

Marcie Cohen Ferris, professor emerita in American studies, will serve as interim director of the center for this academic year.



## Many universes, one story

*What came before the Big Bang, and what exists outside of the universe it created? UNC cosmologist Laura Mersini-Houghton's new book explores her journey in pushing boundaries.*

BY DELENE BEELAND

Do you ever gaze at the night sky and feel wonder at the vastness of the universe? That's the feeling Laura Mersini-Houghton evokes in her new book, *Before the Big Bang: The Origin of the Universe and What Lies Beyond* (HarperCollins, 2022).

Mersini-Houghton, a professor of theoretical physics and cosmology at UNC, walks readers through her theory of the multiverse and how scientific tools are being used to look beyond the limits of our own universe. Her newest book weaves together a memoir of her early life in communist Albania with her life's work in calculating how our universe came to be. She also explains how her theory of the multiverse — the concept that multiple universes exist at once — fills in gaps that go unanswered if only a single universe exists.

"We know for certain through data that our universe is only 13.8 billion years old. It's a big number, but not that big. So, it's fair to ask, what was there before 13.8 billion years ago?" Mersini-Houghton said, reflecting on what led her to cosmology. "Assuming there was nothing does not make sense. For various reasons, I thought, 'Why would it all start with this universe?'"

Mersini-Houghton's norm-shattering research suggests that we exist in a quantum landscape that is rippled like fabric. High and low points in this landscape — think of them as peaks and valleys — obscure a multitude of other universes which were linked at one time by quantum entanglement. Hidden from us, their existence can be guessed at by anomalies in our sky — oddities that would not exist if there were only one universe at the time of the Big Bang.

Her theory of the multiverse is founded upon extensive calculations using quantum mechanics and theoretical physics. In 2005 and 2006, in two papers called "Avatars of the Landscape I and II," she and her collaborators made a series of predictions for yet-to-be-discovered anomalies in our sky that would exist only if the idea of quantum entanglement and the multiverse was right.

"I never thought I would know in my lifetime if we were correct or not," she said. "But then we were very lucky: From 2007 until 2018, there was a series of astronomical data that



Donn Young

• UNC cosmologist Laura Mersini-Houghton blends the personal and the scientific in her new book. "What is there beyond the horizon of the universe?" she asks. "Once we test those theories, the cosmos becomes more beautiful and fascinating than ever."

found exactly what we predicted."

Because this work received major attention in international media over the course of a decade, Mersini-Houghton thought about writing a book and telling her own story.

"I started contemplating the idea, and then pushing it aside," Mersini-Houghton said. "Then there was a moment when I knew there was no escape; I had to do it."

Despite the technical nature of the topic, Mersini-Houghton translates scientific concepts into easily understood analogies and metaphors.

"The only difference between the layperson and me is that I have some decades of training in equations, math and physics theories," Mersini-Houghton said. "But otherwise, our imaginations are the same, and I share that with the reader."

When readers come to the last page, Mersini-Houghton said she hopes they will be left with a deeper sense of the failures that scientists often experience during the discovery process before they press on to success. She also hopes the book will instill an appreciation for understanding the beauty of nature through science.

"What is there beyond the horizon of our universe? Once we start that line of questioning, we find data to test those theories, then the cosmos becomes more beautiful and fascinating than ever," Mersini-Houghton said.

*Mersini-Houghton's book has been featured in BBC Inside Science, The Daily Telegraph, Forbes, The Washington Post, The Guardian and more. Read additional books by College faculty and alumni at [magazine.college.unc.edu](http://magazine.college.unc.edu), and look for our monthly "Bookmark This" feature on [college.unc.edu](http://college.unc.edu).*





## Mural, mural on the wall. Who's the saltiest of them all?

Carolina's marine lab has been a fixture in the coastal town of Morehead City, North Carolina, for 75 years. With support from UNC's Arts Everywhere and as part of this year's anniversary celebrations, the building got a much-needed facelift in the form of a 66 by 40-foot mural three stories high.

North Carolina muralist Max Dowdle, top left, was chosen after a nationwide search in part because of his vision to connect the mission of the UNC Institute of Marine Sciences — that of service to the state through research, outreach and education — with his art.

Look closely and you'll see a hurricane representing the world-class work done on storm surge, local species of fish that researchers are helping to protect, and even our own scientists as a reminder of the people who live and work in the area and depend on the state's coastal resources.

With the help of over 60 local UNC staff, students, faculty and community volunteers, the mural was completed in 10 days last July. The project was funded through private giving.

— By Kerry Irish





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