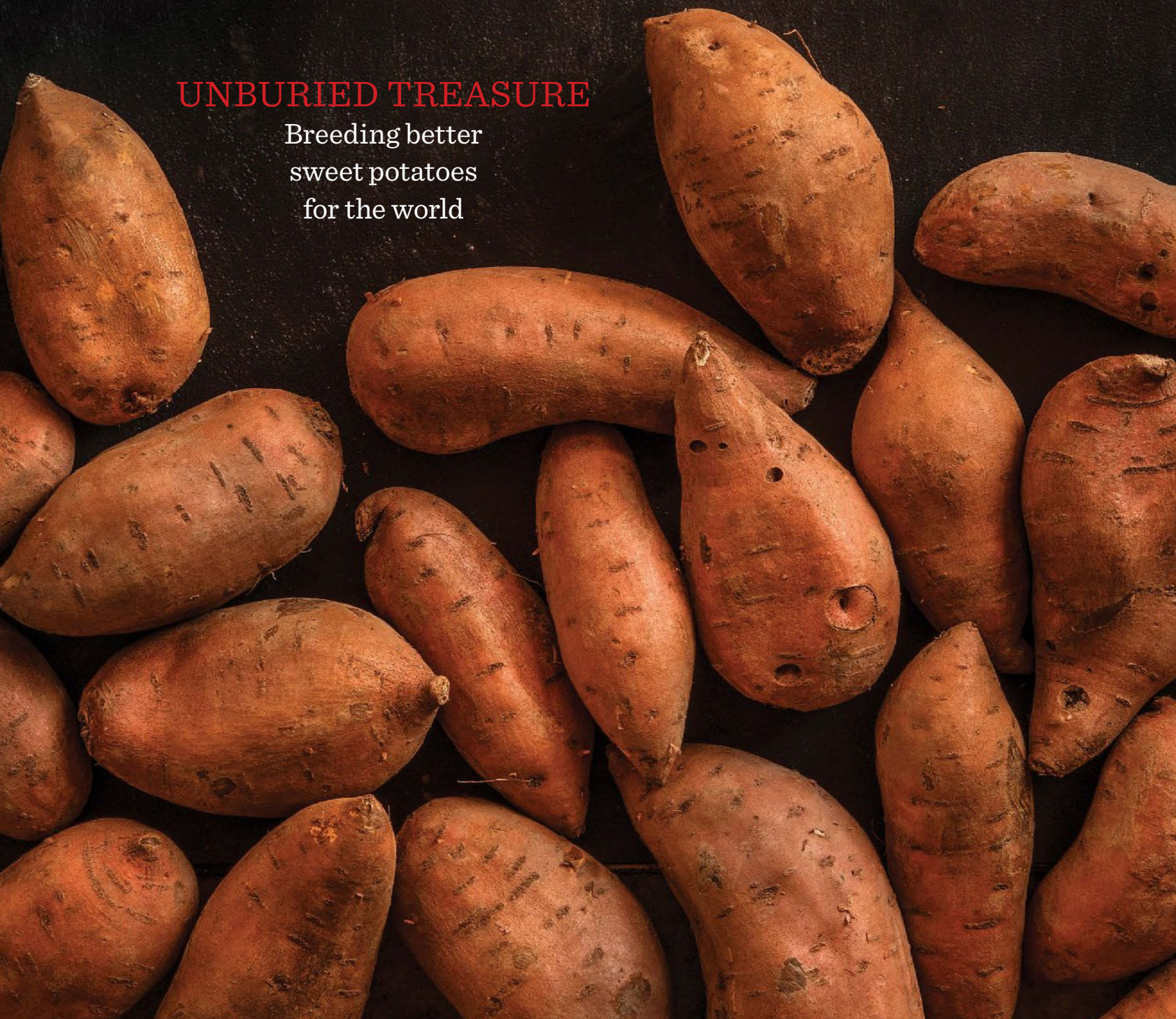


NC STATE

THE ALUMNI MAGAZINE OF NC STATE UNIVERSITY WINTER 2018

UNBURIED TREASURE

Breeding better
sweet potatoes
for the world





ALL WALKS OF LIFE

It's a canvas that for more than five decades has been a place for protest messages and controversy, rallying cries for Wolfpack sports, a billboard for upcoming events, and, of course, some pretty cool graffiti. But the Free Expression Tunnel, established in the 1960s, is also pragmatic. The tunnel connects the north and south sections of Central Campus by providing a path under the train tracks. The spray-painted messages may change, but making your way through the tunnel will never go out of style.



The more
things change

the more they
stay the same.



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NC STATE

- 1 On Campus**
- 6 Editor's Letter**
- 7 From Our Readers**
- 8 Q&A with the Chancellor**

10 THE BRICKYARD

10 More than Just Bells

The Bell Tower is about to get some much-needed repairs to fix years of water damage.

12 A Pioneer's Place

Irwin Holmes '60 came to NC State at a challenging time, but he persevered and became the first African-American to receive an undergraduate degree. Holmes Hall now honors him.

18 Compete

Did you know NC State has the only rifle team in the ACC? Find out more about these marksmen (and women). And meet the most accomplished athlete on NC State's campus.

50 ALUMNI DRIVE

51 The Driver's Seat

The Black Alumni Society had a banner year in 2018, writes Benny Suggs '69.

55 Caldwell Fellows

These young people are working with Habitat for Humanity, but instead of nails and hammers, they're using computer software to map affordable housing needs.

56 Class Notes

WOLFPACK NATION

58 Dwayne Patterson '81 wants to see kids enjoy our state parks.

61 Dare Coulter '15 is creating public art on her own terms.

65 Seth Chavka '08 has to think ahead in his job as a NASCAR race engineer.

69 Zac Guy '01 has built a successful business reclaiming old wood.

72 In Memoriam

80 Then & Now

ON THE COVER

Covington sweet potatoes in all their glory. Photograph by Simon Griffiths '85.



Stray dogs rescued by the ASPCA were brought to a New York restaurant in 1955 to promote the movie *Lady and the Tramp*. The image is one of thousands of animal protection records being digitized by NCSU Libraries. Page 15.



The Krispy Kreme Challenge celebrates its 15th anniversary this year. Page 11.

Dare Coulter '15 is a muralist, but she is also a sculptor, creating works like this out of clay. Page 61.



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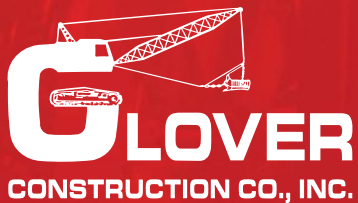
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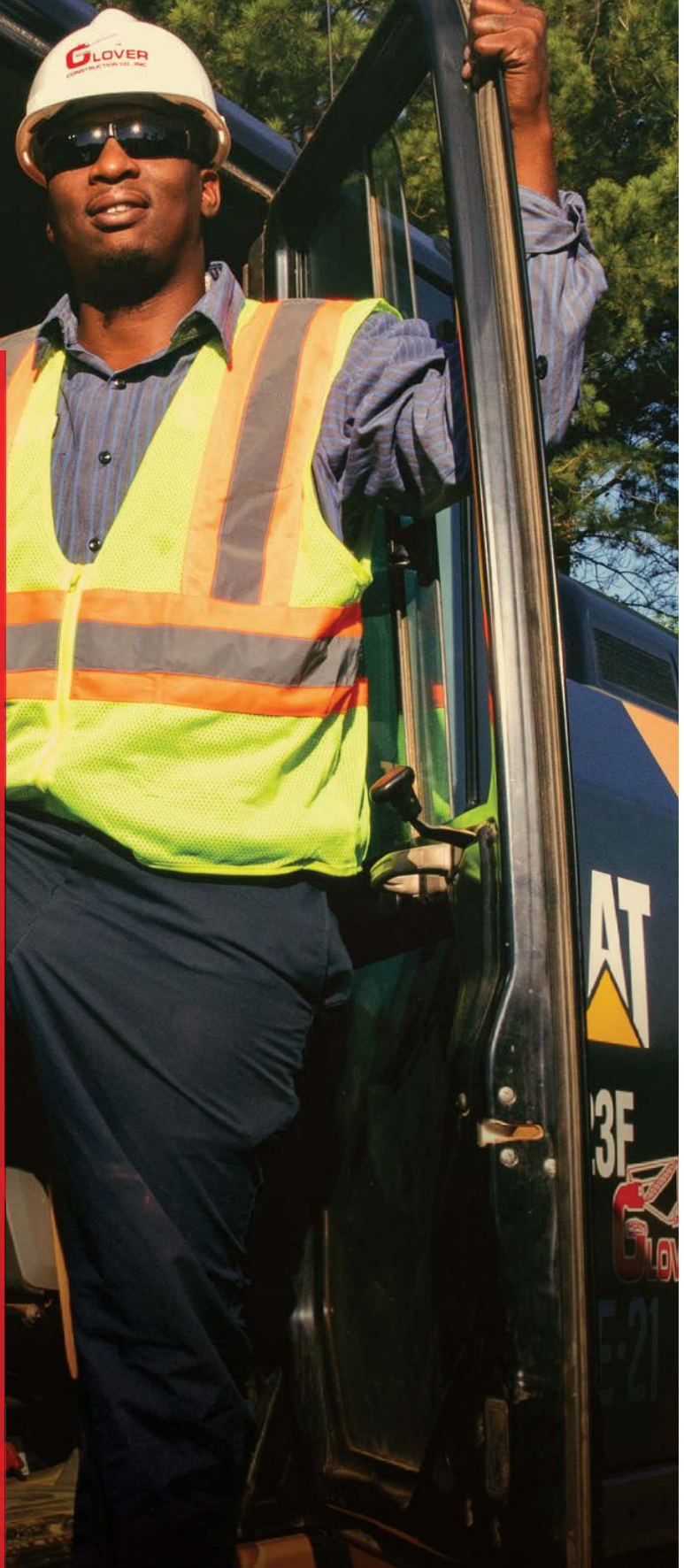
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24 Storm Troupers

When Hurricane Florence ravaged much of eastern North Carolina in September, many towns and communities struggled to cope with all the rain and flooding that followed. But help was on the way. The public and private sectors were part of the relief effort, as were countless nonprofits, church groups and helpful individuals. We checked in with members of the Wolf-pack family who helped get roads open again, find shelter for stranded animals and restore power to thousands of homes and businesses.

30 The Mighty Sweet Potato

True to its roots as a land-grant university, NC State has had a huge impact on the resurgence of sweet potatoes in North Carolina. From the breeding of a sweet potato variety that is now grown across eastern North Carolina to the development of a storage system that helped turn sweet potatoes into a year-round crop, NC State professors have helped create an agricultural and economic juggernaut. But NC State's work with sweet potatoes also reaches across the ocean, where professor Craig Yencho is overseeing a project to breed sweet potatoes that will bring economic opportunities and improve nutrition in several African countries.

PHOTOGRAPH COURTESY OF BRUNSWICK ELECTRIC MEMBERSHIP CORPORATION

Hurricane Florence sent power crews scrambling. Here, trucks from Brunswick Electric Membership Corporation line up and get ready to roll.

Editor's Letter



I'll just come out and say it: Alumni magazines don't often get to send a writer — and a photographer — to Africa.

But that's what we did. It all started a few years ago when Bill Krueger, the magazine's senior associate editor, began to look for ways to tell the story of how NC State breeders introduced a new variety more than a decade ago that transformed the sweet potato industry in North Carolina, putting the state back on top in production. "It was an amazing success story," Bill says. "And it is the kind of story that is sometimes best told years later, when you can actually see the importance of what happened."

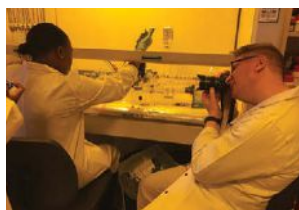
The more he found out, the more intrigued we became. NC State food scientists were also behind all the ways consumers now enjoy sweet potatoes. And Craig Yencho, leader of the university's sweet potato and potato breeding program, was bringing NC State's important work to Africa, looking for ways to come up with new breeds that would help the farming economy and combat malnutrition.

When Bill learned that he might be able to accompany Craig on a trip to Kenya and Uganda, we jumped at the chance to tell the sweet potato story both here at home and a continent away. We were lucky to be able to send Marc Hall, a photographer for NC State's University Communications and Marketing team. Both were ready for a sometimes difficult trip. (Bill is a former investigative reporter and editor for *The News & Observer*, and Marc is a former photojournalist who had spent time embedded with troops in Iraq.) They came back with tales of scientists on a high-tech campus in Kenya and roadside vendors in Uganda, and then went back to work in eastern North Carolina, spending time with North Carolina growers.

Now you know how sweet potatoes ended up on the cover of *NC State* magazine. Write us and let us know how you like to eat your sweet potatoes — we'd love to print your favorite recipe. Howl Back!

Sylvia Adcock '81
Editor, NC State magazine
Sylvia_Adcock@ncsu.edu

Marc Hall captures lab scenes in Kenya, above. Hall and writer Bill Krueger (in hat) joined Craig Yencho and Ugandan scientists for a road trip.



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Class Notes

Send your class notes to the address below or ncstate_editor@ncsu.edu. Visit alumni.ncsu.edu/update to submit a class note via the Web.

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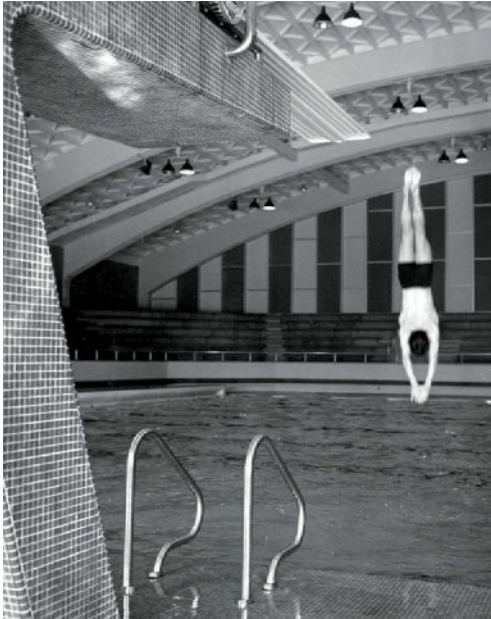
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For a complete Alumni Association staff listing, visit alumni.ncsu.edu/contact

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Into the Drink

I read the *NC State* magazine article on Carmichael Gym renovations with personal interest. I think I can claim to be the first student to swim in the pool there, not that it matters. They had just finished the gym complex, the security fences were down, and being a curious type, I went completely around the building one night. Although the doors were locked, there was an open utility panel where the cover had not yet been attached. I went back to my dorm room and got a flashlight. Since the building was dark, the flashlight was the only way to get around. At that point, the pool was filled and heated (it was January, and I suppose they couldn't take a chance on it freezing). I couldn't resist this opportunity, so I took off my clothes and jumped in—who would know anyway? The worst part was drying off before dressing in the cold air. Incidentally, when I took beginning swimming in 1958, students wore no swimsuits. Since there were some 8,000 men and only 400 women, suits were deemed unnecessary. I'll bet they don't do it that way anymore.

Ralph Daniel '64, Marietta, Ga.

A Player's Apology

I am not quite sure what you mean by the note on p. 7 of the Autumn 2018 issue. Are you saying you would have dropped the Trea Turner feature from the summer magazine had you known of his teenage tweets? Instead, maybe you should point out the maturity of his apology as noted by the Nationals' general manager, Mike Rizzo. His statement read: "I have spoken

Social Circles

In case you missed them, here are some highlights from our social media channels. Enjoy!



Tommy DiNardo

W. Scott Troutman "There have been four ACC tournaments with a DiNardo on an NC State basketball team. And NC State won all four tournaments." — I hope Tommy has a son that can somehow get on a future Wolfpack team! Great read!



square_footage38@ncstatealumni I enjoyed the influenza story. I work at the CDC in influenza ironically and the different ways NCSU dealt with it was amazing!

la_barbarita@ncstatealumni Has anyone else noted that your cover illustration looks eerily like Jamie Farr's "Klinger" from "M*A*S*H"?



Karen Bullock@KBulloc2 Thank you @NCStateAlumni Magazine for giving attention to high impact practices @NCState. Service learning and community engagement with older adults help students #ThinkAndDo the extraordinary. #DiversityandInclusion

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with Trea regarding the tweets that surfaced earlier tonight. He understands that his comments—regardless of when they were posted—are inexcusable and is taking full responsibility for his actions. The Nationals organization does not condone discrimination in any form, and his comments in no way reflect the values of our club. Trea has been a good teammate and model citizen in our clubhouse, and these comments are not indicative of how he has conducted himself while part of our team. He has apologized to me and to the organization for his comments."

Spears Mullen '78, '82, Raleigh

IN OUR NEXT ISSUE

Fifty years ago, Neil Armstrong walked on the moon. Viewers around the country watched on TV and heard his thoughts on small steps and giant leaps. NC State alumni were there, too. No, not on the moon—but around 30 alumni were working at NASA leading up to the historic Apollo 11 mission, authoring flight plans, helping engineer the Saturn V rocket and setting schedules for astronauts in orbit. *NC State* magazine caught up with some of those men, and to honor the anniversary, we'll tell their stories of what went down before Apollo 11 went up.

Tell Us What You Think

Letters to the editor should be sent to NC State alumni magazine, Campus Box 7503, Raleigh, NC 27695, or by e-mail to ncstate_editor@ncsu.edu.

Anonymous letters will not be published. Letters may be edited for length and clarity. Submission does not guarantee publication.



“Our investments today will ensure that North Carolina always has a productive, leading agricultural industry.”

Chancellor Randy Woodson talks about an important North Carolina crop.

We’ve devoted a lot of space in this issue to the amazing story of NC State and the sweet potato — a story that is rooted in eastern North Carolina but is being felt an ocean away. Chancellor Randy Woodson says it’s also a story that shows the benefits of supporting the kind of science and research that will be a centerpiece of the planned Plant Sciences Research Complex on Centennial Campus. (Make sure you read to the end to find out how our chancellor likes to eat his sweet potatoes.)

What impresses you most about NC State’s accomplishments with sweet potatoes here in North Carolina?

The sweet potato is a great story, because it was a crop that was suited to parts of North Carolina, but the vast differences in our soil made the varieties that were available not particularly attractive. The release of Covington, which was from our breeding program here, really just transformed the industry. It was disease-resistant, high-nutrient content — all the things you want in a sweet potato. It’s a great illustration of how long-term investment in science and facilities pays off for the state. Covington was released in 2005, but it took years to get it there. That’s why the long-term investment by the state, the long-term investment by the federal government, and the long-term interest of the scientists is so critical. It’s not about today. It’s about 30 years from now. Our investments today will ensure that North Carolina always has a productive, leading agricultural industry.

7.2

That’s how many pounds of sweet potatoes Americans eat, on average, in a year. In Uganda, people consume an average of 220 pounds of sweet potatoes a year.

And we’re doing amazing work in Africa, too.

That’s an illustration of how our knowledge can be extended to other parts of the world. In this case, East Africa had a history of growing sweet potatoes, but there’s a lot of disease, virus and insect problems. And they also had a history of using other forms of starch as their main source of calories, which were devoid of beta carotene, which leads to vitamin A deficiency. And so there’s a very large incidence of night blindness, and even blindness, in parts of sub-Saharan Africa. It’s where we can lend our expertise and our science to solve a global health problem.

You went to Africa and saw some of this work first-hand in Uganda. Tell us some of your impressions.

One of the things that impressed me the most is—Look, I’m a plant scientist, I’ve been around high-quality, strong science, and ours is outstanding. But the difference with this project in Africa is that it has people who are almost evangelical about the problem, going out to farmers and teaching them. Of course, the most important thing is the science behind the improved varieties and the genetics and disease resistance — but none of that works if you don’t get it in the hands of farmers.

The most important question: What’s your favorite way to eat sweet potatoes?

Just baked with butter. Straight up.

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Beyond the Bells

Renovation will bring some much-needed TLC to the beloved Bell Tower.



NC State's beloved Bell Tower is about to get a lot more than just bells.

The project to add a 55-bell carillon will also bring the granite structure some much-needed care and attention, halting the water damage that has been threatening the Shrine Room at the tower's base and even adding air circulation inside for the comfort of whoever plays the carillon.

The university has hired a contractor and architect — New Atlantic Construction and Walter Robbs, both based in Winston-Salem, N.C. — with experience at tackling historic renovations. New Atlantic was involved in renovations of the façades of Withers Hall and Thompson Theater, both dating to the early 1900s.

The Bell Tower project is estimated to cost \$6.5 million, and it's a complex undertaking. The tower was built between 1924 and 1937, and never held any bells. "We had to analyze the tower and see how it's going to react to the vibration of the bells," says Cameron Smith '96,



*Looking up:
Inside the tower,
the view from
the ceiling of
the shrine room
shows the steel
ladder that will
be replaced.*

the university's senior director of capital project management. (The largest bell weighs 2,000 pounds.)

The good news is the 115-foot tower is structurally sound. But a 2012 engineering study found a host of needed repairs. Water entry has damaged the interior of the Shrine Room, a 12-foot-by-12-foot room at the ground floor lined with green marble and cream travertine. The damage has been so severe that the limestone tablet bearing the names of those who died in World War I has been put into storage, with a facsimile in its place. The steel beams that support the ceiling of the Shrine Room are corroded and will likely need to be replaced, and contractors will replace the steel ladder bolted to the inside wall with a stairway for easy access to the top. Even the clock will get a new motor.

Construction is scheduled to begin in November 2019 and be completed by November 2020. The plaza and landscaping around the tower will be named Henry Square in honor of the support from William Henry '81 and his wife, Frances, of Gastonia, N.C.

The contractors will leave room in the schedule for the Alumni Association's twice-a-year Ring Ceremony, when class rings purchased by graduates spend the night in the tower before being presented to their owners. **SYLVIA ADCOCK '81**

HONORING THE FALLEN

The Bell Tower was designed as a World War I memorial, and the names of 34 alumni and students who died in the war are inscribed within. That list is about to get another name. Capt. Summey C. Cornwell, who graduated from NC State in 1903, served in the Army Engineering Corps and died of influenza a few days after he was honorably discharged in 1918. His name was not originally included in the tower, but Cornwell's service came to light after his granddaughter came forward. It hasn't been determined how Cornwell's name will be added to the shrine room.



Summey C. Cornwell

DID YOU KNOW?

NC State has replaced 900 miles of cable over the last seven years to improve Internet service in all of the dormitories.



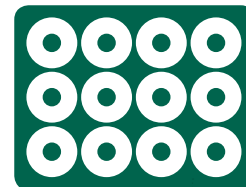
By The Numbers

A Challenge, A Cause and Lots and Lots of Calories

The Krispy Kreme Challenge marks its 15th anniversary this year, with thousands of runners lining up at the Bell Tower for the run to downtown Raleigh and back. Of course that includes a stop at the Krispy Kreme on North Person Street to eat a dozen glazed doughnuts before making the 2.5-mile trip back to campus. Over 15 years, that's a lot of miles run, a lot of doughnuts eaten and a lot of money raised for UNC Children's Hospital.

957,000

Doughnuts consumed (if each runner ate 12 doughnuts)



48

Runners have come from every state but Alaska and Hawaii to compete.

79,750

Total runners in 15 years



\$1.5 million

raised for UNC Children's Hospital

\$2 million

goal for total raised by 2020



398,750

Total miles run (assuming everyone made it all five miles)

30:08
record time for completing the Challenge, set in 2014



181.8 million

Calories consumed, at 190 calories per original glazed doughnut



Fifty-four

The number of "virtual racers," who staged their own five-mile challenge last year in places as far away as Canada and the United Kingdom. They get race T-shirts and medals, and the money they raise goes to UNC Children's Hospital.

A Pioneer's Place

Holmes Hall honors first African-American to get an undergraduate degree at NC State.

Irwin Holmes '60 came to NC State at a challenging time.

The first African-American student to earn an undergraduate degree from NC State, Holmes enrolled in 1956, just a year after the U.S. Supreme Court declared that UNC System schools couldn't bar black students from attending. At the time, Hillsborough Street restaurants did not serve black customers. His social life was mostly off campus — he'd hitchhike home to Durham, N.C., every weekend and spend time at N.C. Central University. In an interview with *NC State* magazine in 2006, he remembers that it wasn't until his senior year as an electrical engineering major that he was invited to join a study group — or even knew that such groups existed.

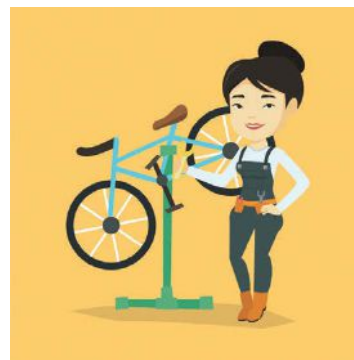
But he persevered and earned a spot as a sports pioneer as well, becoming a standout player on the tennis team and the first African-American student in any sport to win a varsity letter in the ACC. He was the team's co-captain his senior year.

Now, the university has honored Holmes by giving a new name to University College Commons. Holmes Hall is a three-story building next to Carmichael Gymnasium that houses services for students, including Study Abroad and advising for First-Year College students.

Chancellor Randy Woodson announced the naming in October, noting that Holmes "broke barriers that would forever change this university and the Atlantic Coast Conference. He was, and is, and will always remain a role model that helped drive needed social and cultural change at NC State, in North Carolina, and beyond."

After graduating, Holmes earned a master's degree at Drexel University and worked as a design engineer for RCA and later IBM. He is retired and lives in Durham with his wife. Holmes' red letter sweater is displayed in Reynolds Coliseum's Walk of Fame museum.

SYLVIA ADCOCK '81



SPIN CLASS

Wanna learn how to take care of your bicycle? Students may be surprised to discover where repair class is taught.

The Crafts Center at NC State is known as a place where students can tap into their creative side, through classes covering everything from photography to pottery. And then there's bicycle repair.

Yes, the Crafts Center, located in Thompson Hall, offers a class in bicycle repair and maintenance. And while it may not get the creative juices flowing like a class on fiber arts or woodworking the repair class has been popular with students since it was introduced in 2010.

Students in the six-hour class, taught over two evenings by triathletes and dedicated cyclists, learn how to repair flats, balance wheels, check the bike's gears, make sure the brakes are in good working order and anything else needed to keep their bikes in tip-top shape. The reward for completing the class is free use of the center's bike repair shop for the rest of their time at NC State.



PACK FACT

The Talley Student Union recently became the first building on campus to earn a second LEED® certification for sustainability. The building earned a gold certificate for its operation and maintenance.



Irwin Holmes '60 and his wife, Meredythe, at the dedication of Holmes Hall.

Revealing the FACES of Autism

Professor works to help African-American children get the benefits of an early diagnosis.

Autism impacts children of all racial and ethnic groups — but not all of them reap the benefits of early diagnosis. African-American and minority children are routinely underdiagnosed with autism compared to their white counterparts. It's a disturbing trend that prevents them from getting the therapies they need to succeed, says Jamie Pearson, assistant professor of special education at NC State.

"Early intervention services are critical for children with autism," she says. "But because of these disparities in diagnoses, black children miss out on these early supports."

Pearson is working to change that. She has put together a series of free meet-and-greet sessions to connect African-American families who have autistic children with community-based resources and medical providers who can help. It's a part of a larger project Pearson is leading called Fostering, Advocacy, Communication, Empowerment and Supports for African-American Families of Children with Autism, or FACES.

White children are about 19 percent more likely to be diagnosed with autism than black children, Pearson says. Many factors contribute. Black children are sometimes misdiagnosed with behavioral disorders and developmental delays instead, and parents may encounter pediatricians who adopt a wait-and-see approach or say they don't know much about the disorder.

"The face of autism is often white," she says. "Families of color are not necessarily able to make the connection that autism is just as prevalent in their communities."

The first event, held last spring, attracted more than 50 parents or relatives. More are planned this year. "Many people are just grateful to be in the same space as the providers," says Pearson. "Others say, 'I'm just glad there's someone who cares.'" **DIANA SMITH**



Phoning It In

Students interested in coming to NC State can explore campus from afar using a new virtual reality app. The GEAR UP app includes NC State and the 15 other UNC System universities. Users watch a short video about NC State's programs and facilities that is enabled with 360-degree viewing technology, allowing them to explore locations including the Hunt Library, Talley Student Union, and several classrooms and labs simply by moving their cell phones. (It also can be used by alumni who want to check out what campus looks like today.)

GEAR UP
Gear Up
stands for
**Gaining Early
Awareness and
Readiness for
Undergraduate
Programs.**

No special equipment is needed to run the free app, which is part of a federal initiative to make college more accessible to low-income students who may not be able to visit campuses in person. The app includes links to financial aid and application information.


PORK PROOF

The curly-tailed pig icon arrived in NC State dining halls late in 2017, warning of pork products just as a shaft of wheat warns of gluten. It was designed to help Muslim students sidestep pork in everything from meat-loaf to desserts with gelatin, says Lisa Eberhart, director of nutrition and wellness for University Dining. A more recent addition marks halal foods, which meet Muslim dietary guidelines.



The changes are convenient for Muslim students, and also welcoming, says Sinthia Shabnam of the Muslim Student Association, who consulted on the changes. "Something small like that can play a big role in feeling included in a space," says Shabnam, a senior from Morrisville, N.C., who is double majoring in sociology and political science.

Is the warning ironic in a barbecue-loving state? Its meaning may depend on the diner. "For some people, the pork icon is almost like advertising," she says. "It works on both sides."



IN PRINT

Swimming Between Worlds, Elaine Neil Orr's second novel, is set in Winston-Salem, N.C., in the 1960s. The book explores the lives of a young white architect who returns home from West Africa, his relationship with a local white woman — and how their lives intersect with a young African-American man who becomes active in the early sit-ins to protest segregation. Orr is a professor of English at NC State.



Marsha Gordon

PROFESSOR AND COORDINATOR OF NC STATE'S FILM PROGRAM

Who: Marsha Gordon, professor and coordinator of the film program at NC State since 2002. She teaches courses ranging in focus from musicals and war documentaries to African-American film and literature and cinema. And she's a director to boot. Gordon just made her first documentary, *Rendered Small*.

Office: Tompkins 257

Motion Pictures... A little black circular object sits in Gordon's office. At first glance, it looks like an ashtray, but it's a miniature zoetrope. Spin it and images drawn by one of her students bring to life a howling wolf. It's a nice reminder of how students surprise her. "More often than not, I'm surprised what students end up appreciating that I think they are going to be dismissive of," says Gordon.

Hard to Pick a Favorite, but... Gordon loves teaching classics like *Rebel Without a Cause*, by one of her favorite directors, Nicholas Ray. Or director Douglas Sirk's melodramas and Sam Fuller's war movies. Fuller, in fact, gets a nod above her desk with a framed picture of Lee Marvin from the set of the director's *The Big Red One*. She wrote a book about Fuller and was able to meet his wife and daughter. "They were generous enough to allow me into their home archive," she says. "I remember the first time I was in that space of his former writing studio, I just felt like this was like a religious experience."

An Eye for Art... A lamp designed to look like a dress is a piece of folk art. "One of my secondary life interests is the world of art and collecting," she says. She once worked at the National Portrait Gallery in Washington, D.C. It's that interest that led her to the subjects of her documentary, *Rendered Small*, which chronicles a Hillsborough,

There's no mistaking the office of Marsha Gordon for anything but that of a movie lover, from film posters and pictures of stars like Lee Marvin and Judy Garland hanging on walls and bookshelves.

N.C., couple's vast collection of miniature buildings.

Period Pieces... A movie poster featuring Clara Bow, an early 20th century film star, hangs on the wall. "If you were to say, 'What's your favorite period of time in film history?' America film from the Twenties to the Fifties," she says.

Wall of Women... Bow is just one of many powerful females adorning walls all around in the cinephile's digs. There's a picture of Judy Garland and a poster of Donna Summer. There's a boxed-up Eva Gabor wig (Gordon will offer to let you wear it) and a picture of Wonder Woman, Gordon's hero growing up in California's San Fernando Valley. And directly above her desk hangs a picture of Diana Serra Cary, a child star of the early 1900s. She went by the name of Baby Peggy, and Gordon got to interview her 12 years ago. The picture features Serra Cary's autograph.

CHRIS SAUNDERS

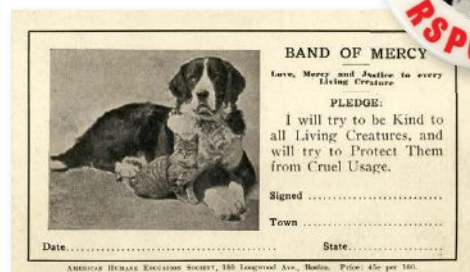
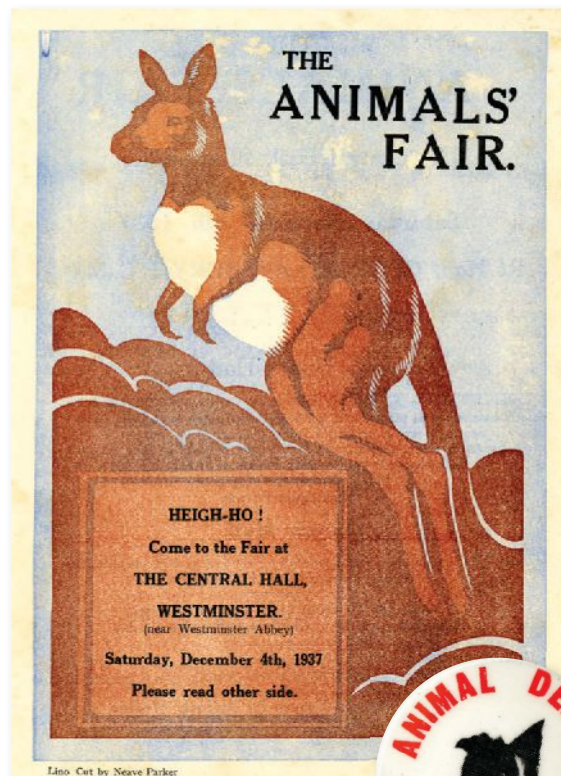
Digital Pawprint

NCSU Libraries project is digitizing records that tell the history of animal protection efforts.

NC State is working with the American Society for the Prevention of Cruelty to Animals to make the history of animal protection efforts nationwide more widely available. NCSU Libraries will digitize more than 239,000 pages of archival materials from the library's own animal rights collection and another 150,000 pages of records dating back to 1866 from the ASPCA. The three-year project is the result of a grant from the Council on Library and Information Resources. Once the digitization of pamphlets, photos, advertisements and other materials is complete, the historical items will be available to researchers through a single online portal.



Clockwise, beginning top right: A flyer from the 1937 Animal's Fair in London; an ASPCA button; a "Band of Mercy" membership card from the American Humane Education Society in 1920; an inspector for the ASPCA, which was founded in 1866.



BRICKYARD BRIEFS

New Libraries Director

Greg Raschke was named the new senior vice provost and director of NCSU Libraries. Raschke replaces Susan Nutter, who retired in 2017 after a 30-year career at the university. He had served as interim director since Nutter's retirement and has worked at NCSU Libraries since 2002.



Greg Raschke

An Honored Linguist

Walt Wolfram, a William C. Friday Distinguished University Professor, was honored by the UNC System with the 2018 Gov. James E. Holshouser Jr. Award for Excellence in Public Service. Wolfram was honored for his research on social and ethnic dialects.

Equal Education

The College of Education has established a new area of study in its doctoral program with an emphasis on educational equity. The program in teacher education, which will enroll its first students this fall, is designed to prepare education leaders to foster equitable learning environments and provide access to education for all children.



The Sounds of the City

A citizen science project is honing in on Raleigh's hum.

NC State researchers have teamed with the National Park Service and research groups at California Polytechnic State University and Boise State University to see just how cacophonous the Capital City really is.

Studies show that noise can have profound effects on humans and wildlife, says Caren Cooper '88, associate professor of forestry and environmental resources and director of the Sound Around Town project, which aims to analyze that impact. For that, she needs help from the city's residents.

In the project, participants have recording equipment temporarily installed outside their homes for 10 days. Cooper hopes to have around 50–60 participants, who will also perform short listening sessions, logging everything they hear. The idea is to understand what sounds residents hear in neighborhoods and how those noises make listeners feel.

"There are certain soundscapes that are beneficial and others that are negative," says Cooper. "Nature sounds, like birds and wind, have been shown to be mentally restorative, reducing stress and improving attention. But even the low-frequency hum of traffic can disrupt sleep patterns and may be associated with cardiovascular disease and other illnesses."

Noise pollution also impacts some racial and socioeconomic groups more than others, which is something that Cooper wants to assess in Raleigh.

Raleigh residents can join the project throughout the next year. When complete, the project's data will be added to the National Park Service's existing sound maps, creating a better picture of what different neighborhoods sound like and how they may inform environmental justice and public health efforts.

"Noise is defined as unwanted sound, but it's a funny thing to quantify," says Cooper. "There's been a history of measuring noise pollution by decibel levels and from there, figuring out what's harmful. But there are also sounds that aren't necessarily loud, but annoying, so it raises questions about what elements of our environment are harmful that we've just grown to accept."

DIANA SMITH

ON THE WEB

For more
information on the
project, go to
soundaroundtown.org.

A More Human Touch

Researchers have developed a new technique to make prosthetic hand movements easier.

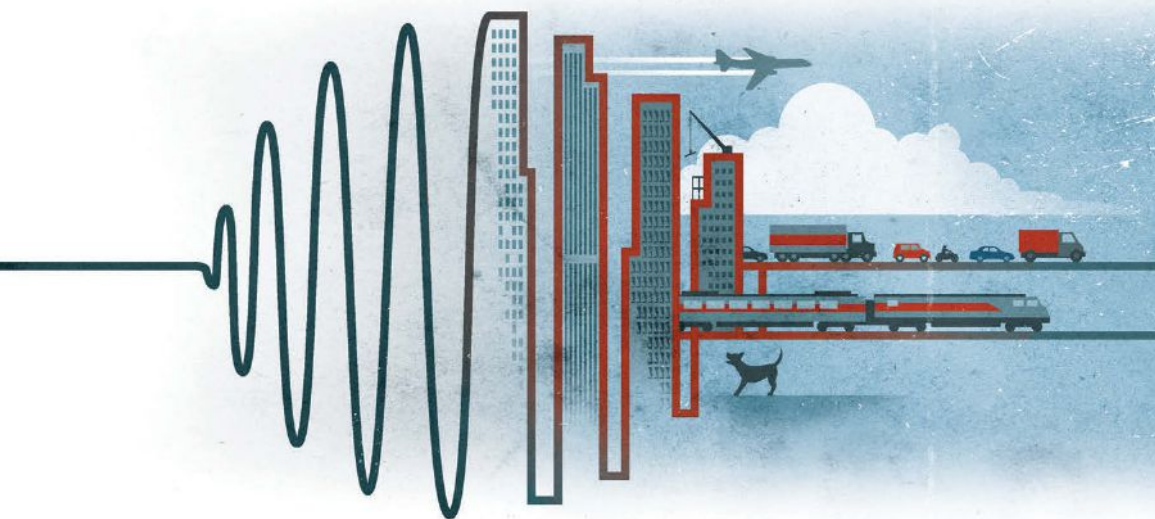
Robotic prosthetic hands may look like the real thing, but that's not enough for Helen Huang. "My goal is to see if we can improve the function of this device and allow it to work together with a human seamlessly," says Huang, a professor in the joint biomedical engineering program at NC State and UNC-Chapel Hill.

Currently, users have to laboriously "train" a robotic prosthesis to move when they contract certain muscles in the forearm. The device, which relies on machine learning, moves more like a robot than a human and has to be retrained frequently — sometimes several times a day — to adjust to different body positions and perspiration.

Huang's team instead has used knowledge about how muscles in the forearm naturally control the wrist and hand. The researchers created a virtual model that simulates how muscle contraction in the arm creates torque around the hand and wrist to move both at the same time. The new technology works well in the lab: When an amputee imagines making a fist, the muscles in the forearm contract as if the missing hand were still present. Sensors on the muscles collect the neuromuscular signals, and the prosthetic hand closes.

The technology is awaiting clinical trials, but Huang is already working on a number of improvements, including adding a component that would allow users to gain a sense of feel with the prosthesis.

MARY-RUSSELL ROBERSON





Stop the Bleeding

Professor is engineering new methods to help wounds heal in traumatic injuries.

There's one statistic that Ashley Brown, assistant professor in the joint biomedical engineering program of NC State and UNC-Chapel Hill, is trying to change at her Advanced Wound Healing Lab, where she creates new materials for situations where bleeding goes awry.

"Traumatic injury is one of the number one killers of young people, whether from car accidents, battlefield injuries or emergency medicine," she says.

With traumatic injury, the body's normal coagulation process is overwhelmed. So Brown's developing injectable nanogels acting as platelets, or clot-forming cells.

Brown's also seeking solutions for hemophilia, non-healing diabetic

ulcers and uncontrolled bleeding experienced by some newborns after heart surgery. This last project is a particular passion.

"It's a very understudied problem," she says, "and it's such a vulnerable population." Adult medicines stop the bleeding in some newborns, but not others. The blood of babies and adults clots in different ways, and Brown's lab is teasing out those differences. Future plans include testing which available medicines work best in newborns as well as developing new materials, such as nanogels, specifically for babies.

Brown's lab is in the Biomedical Partnership Building at the College of Veterinary Medicine, which leads to collaboration. For example,

"Traumatic injury is one of the number one killers of young people, whether car accidents, battlefield injuries or emergency medicine."

Brown and Ke Cheng, a professor in the vet school, are working on a non-surgical treatment for heart attacks: a nanogel that delivers drugs straight to the heart to dissolve clots and decrease scar tissue.

An asset to the lab's location is access to resources helping move ideas from bench to bedside, including a facility that can make prototypes according to the FDA's good manufacturing practices (GMP) regulations. Brown's lab currently conducts studies in petri dishes, test tubes and rodents, but she wants to move to larger preclinical and clinical studies.

"The goal for my lab right now is to get things to market," she says.

MARY-RUSSELL ROBERSON

The Brickyard Compete



..... Each target measures 1.5 inches.

Lucas Kozeniesky '17, who competed in the 2016 Olympics, holds NC State's records in air rifle and in smallbore—

599 in
air rifle
and
591 in
smallbore.

A TEAM AFFAIR: SMALLBORES AND BULLSEYES

Big shots The team competes in two events, air rifle and .22 caliber rifle (typically called “smallbore”). Each event involves 60 shots over a set period (90 minutes for air rifle, 105 minutes for smallbore). In smallbore, 20 shots are taken from a prone position, 20 shots from a kneeling position and 20 shots from a standing position.

Nobody's perfect A perfect score in each of the events is 600, something that's never been attained at NC State. Holsopple says no college competitor has ever had a perfect 600 in smallbore, but that several shooters have reached 600 in air rifle. Alas, she is not one of them. “I think my closest was 599, in practice,” she says.

Not a game of inches ... it's one of millimeters. Top shooters don't miss the center, or bullseye—it's just a matter of whether they're off-center by a tiny, tiny bit.

Timing is everything “A lot of it is how and when you squeeze the trigger,” says Holsopple. “A fraction of a second can make a big difference. It's a really precise sport.”

Staying inside All competitions are indoors. NC State's home meets are held at Reynolds Coliseum.

Tough competition NC State has never beaten West Virginia, the powerhouse team of college rifle, with 19 national team championships. NC State has not won a national championship in rifle, although Holsopple may bring some new mojo. As a competitor, her Kentucky teams beat West Virginia four times.

Working out Members of the rifle team hit the weight room, just like other athletes at NC State. But their objectives are a bit different. “We don't look at getting big muscle mass,” says Holsopple. “We're looking at more stability. We do a lot of core work, a lot of flexibility and mobility things, to help keep our joints healthy. Standing in those positions for so long is terrible for your body.”

Taking Her Shot

Emily Holsopple brings experience as a top competitor to her role as NC State's new rifle coach.

NC State's rifle team is unlike any other team that competes for the university. For starters, NC State has the only rifle team in the ACC—the Wolf-pack competes in the Great American Rifle Conference against the likes of Kentucky, West Virginia and Army. It's the only team where men and women compete against each other on equal footing. NC State's team next season will have four women and five men.

The team also has a new coach. Emily Holsopple, a nine-time All-American at Kentucky, took over last summer following the resignation of Keith Miller '85 after 29 years as the head coach of NC State's team. Holsopple says her role is a bit different from coaches in other sports. “We're a little quieter, I would say, than football or basketball coaches,” she says. “Our roles are more reserved. We work with shooters more one-on-one.”

Members of the rifle team are not necessarily hunters. “More of them come through 4-H or ROTC programs, that kind of thing,” says Holsopple. As to whether shooters rack up lots of stuffed animals on the Midway when the State Fair comes to town, Holsopple says she wouldn't know. “I've always been afraid I would lose,” she says. “That would be embarrassing.” **BILL KRUEGER**



Emily Holsopple



Lauren Phillips keeps steady before squeezing the trigger.

A Championship Assist

Wolfpack sports' Casi Dailey was part of a world championship in basketball last summer as trainer for USA Basketball.

There's not much Casi Dailey doesn't know about the players on the NC State women's basketball team. Tendencies on the court. Birthdays. Even moms' cell phone numbers for check-ins. That's because she's the trainer for the team and is with the players every day during the season. She tapes them for practice, schedules doctor's visits for them and helps them battle injuries.

In August, Dailey, who is in her seventh year at NC State, met a new crew. Dailey served as the trainer for the national team at the FIBA Americas U18 Championship in Mexico City. The team, which consisted of the top female basketball players in the country who are 18 and under, won the gold medal by defeating Canada, 84-60, in the championship game. "They gave me a medal," she says, "So I got to be part of the celebration."

Dailey says a lot of her international adventure was trying to make up for lost time. "I went into a situation where I didn't know any of these athletes," she says.

She had 10 days of training camp in Colorado Springs, Colo., at the U.S. Olympic Training Center,

and she used any second she had to get to know the players better. Dailey picked up details from the icebreakers the coaches opened practice with every morning. When she taped a player, she'd ask about things like what they liked to cook. "That's two or three minutes that they're with me and we've got some one-on-one time," says Dailey, who played multiple sports in high school until an ACL tear sidelined her and introduced her to sports medicine. "They have to trust me as much as I've got to get to know more about them."

And that trust leads to what Dailey values about her profession. "It's great," she says, "because I get to build really good relationships with really awesome women."

CHRIS SAUNDERS



Going Low



Three years after Stephen Franken had to "finagle" his way onto NC State's golf team, Franken has three ambitious goals for his final season. They are a testament to a career that began with the Raleigh native offering to sit out his first year to prove he belonged.

The first is setting NC State's career scoring record, held by Matt Hill '10, who had a 71.22 stroke average. Franken entered his senior year with a 71.16 mark.

While Franken won only one tournament in his first three years—Hill claimed 10—Franken has been remarkably consistent. The finance major finished outside the top 15 in only three of his 12 tournaments while winning ACC Player of the Year honors during his junior year. "When I'm having a not-so-great day," he says, "I do a great job hanging in there."

Franken's second goal is leading NC State to NCAA Championship success. The Wolfpack made it through regionals last year, but didn't make the top eight of the NCAA event. Franken had a poor performance, finishing in a tie for 107th. "I had some injuries at the NAAs with my back, so it made it a little tougher," he says.

The final goal is to earn playing privileges on the Canadian professional tour after his college days are over. Franken hopes that will act as a springboard for the Web.com and then the PGA tours. "I have high goals for my professional career," Franken says.

JACK DALY '01

SPORTS SHORTS

Kudos to Keatts

Don't forget to tack Hall-of-Famer on to NC State basketball's Kevin Keatts' name. In September, the Virginia native was inducted into Ferrum College's Alumni Sports Hall of Fame. Keatts played for the Panthers from 1991-95, one time even climbing on to a horse to promote the team on the cover of a media guide.



Gwiazdowski Goes Global

Nick Gwiazdowski '16 won two national titles at NC State as one of the most decorated wrestlers in the program's history. Well, he's taken his act on the road and gone international with his winning ways. Gwiazdowski won a bronze medal at the 2018 World Championships in Budapest in October. That's on the heels of his first international medal—a bronze—at the 2017 event.



Patrick-Swift

Swift Delivery

Jennifer Patrick-Swift is the new head coach of NC State softball. She comes to the Wolfpack from Saint Francis University in Loretto, Pa., where she coached for seven years and won conference championships the last two seasons. She played first base at Methodist College, now Methodist University, in Fayetteville, N.C., where she was a two-time offensive player of the year. Her husband, Patrick Swift, joins her staff as an assistant coach.

On the Fast Track

No female at NC State has ever run faster than Gabbi Cunningham, who has broken or tied six school records in sprints and hurdles.



She's never thought of herself as the fastest woman ever to attend NC State, but senior sprinter Gabbi Cunningham has earned the unofficial title. As she competes in her final season with the Wolfpack, Cunningham has broken or tied at least six school records in sprinting events that include the 60 meters, 60-meter hurdles, 100 meters and 200 meters. Sometimes she even breaks her own record.

"It's kind of funny," says Cunningham, a 20-year-old double major in sports management and communication. "When I've run my [personal records], I honestly felt slower. It's weird to explain. You know when it's going to

be a fast time, not because it may physically feel fast, but it just feels more efficient than another run. It's like everything is in sync." Cunningham credits great coaching, along with her own determination and positive attitude, for her success. "It's just crazy to see things unfolding," she says. "My dreams... I can reach out and grab them."

Those after-graduation dreams include the Olympics and a professional athlete contract. And Cunningham has two more Wolfpack records in her sights — the 200m indoor and the 100m hurdle outdoor.

SARAH LINDENFELD HALL



FUN FACTS

Pre-race Meal

Spaghetti and an Angel Food smoothie with kale, whey protein and Greek yogurt from Smoothie King.

Race Tradition

Faith is important to Cunningham, who prays before every race.

Hobbies

When she's not running, she likes to sing and dance.

RECORDS

2018 Outdoor Track & Field

Broke her own NC State record in the 100m at the 2018 USA Track and Field Outdoor Championships with a time of 11.21.

2017-18 Indoor Track & Field

Set two NC State records at the Tiger Paw Invitational, running a 7.31 in the 60m and an 8.05 in the 60m hurdles.

2017 Outdoor Track & Field

Broke NC State records in the 100m (11.26) and 200m (23.26) at the 2017 USA Track & Field Junior Championships.

2016-17 Indoor Track & Field

Tied NC State record in the 60m dash with a 7.39 finish at the ACC Indoor Championships.



A Winner on Wheels

She's an eight-time Boston Marathon winner, a 14-time Olympic and Paralympic medalist and a U.S. Olympic Hall of Famer. In short, Jean Driscoll is the most accomplished athlete on NC State's campus. But you won't typically find Driscoll, 51, on the sidelines at Reynolds Coliseum or Carter-Finley Stadium. Instead, the wheelchair racing legend works from Brooks Hall as the College of Design's executive development director.

"When I was growing up with my disability, my legs were weak. I couldn't walk one block to school," Driscoll says. "And all of these years later, I am a world-record holder in the marathon. I just love the irony of that."

Born with spina bifida, Driscoll ended up in a wheelchair after a high school bike accident. "I was angry about it," she says. She spent the school year rejecting

a classmate's invitation to join his wheelchair soccer team, certain that real sports didn't include wheelchairs. Driscoll gave in only to placate him and quickly realized how wrong she'd been. "Chairs were crashing and banging. Bodies were flying," she says. "And I thought, 'This is sport.'"

A University of Illinois coach recruited her to play wheelchair basketball. She added track and road racing to the mix. And, after winning her first Boston Marathon as a senior, she focused on racing once she started graduate school at Illinois. After dominating the sport for a decade, Driscoll retired in 2000, became a motivational speaker and, five years later, launched a career in university development at Illinois. She arrived at NC State in November 2017, ready to raise money

for the College of Design. Her experience as an elite athlete, connecting with sponsors, the media and the public, helped prepare her for the job, she says.

"I truly feel like I won the lottery in the College of Design," she says, citing the high caliber of students at the school. "I'm really excited to be part of the Wolfpack now."

SARAH LINDENFELD HALL

"Chairs were crashing and banging. Bodies were flying. And I thought, 'This is sport.'"



8

Boston Marathon wins

12

Paralympic medals
5 gold
3 silver
4 bronze

2

Silver Olympic exhibition medals in the 800-meter exhibition event

5

Boston Marathon Records Broken

A Place for Jimmy V

Arena at Reynolds Coliseum is named to honor Jim Valvano.

Since Wolfpack men's basketball moved to the PNC Arena in 1999, it's been traditional for the team to play an annual heritage game in historic Reynolds Coliseum. Those games became a little more special in 2016, when a renovation brought new energy to the court and created a museum to showcase NC State athletics history.

At this season's heritage game, the team was the first to play in a newly named arena. At a ceremony on Dec. 5, just before the tipoff with Western Carolina, the James T. Valvano Arena at Reynolds Coliseum was dedicated to honor the legendary coach. Pam Valvano Strasser, Valvano's wife, was on the court for the ceremony, and several of Valvano's players were on hand.

"Coach Valvano captured the hearts of Wolfpack fans with his coaching success and dynamic personality," says Debbie Yow, director of athletics. Valvano called Reynolds home for more than 10 years as head basketball coach, and served as ath-

letics director from 1986 to 1989. He died of cancer in 1993 at age 47.

The naming is part of the Think and Do the Extraordinary Campaign, a drive to raise \$1.6 billion in private support for NC State. A group of supporters of NC State athletics joined to honor Valvano's success and legacy by making a \$5 million pledge to name the arena. The money will help pay for the recent \$35 million renovation of Reynolds.

Reynolds now honors two icons from NC State's athletics history. The playing court is named after Kay Yow, the women's basketball coach who died in 2009. The coliseum is home to women's basketball, gymnastics, volleyball and wrestling. **SYLVIA ADCOCK '81**

"DON'T GIVE UP. DON'T EVER GIVE UP."

Valvano made his final visit to Reynolds in 1993, where he delivered the words he is most known for.



DRISCOLL PHOTOGRAPH COURTESY OF JEAN DRISCOLL

CONGRATULATIONS

to the 2018 Winners of the Colleges Distinguished Alumni Awards, the Wolfpack Club's Ronnie Shavlik Award and the NC State Alumni Association Awards.

The 2018 Alumni Association Evening of Stars Gala honored 18 women and men who exemplify NC State's mantra of "Think and Do." They made an impact on campus, down the street, across the state, throughout the nation and around the world. Educator, scientist, farmer, entrepreneur, engineer, visionary and philanthropist are just a few of the words that describe them.

To learn more about these recipients, visit alumni.ncsu.edu.



Anthony "Tony" Avent 1978

College of Agriculture & Life Sciences

Alan Ayers 1974, 1985 PHD

College of Agriculture & Life Sciences

Kathleen Kincaid 1992 MS

College of Design

Wendell H. Murphy 1960

College of Education

Suzanne Gordon 1975, 1980 MS

College of Engineering

Peter M. Lehrer 1963

College of Engineering

Alan Stuart Weinberg 1963

College of Engineering

Wayne "Gil" Gilbert West 1984

College of Engineering

John A. Ward II 1991

College of Humanities and Social Sciences

Charles Allen Keeley III 1985

Poole College of Management

Zachary Guy 2001

College of Natural Resources

William Dean Bunce II 1986

College of Sciences

L. Dudley Walker 1952

College of Textiles

Dr. Kady Gjessing 1994 DVM

College of Veterinary Medicine

Richard "Rick" Speers 1969

Wolfpack Club | Ronnie Shavlik Award

Margaret "Maggie" Kane 2013

Outstanding Young Alumna

Edward "Allen" James 1967

Alumni Association Award for Meritorious Service

Tracey Ray 1993, 1997 MS, 2001 PHD

Alumni Association Award for Meritorious Service



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BY SARAH LINDENFELD HALL
ILLUSTRATIONS BY JAYA NICELY

Storm Troupers

When Hurricane Florence tore through North Carolina, scores of NC State alumni across the state hunkered down and simply went to work.

Days after Hurricane Florence passed, houses in Lumberton, N.C., remained surrounded by floodwaters. Churches, schools and farms were flooded as the Lumber River overflowed its banks.

FOR NORTH CAROLINA residents, early September usually means establishing a routine to get the kids to school in the morning, mapping out the fall's tailgating logistics or planning one last trip to the beach. But this past September all those plans were put on hold as weather forecasters kept a close eye on a tropical depression named Florence that soon began barreling toward the East Coast as a Category 4 hurricane.

The storm was not hype. Florence displaced thousands in its wake in both North and South Carolina. It dumped more than 30 inches of rain in North Carolina, causing widespread inland flooding and leaving major highways impassable for days. Hundreds of thousands of people lost power and the city of Wilmington was virtually cut off from the mainland.

As the storm rolled through, NC State alumni were among many who went to work. Sleeping on cots in their offices or pulling all-nighters, they saved the lives of animals, carried out evacuation orders, found shelter for those left homeless and organized first responders. Here are some of the stories of folks for whom responding to a hurricane was part of the job.

PHOTOGRAPH BY JASON MICZEK, REUTERS





STORM STORY #1

'THAT WATER KEPT COMING IN'

ANNA ALLEN '10 DVM

Regional emergency program veterinarian (Raleigh)

THE CARTERET County Humane Society was taking in water. The animal shelter in Newport, N.C., doesn't sit in the flood plain, but that didn't stop Hurricane Florence's historic flood waters from reaching it. After a day of rain, dozens of dogs and cats and several workers were trapped on the top floor of the shelter building, surrounded by water.

The workers at the shelter had felt safe, "but that water kept coming in," says Anna Allen '10 DVM, regional emergency program veterinarian for the N.C. Department of Agriculture and Consumer Services. From the command center in Raleigh, Allen was dispatching supplies and manpower while coordinating with other government agencies, nonprofits and even NC State's vet school. The shelter employees and animals were rescued by boat, and Allen helped them find a dry space. Then she had 170 cages delivered to keep the dogs and cats safe in the makeshift shelter.

Allen is always planning for moments like this. As a regional emergency program veterinarian, she works with local leaders in North Carolina's southeastern counties — all hard hit by Florence — to make sure they have a plan for animal shelters, pets and farm animals when disaster strikes. "Animal services, in general, that's a tough business to be in," she says. "They don't have a lot of resources to work with."

During Florence, Allen worked around the clock, providing aid to pets and animal shelters in the disaster area. The effort began before the storm as she filled a

426

people
airlifted to
safety
(plus 234
pets)

510,000

customers
without
power
two days
after
landfall

51

deaths
in three
states

warehouse with crates, kennels and other items and signed up workers from across the state to help at shelters that would need support. After the storm, she went into recovery mode, sending out help where needed. Going forward, she's looking toward the next storm.

"My job now," she says, "is to look back at everything we did and pull out these nuggets for what we can set up to do the next time."



STORM STORY #2

'NO WAY TO GET TO THEM'

MARY-LYNN KEBKER '17 MED

Captain, N.C. National Guard (Raleigh)

THE CALL CAME not long after Mary-Lynn Kebker '17 MED had wrapped up nearly three weeks of training with her N.C. National Guard unit in Texas. It was days before Florence's expected landfall, and she was needed to help with recovery efforts.

A National Guard captain, Kebker spent the next 13 days working 18-hour shifts in Garner, N.C., where she helped set up a base for emergency responders to check in, eat, sleep and fuel up before they were deployed. Within 72 hours, the shelter was ready for 1,000 people with cots, bathrooms and fuel tankers. "We even fed them three meals and a midnight snack," she says.

As they worked with parachute jumpers from New York, swift-water rescue teams from Maryland and responders from as far away as Alaska, Kebker helped organize other critical missions — like the delivery of fuel and feed for farm animals by helicopter. "There were a

At Brunswick Electric Membership Corporation, employees at the control center kept a close eye on the storm and power outages. Its customers are primarily in Columbus and Brunswick counties.



whole bunch of chickens and hogs in danger because the generators were running out of fuel and water was so high, there was no way to get to them,” says Kebker, who also works as a literacy coach at NC State.

But the biggest challenge during Florence, she says, was the uncertainty before the storm. “We were all on standby,” she says, “just waiting until the aftermath to see who needed help.”

STORM STORY #3

‘A SENSE OF DUTY’

JOSH WINSLOW '04, '16 MBA

Manager of operations, Brunswick Electric Membership Corporation (Supply, N.C.)

HIS WIFE AND CHILDREN were ensconced near Raleigh. His home in Supply, N.C., 10 miles from Holden Beach, was boarded up. And, as Florence bore down, Josh Winslow '04, '16 MBA, manager of operations for Brunswick Electric Membership Corporation, went to the company's headquarters in Supply, where he would work round-the-clock for nearly a week, sleeping in his office.

3,100
swift
water
rescues

The effort started days before the storm hit as Winslow and his co-workers scheduled tree trimming and power line construction crews from other electric power providers and ensured they had a place to stay and meals to eat as they worked. After Florence made landfall just 30 miles away near Wilmington, 500 extra workers, along with Brunswick's own linesmen, worked to get the lights back



on for nearly all the co-op's 80,000 customers in Brunswick and Columbus counties. Among Winslow's tasks was to determine where to send crews to restore power.

In the beginning, the crews were able to make headway and restore power to large geographic areas. "Then you spend a lot of time on smaller numbers at the end," says Winslow.

Flooding made the work particularly treacherous. At one point, most of the region's major roads were impassable. Brunswick workers were ferrying food across the Lockwood Folly River to a crew who had been cut off. To navigate through the high water, they relied on amphibious equipment — giant, floating tank-like vehicles with power-line construction equipment — to get to areas that needed help. But, he says, workers didn't back down.

"There is a drive, work ethic and skill level in the utility profession that is astonishing to me," he says. "They all seem to have a sense of duty and are willing to set personal concerns aside for as long as necessary."



STORM STORY #4

'NEW TO US'

DOUG HEWETT '94, '96 MPA

City manager (Fayetteville, N.C.)

WHEN HURRICANE Matthew struck in 2016, Fayetteville City Manager Doug Hewett '94, '96 MPA, says officials were out of practice with hurricane preparedness and recovery. "We had not had a hurricane in Fayetteville in some time that had caused that level of structural flooding," says Hewett. "We learned a lot of lessons before the storm and after the storm."

Those takeaways from Matthew paid dividends two years later as Florence set its sights on eastern North

**112
mph**

*wind
gusts at
Wilmington*

15,000

*people in
emergency
shelters
two days
after
landfall*

**1.2
million**

*school
children
missed class*

Carolina. This time, Fayetteville crews staged barricades in flood-prone areas to reduce the number of swift-water rescues. They posted signs, asking residents to clean out storm drains. And, before the storm, city staff got time off to ensure their homes were secure and their families were safe so that they could focus on work once the rain and wind came. Hewett's mother and sister, along with their pets, who live near the coast in Supply, stayed at his home during the storm.

But Hewett, who was working from city hall and sleeping on a cot in his office, couldn't plan for everything. With Florence came the potential for catastrophic flooding of the Cape Fear River, forcing city officials to issue a mandatory evacuation notice for all people living within one mile of the banks of the river. "That was something new to us," Hewett says. At one point, Fayetteville was housing nearly 1,500 people and 114 pets in 10 different shelters.

As it turns out, Florence left plenty of its own lessons in Fayetteville. The city will look at its development practices and accelerate research of its 14 watersheds. But, Hewett says, it didn't result in the same level of damage as Matthew. "We didn't have any significant roads washed out or buildings damaged because of Hurricane Florence," he says of the city's public facilities. "...It's amazing, just 30 miles down the road in Lumberton, it's a completely different story."

STORM STORY #5

'THE REAL HEROES'

BRANDON LOVE '96, '97, '98 MR

Deputy city manager (Lumberton, N.C.)

AS FLORENCE FINISHED with North Carolina, Brandon Love '96, '97, '98 MR, worked outside in the driving rain, nailing on shingles that had blown off his roof during the storm. It was the only damage to his Robeson County home. Love lives there with his wife, Georgia Pate Love '95, '98 MS, and their two children. But it was a different story for residents and their houses in Lumberton, where Love is deputy city manager. Florence left parts of the city inaccessible, and Love spent more than a week working 16-hour shifts from an emergency operations center to help put it back together.

Lumberton had seen such devastation before. Since 2016, Love's work has focused on recovery after Hurricane Matthew, which left \$13 million in damage to public buildings, damaged 600 homes and provided plenty of lessons in how to prepare for and respond to a hurricane. One of those lessons was to keep the water



plant running—it closed during Matthew. “It’s a whole lot easier for folks to survive for several days without power than without water,” Love says. But it wasn’t easy.

Soon after the Lumber River rose, the intake that withdraws water from it, along with pumps that pull water from deep wells, stopped operating. Public works director Rob Armstrong ’94 and deputy director Corey Walters ’12, were on the case. Walters lined up a 500-pound pump in Sanford. Love’s job was to get it to a well platform in the deluged flood plain.

Love got resourceful. The roads were flooded, so he arranged for the municipal airport director to fly to Southport to pick up a contractor who could get them access to a pontoon boat. Using the pontoon, the contractor pushed the pump to the well platform, where city public works employees used a makeshift hoist to install it.

“By the end of the day, we had a third well back online,” Love says. “The real heroes in this situation were our public works department.”

STORM STORY #6

‘BIG TEAM EFFORT’

TIM LITTLE ’90

Chief engineer, N.C. Department of Transportation
(Raleigh, N.C.)

IN HIS 28-YEAR CAREER with the N.C. Department of Transportation, Tim Little ’90 has been through plenty of hurricanes. Fast-moving Hurricane Fran battered the state in 1996 with high winds. Hurricane Floyd drenched it as it quickly rolled through in 1999.

And then came Florence in September. The monster

4.1
million

*chickens
and turkeys
killed*

35.93

*inches of
rain, a new
record in
N.C. for
rainfall in
a single
tropical
system*

\$50
billion

in damages

storm with a record-breaking storm surge of 9 to 13 feet made landfall and then stalled, washing out roads and bridges and shutting down interstates 40 and 95 and other major roadways. It eventually dumped 20 to 30 inches of rain across a broad swath of North Carolina.

By late October, about six weeks after the storm, 46 roads were still closed. A rough estimate of the damage Florence caused to roads, bridges and other facilities totaled around \$260 million, says Little, the state transportation department’s chief engineer.

From his office in Raleigh, Little supervised the response, ensuring that crews were ready to make repairs. Technology helped more than usual during Florence, Little says. Computer models did well predicting where the water would rise. And drones provided an elevated view of the destruction. “You can get to see things in more real time than you would in the past,” he says.

But, as he surveyed the state’s hardest-hit areas via helicopter, what struck Little wasn’t the damage to infrastructure. It was the destruction to livelihoods. “It’s houses. It’s farms. Towns that are inundated by water,” says Little. “The human factor, that’s the part that’s hard to look at.”

Little says he found it heartening to see state workers, contractors, engineering firms and others work on the reconstruction of the state’s roads. “It’s a big team effort,” Little says. “It’s everybody that works in this industry, coming together to try to get the roads back open. That’s something we do very well.

“And, unfortunately, we’ve got a lot of experience at it.” ■

*Sarah Lindenfeld Hall is a
freelance writer in Raleigh.*



BY BILL KRUEGER
PHOTOGRAPHY BY MARC HALL, NC STATE

Can Sweet Potatoes Save the World?

NC State rescued the sweet potato industry in North Carolina and helped it grow into a global powerhouse. Now the university is leading an effort to breed sweet potatoes that could provide economic opportunities and better nutrition for people in several African countries .

Did you know?

Sweet potatoes are the top-ranked "superfood" in a list of healthiest foods published by The Center for Science in the Public Interest. Mangoes are No. 2.





NC15-0691

Plot: 104

Rep: 1

PM Sample
2017



Did you know?

A large sweet potato, baked with its skin intact, can contain more than 1,700 micrograms of vitamin A—about twice the recommended daily amount.

Some foods are known as seasonal wonders, making an appearance only once or twice a year when families gather for holiday feasts. Cranberry sauce, pecan pie, egg nog. Sweet potatoes, typically with tiny marshmallows roasted on top, were once on that list. But sweet potatoes are on the rise. They have become increasingly recognized as a superfood packed with essential vitamins and nutrients, and are now enjoyed throughout the year—in upscale restaurants, as a healthier alternative to French fries, and in products as varied as vodka, sausage and muffins.

Did you know?

Despite the name, sweet potatoes are not potatoes. The edible portion of potatoes are tubers, while that of a sweet potato is a storage root. Sweet potatoes are more closely related to morning glories (bottom).

And a sweet potato is not the same thing as a yam. Sweet potatoes are native to Central and South America, while yams are a tuber native to Africa and Asia. Yams have rougher, scaly skin.



Behind that rise is a remarkable success story with its roots at NC State, one that reaches into the familiar farms of eastern North Carolina and to the often forgotten corners of a handful of African nations. It is a story of science and salvation, of a pair of breeders who defied ridiculous odds to develop a new sweet potato variety that rescued the industry in North Carolina. It is also a story that holds out promise for the future, well beyond the shores of North Carolina and its acres of sweet potatoes. The work of a professor at NC State could transform the way sweet potatoes are eaten in several African countries, improving the health of young children and their mothers and creating new economic opportunities in Africa's bustling cities and smallest villages.

Antonio Magnaghi is among those in Africa banking on sweet potatoes. He is well on his way to turning his small bakery on a crowded industrial street in downtown Nairobi, Kenya, into a thriving business that sells sweet potato muffins, fries and other products in the country's top hotels, markets and coffee shops.

"The possibilities," Magnaghi says with an irrepressible grin, "they are endless with sweet potato."

COUNTING ON COVINGTON

It was not that long ago, though, that the outlook for sweet potatoes was grim at best. Less than two decades ago, sweet potato farmers across eastern North Carolina were telling their kids to find another type of work because they couldn't count on a decent crop of sweet potatoes. They were primarily planting a variety known as Beauregard that was developed in Louisiana, and it was not well suited to North Carolina's soil and climate. There were too many unpleasant surprises — like getting your first look at a bad poker hand — when farmers dug up their sweet potatoes each fall. They kept finding odd shapes and sizes that wouldn't sell in grocery stores. Or, as one farmer puts it, Beauregard sweet potatoes were "as ugly as homemade soap." Without a new variety, fewer and fewer sweet potatoes were going to be grown in North Carolina. "Our livelihood was at stake," says Jerome Vick, the patriarch of a large family farm in Wilson, N.C.

Then, in 2005, breeders at NC State hit the jackpot. They came out with a sweet potato variety they called Covington, which had begun as a botanical seed in 1997 and progressed through years of field trials. Within a few years, Covington was nearly all anyone grew in

North Carolina. Year after year, from one field to another, it could be counted on to produce a high percentage of what are known as “number ones,” with the familiar shape, size and look to be sold in grocery stores and farmers’ markets. By 2017, the amount of sweet potatoes grown in North Carolina had nearly doubled and the state had reclaimed its place as the leading producer of sweet potatoes in the United States. Jim Jones, who grows about 1,500 acres of sweet potatoes in Nash County, says Covington was “the best thing that’s happened in the sweet potato business.”

The combined efforts of NC State researchers, professors and extension agents, working closely with farmers and an engaged trade group, have transformed sweet potatoes into a year-round economic powerhouse that is now shipped from North Carolina to Europe and other corners of the globe. Some farmers have described it as a perfect example of the work that a land-grant university such as NC State should do. “We just couldn’t operate without NC State,” says Pender Sharp ’71, a fifth-generation farmer in Sims, N.C., about an hour’s drive east of Raleigh.

But that’s only part of NC State’s sweet potato story.

HALF A WORLD AWAY

Craig Yencho is crouching in a field of sweet potatoes in the remote northwest corner of Uganda, not far from a massive tent camp that is home to thousands of refugees from South Sudan. He has driven more than seven hours from Kampala, the country’s chaotic capital city, across the Nile River and past a pack of wild baboons and a couple of wandering elephants to get to a research farm in the town of Arua. He is struggling with a stick to dig into the dirt, which has been baked rock hard by the unforgiving equatorial sun and the delayed onset of the rainy season. What he finally pulls out of the ground is a scrawny excuse for a sweet potato. It is also riddled with holes that are signs of weevils, a small but pervasive pest that can wipe out a crop.

Yencho, a William Neal Reynolds Distinguished Professor and leader of NC State’s sweet potato and potato breeding and genetics program, was one of the masterminds behind Covington, the variety now grown throughout North Carolina. He also leads an effort, fueled





by a \$12 million grant from the Bill and Melinda Gates Foundation, to bring molecular science to sweet potato breeding programs in Uganda and a handful of other sub-Saharan countries in Africa. His ultimate goal is twofold — to use sweet potatoes to increase economic opportunities and to get sweet potatoes’ nutrients into the bellies of children and pregnant women who suffer from such serious vitamin A deficiencies that they are in danger of going blind.

Sweet potatoes are already a staple of the diet for many families in Uganda, who eat them steamed in banana leaves or simply boiled, sometimes with every meal. But most of the sweet potatoes grown in Africa would be unfamiliar to American consumers. Instead of orange, they have white, cream-colored or yellow flesh, and are not as sweet or soft as their American cousins. They also don’t have all the nutrients found in orange-fleshed sweet potatoes.

But changing consumer preferences may be the easy part of Yencho’s challenge — early promotional efforts touting the health benefits of orange foods such as sweet potatoes and mangoes have created some converts. “Kids are attracted by the orange color,” says Robert Mwanga ’01 PHD, a Ugandan scientist who won the World Food Prize in 2016 for his pioneering work to promote orange-fleshed sweet potatoes

The Covington sweet potato was named for Henry M. Covington, an extension specialist at NC State from 1946–74. He was known as “Mr. Sweet Potato” for his work promoting the crop and his leadership in the formation of the U.S. Sweet Potato Council.

 Base countries for Craig Yencho’s sweet potato work.

 Countries where the project has trained sweet potato breeders.





in his country. “Also, the softer the food is, the better it is for kids. It’s easier for them to eat.”

The bigger challenge is breeding new varieties of orange-fleshed sweet potatoes that can be grown in Uganda. Weevils take advantage of dry, cracked soil brought on by drought (and a lack of irrigation) to burrow their way into growing sweet potatoes, and wipe out more than 70 percent of the crop in most years. “Everywhere that sweet potato is grown [in Uganda], you will find weevils,” says Mwanga. And orange-fleshed sweet potatoes, which typically have less starch and are therefore less dense than most of the sweet potatoes grown in Uganda, are softer and easier for weevils to burrow into. “We still have a long way to go,” Mwanga says, “to get something that farmers can leave out in the field and not worry about the weevil.”

As insurmountable as the challenges may seem, Yencho is undaunted. He laughs when he is asked during a visit to Uganda and Kenya last year if it feels like he is forever pushing a heavy rock up a steep hill, like a modern-day, gray-haired Sisyphus. “Yeah, it can feel like that sometimes,” he says. But Yencho prefers a different outlook, one that reflects an optimism

dating back to his wanderlust days as a young Peace Corps volunteer in St. Kitts and Nevis.

It is an optimism that focuses less on the big picture in favor of countless small victories. It takes into account the Ugandan breeders he has trained (such as Mwanga and Benard Yada ’14 PHD, who runs the government’s sweet potato research efforts) as graduate students at NC State. It takes into account the scientists he works with on a bucolic research campus in Nairobi, Kenya, to develop a program using advanced molecular breeding techniques that will help sweet potato farmers in Africa, North Carolina and elsewhere. It takes into account home-grown entrepreneurial efforts he has seen in Africa that embrace the economic and health benefits that come with orange-fleshed sweet potatoes.

“I like to think in terms of pebbles,” Yencho says, “and how a pebble tossed into a pond creates ripples.”

He sees some of those ripples during his visit to the farm in Arua, where researchers have been working with sweet potatoes for only three years. “The field looks beautiful,” he says as he surveys the scene with Yada and a group of Ugandan breeders traveling with

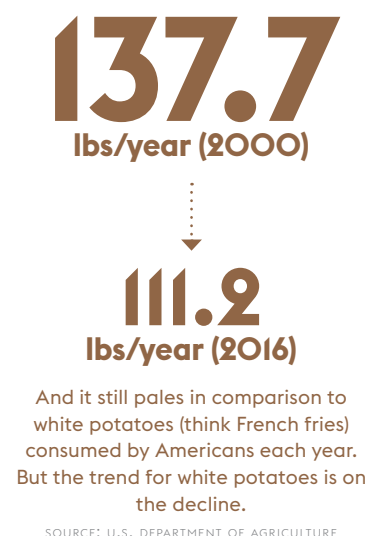
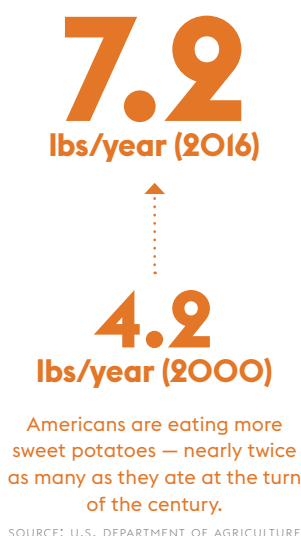


OPPOSITE: Craig Yencho and Benard Yada ’14 PHD survey sweet potato vines at a research farm outside Kampala, Uganda; Yencho and Mercy Kitavi work with sweet potato samples in a lab in Nairobi, Kenya.

ABOVE: Kitavi extracts DNA from a sweet potato.

Piling on the Sweet Potatoes

Americans used to eat a lot of sweet potatoes — per capita consumption peaked at 29.5 pounds in 1920. By the 1990s, though, it had fallen as low as 3.7 pounds before starting to rebound since the turn of the century.





Malinga Emmanuel, a farmer in central Uganda, left, shows off a white-fleshed sweet potato grown and consumed throughout Uganda and other African countries. In eastern North Carolina, Jim Jones, right, holds a Covington orange-fleshed sweet potato, familiar to consumers throughout the United States. No matter where you plant them, growing sweet potatoes is hard work—as the hands on both these men show.





Want Fries with That?

Ken Pecota spends a lot of his time these days thinking about McDonald's. Pecota, a sweet potato breeder at NC State, is trying to develop a new variety that will enable the fast food chain and others like it to start selling sweet potato fries.

But aren't sweet potato fries already found on the menus in many restaurants? They are, but not in fast-food restaurants, where operators want a fry that will stay crispy (without the use of a batter) for the 10 or 15 minutes it takes to get home after picking up food at the drive-thru window.

That may sound simple, but Pecota (shown above in a food lab in Schaub Hall) insists that's not the case. Put simply, if you increase the level of starch that helps a fry stay crisp, you risk losing some of the sweet potato's health benefits and run the risk of the potato turning brown when it's fried. So Pecota says breeders are focusing on changing the nature of the starch, rather than the amount of starch in a potato. "It's really complicated," he says, "but it'll make the difference between a limp French fry and a crispy French fry with no batter."

him and some of the farm staff. "The rows are well laid out. Your weed management is really exceptional." He detects what he calls "drought damage," but wonders about other damage to the crops. "That's goat damage," someone tells him. "Say what?" Yencho asks. "Goat damage," he is told again. Yencho laughs. "I'm an animal lover," he says, "so that's OK."

IT TAKES TIME

Ken Pecota is crouching in a field of sweet potatoes on a research farm in Clinton, N.C. A flap on his cap protects his neck from the sun as he works his way down dusty rows to check on several varieties being tested. Pecota, a sweet potato researcher and breeder at NC State, was also one of the breeders behind Covington. It was clearly the signal achievement of his career, but he is determined to develop other varieties that will find their way into farmers' fields. Some are for niche markets, such as organics, while others are more suitable for processing into fries, chips or other uses. And there are no guarantees that problems won't eventually develop with the Covington breed.

"If you're ever satisfied as a breeder, you need to retire," he says. "There's always something you can make better."

The varieties he's testing today have already shown some promise, but there are far more tests to be done before any conclusions can be reached. They sit on top of the dirt, having been dug up earlier, and Pecota is conducting the most basic tests before the potatoes are sent to the lab for further analysis. "See, this guy rotted," he says as he grabs a sweet potato. "That's not a good sign." But he also notes some positive signs: "They've got good uniformity, right? They're all kind of the same shape. There's a nice lightness, a really nice finish to it. The skin texture is beautiful." He slices into some of the sweet potatoes and takes a bite, and estimates the amount of starch (an important consideration for varieties bred primarily for processing into fries or chips). "I know that one's got a medium starch," he says at one point.

The practiced ease with which Pecota approaches his work masks the fact that it is incredibly difficult to breed sweet potatoes, be it in North Carolina or in Africa. It's easy enough to cross two different varieties of sweet

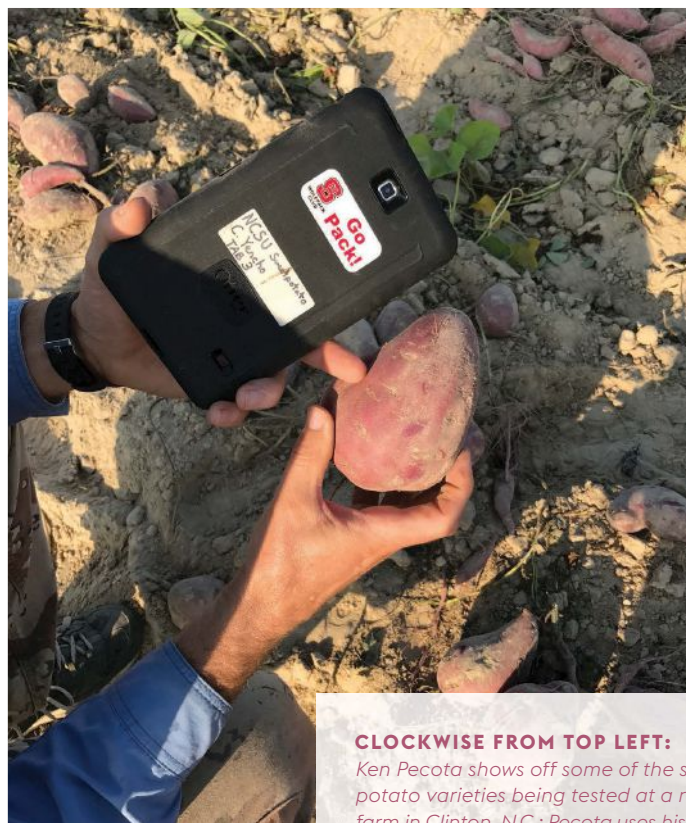
potatoes and come up with a new, distinctive variety — as long as you don't care too much about how it turns out. Sweet potatoes have a much more complex genetic makeup than most vegetables, fruits and grains. Sweet potatoes are a hexaploid, which means they have six sets of chromosomes.

So it's difficult to get the desired mix of traits. NC State's breeders track 45 different traits — resistance to disease, drought tolerance, shape, color and size, to name just a few — in the sweet potato varieties they work with. It takes years of trial and error to test new varieties, and the overwhelming majority end up having some sort of fatal flaw that makes them ill-suited for farming or processing. Yencho and his team start every year with 60,000 new varieties, knowing that most of them will fall short at some point during seven (or more) years of field tests. At times, the process can seem downright cruel — a couple of years after releasing Covington, Yencho and Pecota released another variety named Hatteras that had performed well in all the field tests. But after farmers started planting it, Hatteras developed something called internal necrosis, which creates brown flecks in the flesh. Within two years, no one was growing Hatteras. Pecota was once curious about just how difficult his job was, and calculated that there is as much as a one-in-two million chance of breeding a sweet potato that satisfies the criteria they try to meet.

"If you look at that number, " Pecota says, "you'll say, 'That's it, I quit.'"

Pecota is joking. As a kid in suburban New Jersey, he loved working on puzzles of all sorts — jigsaw, word, number — and he brings that same passion to his work as a breeder. "That's exactly what breeding is," he says. "It's a big puzzle."

Efforts are further complicated by the sweet potato's status as what is considered an "orphan crop." Unlike crops like corn, wheat and rice, there have been no big corporations involved with sweet potatoes, which has historically been considered a subsistence crop for poor people. That means no corporate dollars for research and technology, and it is why sweet potatoes lag behind other crops when it comes to the latest, molecular-based breeding programs. "Sweet potatoes are under-researched," says Mercy Kitavi, a molecular breeder who works in Kenya with



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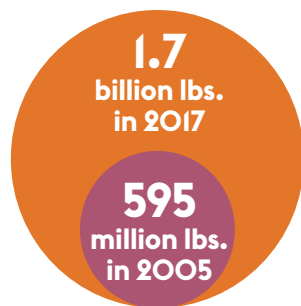
Ken Pecota shows off some of the sweet potato varieties being tested at a research farm in Clinton, N.C.; Pecota uses his phone to record data on several varieties; farmers check on a bin of sweet potatoes grown on the research farm.



Orange is the New Green

Sweet potatoes mean cash for North Carolina farmers, and the crop has had a tremendous economic impact — on sales and jobs — in the state.

North Carolina farmers produced 1.7 billion pounds of sweet potatoes in 2017, nearly triple the 595 million grown in the state in 2005 (the year Covington was introduced).



That led to almost

\$350 million

in sales in 2016.

North Carolina is the leader in domestic sweet potato production, growing roughly **60 percent** of the sweet potatoes eaten in the United States.



Those sales led to an estimated additional

\$170 million

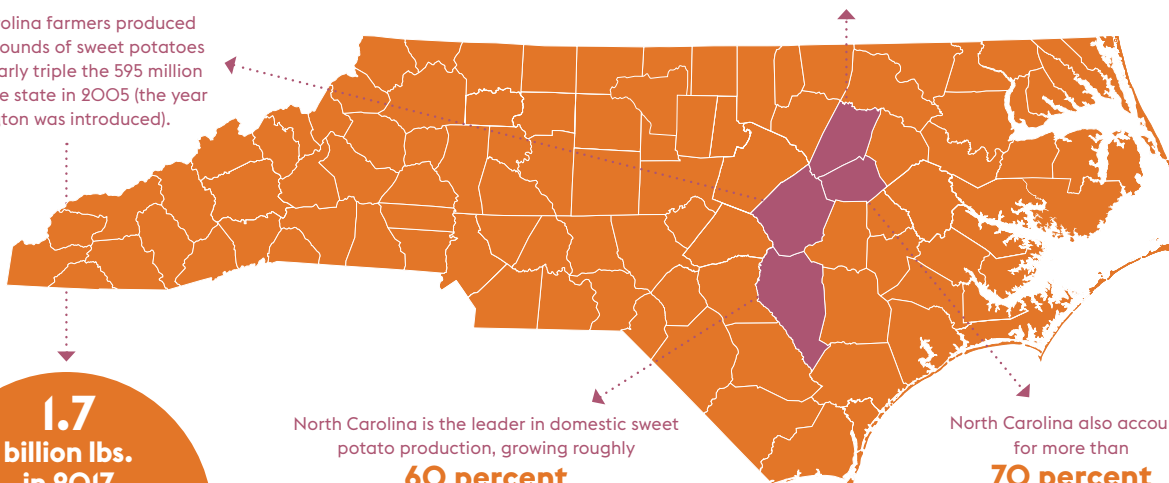
in economic impact in the state according to Michael Walden, a William Neal Reynolds Distinguished Professor and extension economist

4 NC counties
(Sampson, Johnston, Wilson and Nash)

produce about

1/2

of the sweet potatoes grown in the state



North Carolina also accounts for more than **70 percent** of the sweet potatoes that are exported around the world.



About **5,000** workers are associated with sweet potato production in North Carolina, both on farms and in the supply chain.

LIFE CYCLE OF A SWEET POTATO



STARTING

Sweet potatoes are not started from seed. Instead, they are grown from vine cuttings that are called sprouts or slips. Some farmers start their sprouts in greenhouses, but others grow sprouts by “bedding” small sweet potatoes in March. Whole sweet potatoes are put on top of the ground and then covered with a thin layer of soil and plastic.



TRANSPLANTING

Sprouts are cut and transplanted — either from a greenhouse or “bedding” field — to another field in May and June.

the program Yencho is leading. “When you look at the complex genetics of sweet potatoes, everybody is like, ‘Not me.’ We don’t know the answer to seemingly simple questions like the genetics of beta carotene.”

Kitavi is working with Yencho and others to correct that. Her labs are housed on a research campus that is fenced off from the chaos and poverty that abounds in Nairobi. Here, she spends her days extracting the DNA from sweet potato varieties, which is then sent to NC State’s Genomic Sciences Laboratory to be sequenced. It is all part of an effort to develop a set of genetic markers that could be used to bring more predictability to the process. Such knowledge could be used, for example, to reduce the 60,000 new varieties that NC State’s program starts on the testing regimen each year to as few as 10,000–12,000. That’s less time and money spent on the front end, and a greater likelihood of positive results. “We need to speed up variety development,” Yencho says.

In part, that’s because there is not likely to be just one variety — like Covington in North Carolina — that will be the answer to the varying conditions throughout Africa. “Covington wouldn’t work in Africa,” Yencho says. “You have to breed African varieties in an African context.”

CULTURAL DIFFERENCES

In Uganda, virtually everyone is a farmer. Dried sweet potatoes — none of them orange — are readily available from roadside vendors. Yencho’s team stops at one point on the highway from Soroti to Kampala to talk with a group of women selling buckets of dried sweet potato slices for 5,000 Ugandan shillings a



Along a highway in central Uganda, vendors sell slices of dried white-fleshed sweet potatoes.

bucket — that’s about \$1.33. The women, joined by their children and husbands, lead the visitors into their cluster of a half dozen huts to show off a large rock embedded in the ground — it is where they dry the sweet potatoes grown in a small plot nearby. (It is also, they say while pointing to an indentation in the rock, a place where Jesus once stood.)

Mwanga, who led the early push for orange-fleshed sweet potatoes in his country, estimates that roughly 90 percent of households have their own farm, which may be no more than a half-acre. That’s 2 million households. Compare that to North Carolina, where fewer than 400 farmers grow sweet potatoes, and most of them are part of a commodity group that works with the university and



GROWING

It takes 90–120 frost-free days to grow a sweet potato. They grow under the ground.

HARVESTING

The harvesting of sweet potatoes typically starts in August. Tractors are used to flip them on top of the ground and then, because the thin skin can be easily scarred, they are harvested by hand. They are graded and sorted according to their size.



CURING

Most sweet potatoes are cured for 4–7 days at 80–85 degrees so that they can then be stored for up to a year at 55 degrees with 85–90 percent humidity and adequate ventilation.



Two continents, two greenhouses: Jim Jones, left, checks on one of several greenhouses he maintains at his farm in Bailey, N.C. Jones grows sweet potato vines for his own farm and to sell to other farmers. Sekiyanja Joweria, right, checks on the vines in the single greenhouse run by a sweet potato growers cooperative outside of Kampala, Uganda. The cooperative, run by Joweria, sells vines to nearby farmers.





And They Look Pretty, Too

Sweet potatoes have a place at the table, but sweet potato vines have a place in the garden. We're talking about sweet potato ornamentals, and chances are you've seen them before. The colorful plants — in shades of purple, green, yellow and red — can be found in large planters outside D.H. Hill Library at NC State and as part of the landscaping in cities and homes all over the country.

For the past several years, NC State has worked with a company in California to sell sweet potato ornamentals that Ken Pecota breeds on a research farm in Clinton, N.C. The test plot is an artistic wonder of different colors, leaf shapes and textures.

For Pecota, it's a welcome break from his normal breeding work. Breeding sweet potatoes for consumption can be tedious work — seven to nine years of field tests, gathering and analyzing all sorts of data, an incredibly low rate of success. But with ornamentals, Pecota can cross two varieties and see whether he got something interesting within a year. "It just opened up the other side of my brain," he says.

shares information. Extension agents spread throughout the state make it relatively easy to spread the word of new developments or problems for sweet potatoes. In Uganda, there are more than 50 different languages spoken. That means there are more than 50 different ways to say sweet potato, from "acok" in Ateso, the language spoken by the people showing off their drying rock, to "maku" in Lugbara. Communication is difficult at best.

Bonny Oloka '18 PHD finished his graduate work with Yencho last year and returned to Uganda to work as a sweet potato breeder. He never ate orange-fleshed sweet potatoes growing up in Kampala, and says the challenge of replacing other sweet potatoes in his country is great. "Every region you go to you will find completely different people," he says. "The language is different, the cultures are different, the foods are different."

But Oloka, who was trained as a biochemist, chose to go into breeding because he believes in the power of food to improve the health of his fellow Ugandans. "I think it's attainable," he says, "because 15 years ago there was almost no orange-fleshed sweet potato in Uganda. I didn't have it. My parents could not get it. But now we know where to get it."

Likewise, Sadik Kassim, director of research at the government farm in Arua, says there is plenty of interest in orange-fleshed sweet potatoes in his region along the Nile River. He estimates that 15 percent of the households in the region — compared to 5 percent in the rest of the country — grow and eat orange-fleshed sweet potatoes. "West Nile is where sweet potato can make a difference," he implores Yencho during a meeting before heading out into the fields. "Our market is there. Our problem is if we can produce a supply of good and clean vines [for growing sweet potatoes]."

Yencho appreciates the sentiment, but points out some of the region's challenges, including a lack of irrigation and storage capacity for harvested sweet potatoes. "This district has been ignored," he says.

SWEET SUCCESS

While they are not as obvious as the success that farms in eastern North Carolina have had with sweet potatoes, encouraging signs can be found throughout Africa. Jan Low, an agricultural economist who has promoted the

health benefits of orange-fleshed sweet potatoes throughout Africa, says Rwanda, Malawi and Mozambique have all seen an increase in the consumption of orange-fleshed sweet potatoes. "Those are all very important countries that have significant vitamin A deficiency problems," Low said during a visit to the research campus in Nairobi.

One such success story can be found in downtown Nairobi, on the second floor of a non-descript building on a crowded street. Inside, Magnaghi is at work in his bakery, where he makes sweet potato muffins for some of the top hotels in the country, and is trying to develop sweet potato fries for Kenya's largest chain of coffee shops.

Magnaghi describes himself as a "food application specialist," but he is an entrepreneur at heart. He has worked in Italy, Australia and Rwanda, but was excited to return home to Kenya to explore the possibilities of sweet potatoes. He says that Kenyan consumers share his excitement, but that he struggles to get enough orange-fleshed sweet potatoes for his many projects. "People are buying it because of the health reasons," he says. "And then also because it's a nice orange. It's bright and it attracts a lot of people." Yencho tells him that in North Carolina sweet potatoes are being used in beer and that sweet potato syrup is being used as a substitute for honey. "Oh, that I would like to visit," Magnaghi says.

Several days later, while in Uganda, Yencho sees another success story in a small village outside of Kampala. After driving down a winding, deeply rutted dirt road, Yencho meets Sekiyanja Joweria, who runs the Bagya Basaya (O.F.S.P) Potato Growers and Processors cooperative. The office is a small, plain building with large metal doors and a handful of plastic chairs. Around the back is a single, makeshift greenhouse for growing sweet potato vines. The cooperative, run by 100 women, sells orange-fleshed sweet potato vines to farmers and mills sweet potato flour that can be used to make pancakes, donuts and bread. Joweria does not speak English, so a translator helps as she shares her story.

The cooperative started more than 30 years ago and, initially, grew only white-fleshed sweet potatoes. But after an international health organization found that several children in the village were malnourished, they were



Antonio Magnaghi shows off a batch of sweet potato muffins at his bakery in downtown Nairobi, Kenya. Robert Mwangi '01 PHD on a research farm outside Kampala, Uganda.



More Sweet Potatoes Please

The N.C. Sweet Potato Commission has recipes for burritos, burgers and pound cakes. We asked several people in the sweet potato business how they liked to eat theirs.

Jerome Vick, a farmer in Wilson, N.C. "Just baked, with nothing on it. No cinnamon, no butter. If it's cooked right, it don't need nothing."

Jim Jones, a farmer in Nash County, N.C. He likes leftover sweet potatoes for breakfast. "Fry it with some bacon or sausage. Slice it about as thick as your finger and lay it in that grease and just brown it a little bit. It's probably not healthy, but it's really good."

Robert Mwangi '01 PHD, sweet potato researcher in Uganda. "The steamed one is fine, but when I came to [the U.S.], I found the French fries."

Ken Pecota, sweet potato breeder at NC State. "I love some of the desserts the Japanese make. They actually use the purple ones or the white [sweet potatoes], and they're usually dry and not particularly sweet. But they have a really nice creamy flavor."

Pender Sharp '71, a farmer in Sims, N.C. "I really like it with a little cinnamon sugar on it, lying beside a ribeye steak."

Craig Yenko, director of the sweet potato breeding program at NC State. "Just a baked sweet potato. That's it. With maybe a little bit of butter. No brown sugar. My kids drive me crazy when they put that on." He likes them sliced and grilled, too. "A little bit of olive oil, a little bit of salt and pepper, maybe throw some rosemary on top."

ON THE WEB: ncsweetpotatoes.com/sweet-potato-recipes

All Year Long

Sweet potatoes might still be a seasonal crop if Mike Boyette '76, '86 MS, '90 PhD, had not traveled to northern California back in the late 1980s. Boyette, a Philip Morris Professor of Biological and Agricultural Engineering, visited the University of California at Davis, outside of Sacramento, to study how produce farmers handled their crops after harvest. It was there that he discovered the secret that would transform North Carolina's sweet potatoes into a crop that could be sold throughout the year.

At the time, as much as a third of the sweet potatoes grown in North Carolina were discarded. "There was really no good way to store sweet potatoes," Boyette recalls. The problem was that when sweet potatoes were put in crates in a warehouse, farmers had no way to keep all of them cool. Large, industrial fans would keep the sweet potatoes cool in the top crates, but the air wasn't getting to most of the sweet potatoes. "When a potato is sitting at 85 or 90 degrees, it's thinking it's time to start growing, and so they start putting on sprouts," Boyette says. "If it puts on sprouts, it's using up the dry matter in the potato and the potato becomes like a cork. There's nothing there. They've got the form of a sweet potato, but there's nothing there."

So Boyette took what he saw at some California farms and devised a way to pull the cooling air through all of the crates in the warehouse. Sensors placed inside the crates monitor the temperature of the sweet potatoes. He called his technique "negative horizontal ventilation."

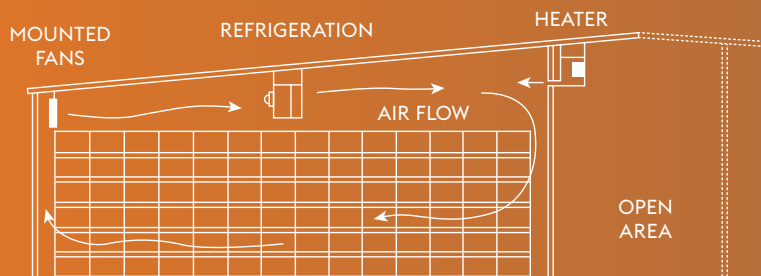
After returning from California, Boyette approached a farmer in eastern North Carolina about trying his new technique. It meant the farmer had to spend some money, but he quickly got a return on his investment. "He made a killing," Boyette says. "He was probably the only farmer in the United States who had sweet potatoes at that time."

It didn't take long for the word to spread, and Boyette soon found himself traveling to farms throughout eastern North Carolina to help them build warehouses incorporating the technique.

Today, such storage facilities are common on sweet potato farms, with the larger operations able to store more than half a million bushels. Boyette visited a large farming operation in Wilson, N.C., last year, and watched sweet potatoes being packed for shipment a year after they had been harvested. "They were beautiful," he says.

HOW NEGATIVE HORIZONTAL VENTILATION WORKS

Large fans are mounted along the top of one wall. Those fans create negative pressure to pull air horizontally through stacked bins of sweet potatoes. By pulling the air through all the bins, all of the sweet potatoes can be maintained at the same temperature.



Linwood Vick '96 checks on stacks of sweet potatoes at his family's farm in Wilson, N.C.



Did you know?

Because the skin of sweet potatoes is so easily nicked, most of the harvesting of the crop is still done by hand. White potatoes are cheaper than sweet potatoes, in part, because the process of growing white potatoes is more mechanized.



Computers direct sweet potatoes through a series of assembly lines in a large packing house, above, at Scott Farms in Lucama, N.C. The facility can pack as much as 50,000 pounds of sweet potatoes an hour to be shipped to U.S. and foreign markets. Below, Alan and Pender Sharp sort through a bin of sweet potatoes at their farm in Sims, N.C.



TOP PHOTOGRAPH COURTESY OF SCOTT FARMS

convinced to switch to orange-fleshed sweet potatoes in 1998. “We found a lasting solution,” she says. “We started seeing improvement.”

Joweria leads Yencho to a nearby field of sweet potatoes, where they compare notes on growing and harvesting techniques. As is true at farms throughout Uganda, most of the work is done with little more than hands and hoes. The cooperative has been a financial success, enabling the village to pay the school fees for 15 children to go off to college. Joweria’s son graduated with a degree in agriculture and her daughter is studying journalism.

While poverty is evident throughout Africa, Yencho says a closer look reveals opportunities such as those found in a small urban bakery or a rural Ugandan village. “There is real significant poverty here,” he says. “But if you start to peel that away there is an entrepreneurial spirit. There is an emerging middle class and a vibrancy that is really beginning to emerge.”

NOTHING WASTED

For all of Covington’s success, there was never one moment when Yencho and Pecota felt it was appropriate to pop the champagne corks. They have a patent on Covington, which is described in the legal documents as an “invention,” and NC State licenses it to be grown in North Carolina and other parts of the country (and even a few other nations). The licensing generates revenue that is used to cover the cost of the university’s breeding program. But in some ways Covington’s success just sort of happened, over time, until it simply became accepted that it was North Carolina’s sweet potato.

But the success is apparent at the farms where it is grown. At Scott Farms in Lucama, N.C., the fifth generation now farms 12,000 acres in five counties. In a gleaming industrial space, computers direct the packing of 40,000–50,000 pounds of sweet potatoes an hour — every week of the year — to ship to U.S. and foreign markets. About 85 percent of the sweet potatoes are sent to fresh markets, while the remaining 15 percent is sold to processors — a far cry from the days when some farmers dumped as much as 30 percent of their crop in the woods because the potatoes were too big or too small or otherwise unfit. “Whatever is in that bin is used for something,” co-owner Dewey Scott told a group of researchers and

breeders visiting last year from Africa, South America and elsewhere.

At Vick Family Farms, warehouses can store more than a half million bushels of sweet potatoes and about half of their sweet potatoes are exported to Europe, something that would have been unimaginable two decades ago. “All the stars lined up,” says Jerome Vick. “We have a good variety, good storage conditions, a year-round supply and we could go back after those markets we lost.”

And farmers are finding creative ways to market their sweet potatoes. Yamco, a company in Snow Hill, N.C., distills Covington Gourmet Vodka, which has won top awards competing against vodkas from around the world. Carolina Innovative Food Ingredients, a company in Nashville, N.C., makes sweet potato juice and dehydrated sweet potatoes that can be used in baked goods, beverages and sauces like ketchup and syrup. The Sharps, who grow about 500 acres of sweet potatoes and raise hogs, had the help of NC State food scientists to develop a sausage infused with sweet potato juice, sweet potato puree and chunks of sweet potatoes. It is served, among other places, in Fountain Dining Hall at NC State.

“It’s a better potato now,” Alan Sharp says. “Twenty-five years ago, it wasn’t very good, it was dry and stringy.”

Some even say sweet potatoes are trendy. Kelly McIver, executive director of the N.C. Sweet Potato Commission, notes that sweet potatoes are now found on the menus of high-end restaurants. One of the appetizers served at a wedding reception she attended last year combined sweet potatoes with goat cheese and a pimento. “It’s a sexy food,” she says.

A sexy super food that can rescue a struggling industry and prevent blindness in remote areas of the world? That’s a lot to ask of a simple sweet potato. Even Yencho, ever the optimist, chuckles at the suggestion that the sweet potato could save the world. But its reach is likely to grow, if only because consumers are more conscious about the health benefits of what they eat. Farmers in Uganda and other African countries are going to keep growing sweet potatoes, including those that are orange when you cut them open. And Pecota is not going to stop working on new varieties anytime soon.

The possibilities are endless. And that’s without any tiny, roasted marshmallows. ■

Beer, Biscuits and Baby Food

Van-Den Truong had eaten sweet potatoes as a child in Vietnam and studied them as a graduate student and then professor of food science in the Philippines. But he was amazed when, as a post doc at NC State in the mid-1990s, he visited a sweet potato farm in eastern North Carolina. He was impressed by the scale of the operation and the farm’s ability to store sweet potatoes for months.

But he also saw an opportunity. “The main focus was the fresh market,” he says. “There was not much processing there.”

At the time, there were two primary methods for processing. Chunks of sweet potatoes could be canned, but they had to be sterilized and heated to more than 200 degrees, which destroyed many of the nutrients and often turned them brown. The other method was to freeze large plastic buckets of sweet potato puree, meaning bakeries or restaurants would have to thaw a five-gallon bucket of ice.

But in 2006, Truong and other NC State food scientists figured out that they could sterilize sweet potato puree by using microwaves to heat it for just 2-3 minutes, and then use an aseptic chamber to fill a pre-sterilized container. The containers could be large enough to hold a gallon, six gallons or as much as 300 gallons, making it versatile for a number of uses.

Yamco, a company in Snow Hill, N.C., that uses the process, says the puree is used in beer, liquor, pies, muffins, donuts, energy bars, soups, baby food, ice cream, pet food and countless other products.

Alumni Drive

Alumni Association News

It's a Wolfpack World

A new affinity group welcomes alumni who came to NC State as international students.

Students come to NC State from near and far. For those who come as international students, acclimating to a new country has its own set of challenges.

Now, the Alumni Association and the Office of International Services are working to bring alumni who were international students together so they can network, share experiences and remain connected to NC State. "We've known that there was this untapped possibility out there, but we hadn't quite figured out a way to reach them," says Elizabeth James, director of the Office of International Services. "We're just now starting to put together some events and activities."

About 1,830 recent graduates of NC State are still in the United States on a student visa, which allows them to work for a period of time after completing their studies, James says. Many share common experiences, such as encountering a new culture and learning to make American friends.

The first gathering was held in July 2018 at the Talley Student Center. It was a game watch—but the game was a match in the World Cup, not one featuring the Wolfpack. In the fall, the Alumni Association and the Office of International Services held a reception at the Park Alumni Center followed by a panel of attorneys speaking about changes in immigration law.

The organizers hope to bring local alumni together for more events, and possibly host events for international alumni in other parts of the country.

For more information, contact Ellen Richardson at ellen_richardson@ncsu.edu.

WE WANT YOU

The Alumni Association is always looking for volunteers and leaders. To find out about opportunities to work with our constituency groups or get involved in a network near you, contact: **Melissa, Shampine** @ncsu.edu



WORTH A LOOK

Plenty of Oysters

Who loves oysters? If you're in eastern North Carolina, you've got two great opportunities to join us to chow down on some bivalves. The **Beaufort County Oyster Roast** will take place Feb. 15 at 1694 Avenue Road in Washington, N.C., and on March 29, the **Crystal Coast Oyster Roast** will be held in Morehead City at the NC State Center for Marine Sciences and Technology.



Join us in Atlanta and D.C.

Alumni in Washington, D.C., will get a chance to hear **Walt Wolfram**, director of NC State's Language and Life Project, discuss his documentary, *Talking Black in America*, on Feb. 28. In Atlanta, plan to meet us on March 25 at the **Delta Flight Museum** along with Gil West '84, chief operating officer of Delta Air Lines. Chancellor Randy Woodson will be at both events to give you the latest NC State news. Register at alumni.ncsu.edu.

PITCHING IN



DAVE HOLM '92, '95 MA

His day job: Holm, who lives in Holly Springs, N.C., is an attorney specializing in family law and estate planning with the firm Parker Bryan Family Law.

Alumni Association connection:

Holm helps plan events for the Lawyers Alumni Society, a group of NC State alumni who are lawyers.

How he got involved: Holm lived in Winston-Salem, N.C., after graduating from law school and showed up at an Alumni Association event. When he moved to Raleigh, he reconnected and learned about the lawyers' group.

Lunch and learning: The lawyers enjoy an annual get-together that includes lunch, a speaker (previous ones have included one of NC State's best known attorneys, former Gov. Jim Hunt '59, '62 M), and seminars that provide credit toward continuing education required for lawyers. Holms enjoys helping pick out the topics; the most recent event covered changes in campus judicial systems and a look at how the NCAA works.

Campus-centric: The group tries to meet at whatever is new on campus. "When the Park Alumni Center was new, we met there," Holmes says. "We met at the Hunt Library when it was new." Its most recent meeting was held at the StateView Hotel on Centennial Campus.

Future lawyers: Holm says the group would like to find ways to interact more with students who are considering law school. "People are sometimes surprised by the number of lawyers we produce, that we have this alumni group and we don't have a law school," he says.

To learn more about the Lawyers Alumni Society, contact Matt Williams at Matthew_Williams@ncsu.edu.

In each issue of NC State magazine, we feature an Alumni Association volunteer who helps make things happen.

HOLM PHOTOGRAPH BY VICTORIA CUMBEE; MUSEUM PHOTOGRAPH COURTESY OF THE DELTA FLIGHT MUSEUM



Benny Suggs '69 on the dedication of the Black Alumni Society and their banner year.

You may have seen the article detailing the new Clark Witherspoon Scholars program in the last issue of *NC State* magazine. The program illustrates the wonderful dedication, dating back to the 1980s, of the Black Alumni Society (BAS) to build valuable relationships between students and alumni mentors.

That new scholarship program is the latest in a number of achievements by BAS, one of the Alumni Association's strongest constituency groups. Its passion and drive to offer valuable experiences to NC State's African-American alumni represent one of the most committed efforts I've seen in my eight-plus years as executive director.

I mean, just look at what BAS did with Red and White Week during Homecoming. The group has always hosted a great tailgate and party, but this past November they set a

new standard. BAS leaders wanted more than just a pre-game tailgate, so what did they do? They put on BAS Fest, a more-than-five-hour reunion on game day at the Pavilion at the NC State Fairgrounds. Guests could stick around if they didn't have tickets to the football game and watch the contest on TV, enjoy great music and food, and continue to visit with friends they don't often get to see.

With the event, BAS transformed a tailgate into a destination, welcoming more than 950 alumni to the celebration. And how about this — that's the largest reunion the Alumni Association has ever hosted. Needless to say, BAS Fest will be an annual tradition.

How can it not be, right? You can't do much better than setting a new record. From introducing the Clark Witherspoon Scholars program to its re-imagining of a homecoming experience, BAS has had a memorable 2018, and is gearing up for its 40th anniversary this year. And our other constituency groups, from the Lawyers Alumni Society to the Latinx Alumni Network, along with our regional networks, commit themselves to going above and beyond to offer outstanding networking opportunities, social events and meaningful fellowship. And what's at play in all of those efforts? The reward of watching people come together to remember the experiences and build on the relationships NC State has given them. Howl Back!

Benny Suggs '69
Alumni Association Executive Director

14
EVENTS
held by BAS
during Red and
White Week.

*The first-ever
BAS Fest was
a blast, with lots
of food, music
and balloons.*



PHOTOGRAPH BY KENNETH LEE '88

NC STATE ALUMNI ASSOCIATION

FOREVER CLUB REUNION

Every graduate from **1969**
or earlier is invited to attend!

MAY 9 – 11, 2019

JOIN US!



Come back to NC State for fun, friends and fond memories.

Join the Class of 1969 for its 50th reunion and induction into the Forever Club.

Have lunch with Chancellor Randy Woodson and your fellow classmates.

Enjoy guided campus tours and relive fond memories.

Check the website for updates • www.alumni.ncsu.edu/reunion2019



**NC STATE
ALUMNI**
ASSOCIATION



Howl Shucks

We decided to change things up a little at our Howl Back with Your Pack Party in November. This time, the event featured oysters, a Lowcountry seafood boil and shrimp piled high enough to reach the top of the Bell Tower (OK, we embellish a little). About 250 guests enjoyed food, drinks and music. Even Chancellor Randy Woodson, after a little imploring from alumni and students, hopped on the dance floor and tripped the light fantastic. (Note to casting agents for Dancing with the Stars: If you need someone from the academic world, we may know a guy.)



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3. Please note that merchants self-select the category in which transactions will be listed and some merchants may be owned by other companies, therefore transactions may not be counted in the category you might expect.



A Welcome Map

Caldwell Fellows use technology to pinpoint affordable housing needs.

As Wake County continues to grow, affordable housing has become more of an issue. But where is the need greatest, and why? The Caldwell Fellows have worked with Habitat for Humanity for the past three years to answer such questions. But they are trying to do it in a way that doesn't just tell, but shows.

A group of Fellows uses geographic information system (GIS) software to create maps visualizing housing and income data and help Habitat make its case to local leaders. The students pinpointed locations where income levels don't keep pace with rising housing costs in the project, led by senior Noah Johnson, junior Stephen Paul and faculty adviser Hugh Devine in the Center for Geospatial Analytics.

"You accompany income with cost of housing and you can figure

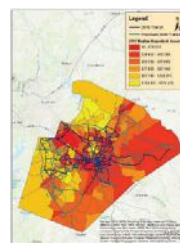
out how burdened people are by what they have to pay for their housing," says Johnson, a mechanical engineering major from Davie County, N.C.

When housing costs more than 30 percent of a family's income, that family is considered "cost burdened," says Rachel Zeitler, advocacy director for Habitat for Humanity of Wake County. To get a better sense of where those families are, the Fellows created maps that pointed out pockets throughout the county.

It was data they might have had before the partnership, Zeitler says, "but it wouldn't have been presented in a way that was digestible to the people we're trying to communicate with."

That includes lawmakers, who can use the maps to make decisions

Noah Johnson, above, worked with other Fellows to build a shack on the Brickyard to raise money for Habitat for Humanity.



about housing. "We were able to... say, 'Hey, look, this is how many people are cost burdened in your district, so this is a problem for your community,'" Zeitler says.

The maps have also helped Habitat understand the impact of transit changes on existing and planned homes as well as how property taxes and disparities in homeownership rates affect Wake County residents.

It might not be the same as hammering nails into a new home for the families Habitat serves — though Johnson and other Caldwell Fellows help in that way, too — but the results are still helpful. "It's by far been the most impactful service experience that I've had, where I felt like what I was doing was actually making a difference," Johnson says. **STACY CHANDLER**

Alumni Drive *Class Notes*

1950s

Robert Osborn “Bob” Sanderson ’52 of Harrells, N.C., a longtime farmer and agriculture teacher, recently stepped down from the Sampson Community College Board of Trustees, which he joined in 1996. His son, Herb, succeeded him on the board.

1960s

David Mitchell Allen ’66, ’68 PHD of Lexington, Ky., was inducted into the University of Kentucky College of Arts and Sciences’ Hall of Fame. He has served five years as chair of the university’s statistics department and two terms as director of graduate studies.

John Maigrit Ellen ’67 of Kure Beach, N.C., is in his fifth year as a member of the Kure Beach Town Council and third year as chairman of the Kure Beach Planning and Zoning Commission.

Douglas Melville “Doug” Tennant ’68 of Dana Point, Calif., retired after a career with the U.S. Air Force, Philips Semiconductors and Boeing.

Vice Adm. Joseph Wendell “Joe” Dyer (Ret.) ’69 of Key West, Fla., was appointed to the board of directors of ASGN Inc., an information technology provider in engineering, technology and government sectors.

Noral Devarner Stewart ’69, ’74 MSE, ’81 PHD of Raleigh received the Laymon N. Miller Medal for Excellence in Acoustical Consulting from the Institute of Noise Control Engineering. He’s president of Stewart Acoustical Consultants.

Howard Lee Williams ’69 of Greensboro, N.C., was recognized in the 2019 edition of *The Best Lawyers in America* as a leader in tax law litigation. He’s an attorney with Brooks Pierce.

1970s

William Eugene “Bill” Peterson ’70 of Reno, Nev., received the 2018 Presidential Award from the State Bar of Nevada for lifetime achievement in law. He’s a partner in the Reno office of Snell & Wilmer.

James Karl “Jim” Kessler ’72 of Cary, N.C., is president of the American Railway Engineering and Maintenance-of-Way Association for 2018–19. He’s vice president of engineering for the N.C. Railroad Co.

Ronald Benjamin McNeill ’73 of Wilmington, N.C., is chair of the UNC-Wilmington Board of Trustees. A board member since 2011, he’s vice president and chief financial officer of Liberty Healthcare Services.

Michael Jay “Mike” Adamczyk ’74 of Roanoke, Va., was inducted into the Seneca Valley (Pa.) Sports Hall of Fame. A Wolfpack football letterman at defensive end in 1972 and 1973, he also set high school records in track and field.

HOWL YEAH

Ann B. Goodnight ’68 and James Goodnight ’65, ’68 MS, ’72 PHD, were honored by the N.C. Museum of History Foundation for their support of the preservation, study and understanding of North Carolina History.

Michael Richard “Mike” Corn ’74 of Fletcher, N.C., was inducted into the Western North Carolina Agricultural Hall of Fame. A pioneer in the region’s dairy industry, he has managed the Biltmore Jersey herd since 1984.

Gary Stephen Parsons ’74 of Raleigh was recognized in the 2019 edition of *The Best Lawyers in America* as a leader in commercial litigation, legal malpractice law and personal injury litigation. He’s an attorney with Brooks Pierce.

Floyd Dale Kennedy ’75 of Asheboro, N.C., retired after 40 years of pastoral ministry in the United Church of Christ.

Harry Wade Watt ’77, ’80 MR of Statesville, N.C., received a grant from the U.S. Forest Service to develop a residential-sized Cross Laminated Timber Panel system. He works for NC State’s Wood Products Extension service.

Anton Michael “Mike” Wicker ’77, ’79 MS of Raleigh was awarded the Order of the Long Leaf Pine in recognition of his lifetime of service to the state. A biologist with the U.S. Fish and Wildlife Service, he has worked with environmental restoration in North Carolina.

Donald Craig Moore ’78 of Greensboro, N.C., was inducted into the South Atlantic League Hall of Fame. He’s president and general manager of the Greensboro Grasshoppers minor league baseball team.

Hezekiah Sistrunk Jr. ’79 of Atlanta, Ga., was inducted into the Trial Lawyer Hall of Fame. He’s a national partner and president of the Cochran Firm and managing partner of its Atlanta office.

Paul John Wolf ’79 MS of Clinton, N.C., retired from Sampson Community College, where he taught psychology for 38 years.

Key to Degree Designations

BACHELOR Year only
AA Agriculture Institute Associate’s
AAS Associate of applied science
AS Associate of science
DVM Doctor of veterinary medicine
EDD Doctor of education
MA Master of arts
MARCH Master of architecture
MBA Master of business administration
ME Master of engineering (any engineering field and not a master of science in engineering)
MED Master of education
MFA Master of fine arts
MPA Master of public administration
MR Master
MS Master of science
MSA Master of school administration
MSE Master of science in engineering
MSED Master of science in education
MSW Master of social work
PHD Doctor of philosophy

1980s

Donald M. “Michael” Denbow ’80 of Blacksburg, Va., received the title of professor emeritus from the Virginia Tech Board of Visitors. Since 1979, he’s been on the faculty of the College of Agriculture and Life Sciences, most recently a professor of animal and poultry studies.

Michael Wayne “Mike” Beasley ’81 of Erwin, N.C., was commissioned as a certified lay minister in the United Methodist Church. Owner/operator of Beasley’s Garage, he’s active in ministry at Erwin United Methodist Church.

Ronnie Dale “Ron” Talley ’82 of Savannah, Ga., was recognized in the 2019 edition of *The Best Lawyers in America* as a leader in environmental and real estate law. He’s an attorney with HunterMaclean.

Robert K. “Kevin” Jackson ’83 of Fayetteville, N.C., is vice president of operational excellence for Cape Fear Valley Health. He had been president of Harnett Health Systems.

Bruce George Pike ’83 of Wilson, N.C., retired as head wrestling coach and a math teacher at Beddingfield High School.

Robert Javan “Robbie” Broyles ’84 was awarded the Order of the Long Leaf Pine in recognition of his lifetime of service to the state. He retired after 37 years in law enforcement, most recently as a supervisory investigator with the U.S. Department of Agriculture on NC State’s Centennial Campus.

Kimberly A. Davis Kearney ’84 of Raleigh retired from SAS Institute in Cary, N.C., after 31 years.

Patrick A. “Alan” Lennon ’85 of Thompsons Station, Tenn., completed his term as president of the Cancer Genomics Consortium. A pathologist at PathGroup, he will serve two more years on the consortium’s board directors.

Teresa Hukins Hart ’86 of Wake Forest, N.C., was named 2018 Woman of the Year by the N.C. Triangle Chapter of the Women’s Transportation Seminar for her work contributing to the advancement of transportation professionals, especially women and minorities. She’s senior associate engineer at JMT.

Robert K. “Kevin” Hight ’86 of Fayetteville, N.C., is retiring at the end of the 2018–19 academic year as a civics teacher and student government adviser at Terry Sanford High School in Fayetteville.

David William Heglar ’87 of Kure Beach, N.C., is a town councilman and the town’s emergency response coordinator.

David B. “Brian” McNeill ’87 of Lewisville, N.C., was honored by CommScope during its 2018 Innovators in Action Summit for his pioneering spirit and inventiveness in delivering technical solutions. He’s a project management office leader with CommScope.

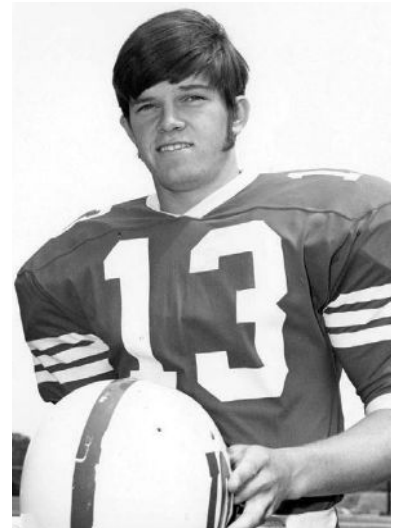
Nicole Chatman Pride ’87 of Greensboro, N.C., is interim vice provost for academic strategy and operations at N.C. A&T State University. She’s worked at the university for eight years.

Anna B. “Beth” Taylor Smith ’87 of Brewster, N.Y., is a senior executive at IBM and general manager of its Watson data and artificial intelligence program.

Amy Lee Pfeiffer ’88 of Raleigh was recognized in the 2019 edition of *The Best Lawyers in America* as a leader in workers’ compensation law. She’s an attorney with Cranfill Sumner & Hartzog LLP.

HOWL YEAH

Ronald Ray “Ron” Sewell ’74, ’83 MSE of Alpharetta, Ga., was inducted into the Roanoke Rapids (N.C.) High School Athletic Hall of Fame. He was an integral part of his 1968 and ’69 high school football teams as a placekicker and quarterback. He continued his gridiron success in college, coming to the Wolfpack as a walk-on placekicker. He set several kicking records, two of which remain today. He’s president of PayGo Utilities.



Jeffrey Wayne Pratt ’88 of Daniel Island, S.C., joined SunTrust Investment Services Inc. as a private financial adviser. He had been with Wells Fargo Advisers.

Murray Carter ’89 of Rockville, Md., was named to *Financial Times*’ 2018 list of Top 400 Financial Advisers and Top 401 Retirement Advisers. He’s executive vice president of wealth management with Janney Montgomery Scott LLC.

Edward Evans “Ed” Smallwood ’89 of Matthews, N.C., completed his doctorate in communication from Regent University.

Elaine Busto Smith ’89 of Fayetteville, N.C., was appointed director of Cumberland County Animal Control.

1990s

Falisa Richardson Carter ’90, ’09 MR of Castalia, N.C., was named principal of Bunn Elementary School in Bunn, N.C. She had been assistant principal for six years.

A Pied Piper for NC Parks

Dwayne Patterson '81 wants more kids to experience the outdoors.

To Dwayne Patterson '81, access to North Carolina's state parks is a way to bring together people from different social and economic backgrounds by creating shared experiences and memories.

Patterson is the new director of North Carolina's Division of Parks and Recreation, managing more than 234,000 acres of landscape from the coast to the mountains, welcoming 19 million visitors a year. He believes that the memories you form as a child can make a lasting impact on your appreciation of the outdoors as an adult. It's that view that led Patterson to one of his loftiest goals as director: to have every public school child in North Carolina visit at least one state park before graduating high school.

"Maybe 20 years from now, one percent of those students will grow up to be park rangers. And maybe 10 percent of them will become avid outdoorsmen, and another 20 percent will love hiking on a regular basis," Patterson says. "But my hope is that every one of them would end up with a true appreciation for our state parks and wonderful memories that stick with them for the rest of their lives."

Patterson, who graduated with a degree in accounting, is the first African-American to lead the state's parks. He was previously the chief financial officer for the Department of Natural and Cultural Resources and also served as executive director for CREST, a regional nonprofit agency that serves intellectually and developmentally disabled adults.



Patterson says the parks play a pivotal role in growing North Carolina's economy and attracting new industries. "Other states can match a lot of things we offer, but you can't transport the views from Mount Mitchell to Kentucky," Patterson says. "That is unique to us."

When asked for his top North

"Maybe 10 percent of them will become avid outdoorsmen."

Carolina park experiences, Patterson declines to single any out. "Trying to compare them to one another is like comparing apples to oranges," Patterson says. "Each park has its own unique beauty and a way of leaving you with a special feeling and memory."

CAROLINE BARNHILL '05

Alumni Drive Class Notes

Mary Elizabeth Sharp '90 of Beaufort, S.C., a member of the South Carolina Bar board of governors since 2014, is now Bar secretary. She has more than 20 years of experience in trial and appellate law and also serves as a mediator.

William D. "Drew" Stanley '90 of Nashville, N.C., was named superintendent of Warren Correctional Institution in Manson, N.C. He had been superintendent of Johnston Correctional Institution since 2013.

John A. "Andy" Stratton '90 of Hurst, Texas, is a pilot and first officer for Spirit Airlines. He had retired after 25 years with Delta Connection and American Eagle airlines.

Charles Leslie Byrd '91 and his wife, Mary C. Byrd, of Lincoln, Neb., announce the Feb. 5, 2018, birth of a daughter, Caroline Elizabeth Byrd.

DeEtte Blanche Gray '91 of Bethesda, Md., was elected chair of the board of directors for Armed Forces Communications and Electronics Association International. She's president of U.S. operations for CACI International.

Kenneth Paul "Kenny" Keel '91 of Atkinson, N.C., joined Pender County, N.C., as its public utilities director. He had been town engineer/utilities director for the town of Hillsborough, N.C., for 18 years.

Keith Battle Nichols '91 of Hickory, N.C., is vice president of manufacturing for Century Furniture LLC. He had been a plant manager for the company.

Abenet "Abe" Bekele '92 of Rowlett, Texas, joined Lockwood, Andrews & Newnam Inc., a planning, engineering and program management firm, as a senior project manager.



HOWL YEAH
Scott Andrew Keeper '85 of Williamston, S.C., was recognized as South Carolina Sportswriter of the Year by the National Sports Media Association. He has been a writer at The Greenville News for 29 years, covering the Clemson University football team, among other beats.

Alan Earl Brookshire '92 of Hendersonville, N.C., joined the Asheville, N.C., branch of Hilliard Lyons as a Looking Glass Wealth Advisor. He previously was with Oppenheimer & Co.

Paula Bledsoe Coates '92, '97 MR of Benson, N.C., is deputy superintendent of the Johnston County (N.C.) Public Schools system. She had been the system's executive director of federal programs.

Henry W. "Walt" Ramsey '92 MA of Southlake, Texas, is chief executive officer of Liberty Lending. He had been chief credit officer for Elevate Credit Inc.

Joseph Myrick Whitley '92, '93 of Carolina Beach, N.C., is a commissioner in the town of Kure Beach, N.C.

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Alumni Drive *Class Notes*

James Michael “Bo” Mullins ’93, ’99 MR, ’01 MR of Pink Hill, N.C., was named 2018–19 Principal of the Year for Sampson County (N.C.) Schools. He’s principal of Clement Elementary School in Autryville, N.C.

Ann Swicegood Reynolds ’93 of Hickory, N.C., was promoted to vice president of design with Valdese Weavers. She had been senior creative director.

Jack Rogers Waters II ’93 MS of Sammamish, Wash., earned a master’s of business administration from UNC-Chapel Hill and was class valedictorian. He’s senior vice president of engineering at WatchGuard Technologies in Seattle, Wash.

Joanna Eades Radford ’94 of Mount Airy, N.C., was awarded the 2018 Distinguished Service Award by the N.C. County Agricultural Agents Association and the National Association of County Agriculture Agents. She’s a Surry County (N.C.) Cooperative Extension agent.

Sarah Tarah Davis ’95 of Murfreesboro, N.C., was named 2018–19 teacher of the year for Hertford County High School in Ahoskie, N.C. She’s a mathematics teacher.

Angela Langdon-Charlton ’95 of Clayton, N.C., is president and chief executive officer of the Albemarle Alliance for Children and Families. She’s worked with the agency for nine years, most recently as vice president and chief operating officer.

Paul Anthony Meggett ’95 of Waxhaw, N.C., was named general counsel for Appalachian State University. He’s a former law professor and interim dean with the Charlotte School of Law.



HOWL YEAH
Vikas “Vik” Chandra ’90 of Cary, N.C., is chief executive officer of uMethod Health, a startup that created an artificial intelligence-based system to collect data and offer advice on the treatment of early-stage Alzheimer’s disease. He’s a former IBM executive with multiple business startups to his credit.

Brian Stuart Bark ’96 of Reisterstown, Md., joined Sinclair Broadcast Group Inc. as a vice president/chief information officer. He had been a chief business and innovation strategist with Hewlett Packard Enterprise.

Lynn Eskridge Dunn ’96, ’02 of Raleigh joined BSA LifeStructures as a director of business development in its Raleigh office. A licensed architect, she has more than 20 years of experience.

Joshua K. “Josh” Moffitt ’96 of Atlanta, Ga., was named to Leadership Atlanta’s Class of 2019. He is the founder and president of Silverton Mortgage.

Michael Joseph “Mike” Scully ’97, ’00 MR of Greenville, N.C., is founder and chief executive officer of the easy-carry product manufacturer Lever Gear.

Pankaj Kashiram “P.K.” Shere ’97 of Apex, N.C., was recognized in the 2019 edition of *The Best Lawyers in America* as a leader in medical malpractice law. He’s an attorney with Cranfill Sumner & Hartzog LLP.

Misty Fortenberry Watson ’97 of Blowing Rock, N.C., was named Watauga County, N.C., finance director. She owns a certified public accounting firm.

Juan Pablo Cofino ’98 of Weston, Fla., joined Intelsat S.A. as regional vice president for Latin America and the Caribbean. He had been a president of Caribbean and Latin American operations for ATN International.

John Thomas “Tommy” Vitolo ’98, ’99, ’00 of Brookline, Mass., won his primary election for Massachusetts state representative.

Brooke Whitley Cashion ’99 of High Point, N.C., was recognized as Small Business Person of the Year by the Kernersville, N.C., Chamber of Commerce. She’s owner of the real estate firm Brooke Cashion & Associates.

Mark Alan Lamonte Johnson ’99 PHD of Greenville, S.C., is founding director of Clemson University’s Center for Advanced Manufacturing. He’s the Thomas F. Hash SmartState Endowed Chair in Sustainable Development.

Justin Marc Pearson ’99 of Parkland, Fla., was honored by the *Daily Business Review* as one of South Florida’s most effective lawyers. He’s managing attorney for the Florida office of the Institute for Justice, a public interest law firm.

Kristopher Mark “Kris” Reis ’99 MR of Franklin, N.C., was named principal of H.L. Trigg Community School in the Elizabeth City-Pasquotank (N.C.) Public Schools system. He had been principal at the School of Alternatives in Jackson County, N.C.

2000s

Daniel Cornelius Gunter III ’00 of Raleigh joined Ward and Smith, P.A., as a corporate and securities attorney in its Raleigh office.

John Courtney Haws ’00 MS, ’02 PHD of Durham, N.C., joined Reveal Mobile as chief technology officer. He’s a former chief data scientist for Digital Turbine.

Seth Joseph Jernigan ’00 of Durham, N.C., is president of Real Estate Associates, a commercial brokerage and commercial and residential property management firm. He’s worked with the firm for 15 years, initially as director of business development.

Heather McNeil Tedder ’00 of Wilkesboro, N.C., was honored by the American Association of Teachers of French for her work at Watauga High School.

Muhammad Zeitsev “Yeop” Azman ’01 of Zagreb, Croatia, works with the international humanitarian association Medecins du Monde (Doctors of the World).



Art on Her Terms

Dare Coulter '15 won't let racist graffiti deter her from celebrating the black community.

Called “#DaretoDissent,” the large outdoor mural in downtown Raleigh celebrates the right to protest. And it has been in the spotlight since Dare Coulter '15 completed it in June 2017. First, it was a popular selfie spot as passersby posed next to images of famous protesters, including 1968 Olympics athletes displaying the Black Power salute and social media sensation Woke Baby, who wielded her own scribbled sign during the 2017 Women's March in Charlotte, N.C.

Then, it got a different kind of attention. In July 2018, someone scrawled racist and anti-Semitic graffiti across it. Though it was a setback, the mural was restored and the experience didn't quash Coulter's desire to create. She recently completed a mural that hangs in a Raleigh elementary school. And she's working on three more — two in Durham, N.C., and a 143-foot-long piece in downtown Fayetteville, N.C.

Coulter is thrilled with her latest commissions, but she also hopes to make an impact with another art form — sculpture. “My objective is to create these huge sculptures that are monuments

“I have to create something positive so these children can see it and so adults don't feel like they are inherently bad for being black and being of color.”

of black joy,” she says. “I want it to be a sculpture that people can walk up and touch and play on.”

Her dream has a bit to do with “The Awakening,” a piece by J. Seward Johnson Jr. Near Washington, D.C., the sculpture is so big that Coulter remembers sitting inside its mouth as a child. But the need for more jubilant images from the black community, she says, is rooted in today's headlines, rife with stories of inequality. “I have to create something positive,” she says, “so these children can see it and so adults don't feel like they are inherently bad for being black and being of color.”

SARAH LINDENFELD HALL

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Andrew Cain “Andy” Sharpe ’01 and Kelley Alexis Bump married June 2, 2018, and live in Charlotte, N.C. He works at Transure Services in Whitsett, N.C.

Michael Allen Thompson ’01 and his wife, Molly Kirkham Thompson, of Wake Forest, N.C., announce the February 2018 birth of a son, Maddox Arthur Thompson.

Michael Nye Fulk ’02 of Albemarle, N.C., is associate director of the LandTrust for Central North Carolina, an organization he began working with in 2016. He was coordinator of Southern Piedmont hunter education for the N.C. Wildlife Resources Commission.

David Warren Green ’02 of Raleigh was named a partner in the firm of Brooks Pierce. He’s a commercial real estate, agribusiness, and financial services and banking attorney.

Richard Edwin Griggs ’02 of Statesville, N.C., was named director of the Statesville Recreation and Parks Department. He’s been with the department since 2009 and had been program director since 2012.

David Lee Hamilton II ’02 of Charleston, S.C., was promoted at BB&T to regional corporate banker for the South Carolina region. He had been a regional corporate banker in West Palm Beach, Fla.

Sherri Jackson Paysour ’02 MR of Winston-Salem, N.C., received the 2018 Employee of the Year Award from the N.C. Community Action Association. A licensed professional counselor, she’s self-sufficiency program manager at the nonprofit Experiment in Self-Reliance.

Kimberly Hoyle “Kim” Carpenter ’03 of Rutherfordton, N.C., is chief technology officer for Rutherford County (N.C.) Schools. She had been an instructional technology facilitator at East Rutherford Middle School in Bostic, N.C.

Pamela Morgan Graham ’03 MR of Southern Pines, N.C., was named assistant manager and planning director for Elon, N.C. She had been the planning director of Aberdeen, N.C.

Gregory Kyle McLeod ’03 MED of Tarboro, N.C., was named president of Edgecombe Community College in Tarboro. He had been provost and chief campus administrative officer of academic and student affairs at Thomas Nelson Community College in Williamsburg, Va.

Molly Anne Allen ’04 of Annandale, Va., traveled to Thailand in summer 2018 as part of Miami University of Ohio’s Earth Expeditions course to study emerging models in conservation and education as well as spiritual connections to nature. She’s a teacher at Congressional School in Falls Church, Va.

Dr. Allyson Kosterman Bryant ’04 of Winston-Salem, N.C., is a specialist at Novant Health Spine Specialists in Bermuda Run, N.C.

Charles Edwin “Eddie” Price Jr. ’04 MR, ’14 EDD of Clayton, N.C., became executive director of the N.C. Principal Fellows Program. He’s former deputy superintendent of Johnston County (N.C.) Public Schools system.

Shaunnika Nicolette Johnson ’05 of Battleboro, N.C., joined North State Bank’s North Hills office in Raleigh as a commercial loan portfolio manager. She previously worked at CresCom Bank and AgCarolina Farm Credit.

Lauren Victoria Reeves ’05 of Raleigh was recognized in the 2019 edition of *The Best Lawyers in America* as a leader in real estate law. She’s an attorney and partner with Smith Debnam.

Atticus Justin Simpson ’05 MS of Morganton, N.C., was named director of community affairs and business partnership development at Truliant Federal Credit Union. He previously was a vice president at Western Piedmont Community College in Morganton, N.C.

Christopher Scott “Chris” Spencer ’05 of Denver, N.C., received the Chairman Award from Realty Executives of Hickory as the company’s top-producing executive. He’s a sales and marketing agent and specialist.

William C. “Charles” Whaley III ’05 of Salisbury, N.C., was recognized as a certified health-care business consultant through the National Society of Certified Healthcare Business Consultants. He’s a certified public accountant who works in the Salisbury office of Healthcare Management Consultants.

Tyler Lance Hoover ’06 of Kinston, N.C., is owner-operator of the Honey-suckle Food Truck, working as chef, while continuing to work full-time for Rockwell Collins as an aerospace engineer.

Tyler Ryan Moffatt ’06 of Boone, N.C., received the “4 Under 40” Award for business owners from the Boone Area Chamber of Commerce. He’s a founding partner and attorney in Moffatt & Moffatt PLLC.

Jennifer Rowe Taylor ’06 of Broadway, N.C., is executive coordinator and administrative assistant for the Sanford Area Growth Alliance. She had been assistant tax collection manager for the Lee County Tax Department.

Alumni Drive *Class Notes*

Jennifer Hendley Carraway '07 MR, '12 EDD of Henderson, N.C., was named principal of Clarke Elementary School in Vance County, N.C. She had been principal at G.C. Hawley Middle School in Granville County, N.C.

Diana Fakhoury '07 of Seattle, Wash., is a jewelry artist, focusing on geometric patterns and designs inspired by her Middle Eastern heritage.

Christopher John "Chris" Hoenig '07 of Wilmington, N.C., is a sales consultant with MarineMax Wrightsville Beach. He had been involved in commercial banking for more than 10 years.

Jonathan M. “Mike” Blake ’08 of Fuquay-Varina, N.C., is a correspondent with HighSchoolOT.com. An English teacher at Cardinal Gibbons High School in Raleigh, he’s former high school sports editor at *The News & Observer* and *The Herald-Sun*.

Maj. Sarah Louise Bodenheimer '08 of Beavercreek, Ohio, was promoted by the U.S. Air Force at Wright-Patterson Air Force Base in Dayton, Ohio. Since the promotion, she has been stationed in Guam.

Jonathan G. "Jon" Clemmons '08 of Kinston, N.C., received the "20 Under 40" Award from *The (Kinston) Free Press*. He's director of sales for the Down East Wood Ducks minor league baseball team.

Justin Wayne Hardee '08 of Greenville, N.C., earned the title of accredited asset management specialist, having completed training through the College for Financial Planning. He's a financial adviser with the Warner, Hood & Culpepper Family Wealth Management Group of Wells Fargo Advisors.

Jessica Hale Roberson '08 of Youngsville, N.C., joined the staff of Stonewood Properties Inc. as a real estate agent focusing on Franklin and northern Wake counties. She had worked at Louisburg College as financial services director.

Stephen M. “Michael” Sumner Jr.
 '08, '10 MR and Alyse Pait married May 26, 2018, and live in Greensboro, N.C. He's director of alumni programs for Greensboro Day School in Greensboro.

Allan Robert Autry '09 *MR* of Raleigh received the Young Alumni Award for Career Development from Catawba College in Salisbury, N.C. He's a certified public accountant and tax principal at Johnson Lambert LLP.



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One-Track Mind

Seth Chavka '08 spends each week during NASCAR season trying to plan for what his driver will do next.

Race engineer Seth Chavka '08 admits that in NASCAR, there's not much time to stop and take it all in — even landmark wins. “Our work is so fast-paced, if you don't take a minute to sit back and enjoy it,” he says, “it's gone like that.”

Chavka grew up in Soldotna, Alaska, more than 4,500 miles from Raleigh, with an engineer's eye. He is the son of a seasonal commercial fisherman and spent much of his youth around Cook Inlet tinkering with boat motors. That helped lead him to what he calls a “super random” trek across country to a summer engineering camp at NC State. Next thing he knew, he had a mechanical engineering degree and was spending Sunday afternoons at places like Daytona International Speedway.

The race engineer for NASCAR driver Erik Jones, Chavka starts his work about four weeks out from each race, running computer simulations specific to each track and planning for all of its geometry and variables. But his work intensifies when the green flag drops on race day. “The biggest anxiety is the first moment on the race track,” he says. “You've made a lot of assumptions. Once we get on the race track and you're on that first run, you're making calculations.”

Sometimes they add up, like last February when Chavka, 34, helped his former driver, Austin Dillon, and crew chief Justin Alexander '03 take the checkered flag at the Daytona 500. And Chavka had to account for a new rules package for cars implemented by NASCAR. Outside of testing, Daytona was one



of the first times he was seeing his calculations operate in live competition, so he didn't quite know what to expect. “It was pretty much show up and you're thrown to the wolves,” Chavka says.

It was a win at NASCAR's signature event, but Chavka and the

Seth Chavka '08 won the Daytona 500 as lead engineer for the No. 3 car in NASCAR. This season he has moved to the No. 20 car.

team didn't have much time to celebrate. It was on to Atlanta and the next race. “It's just kind of a grueling work schedule. I unfortunately miss a lot of people's weddings,” says Chavka, who at least didn't miss his own — he got married in January of 2018. **CHRIS SAUNDERS**

Alumni Drive Class Notes

John Thomas DeMarsico '09 of New York, N.Y., won an Emmy Award in the category of sports events/games live/unedited. Since 2010, he's worked in production of New York Mets baseball broadcasts for SportsNet New York.

Syreeta Devon Hargrove '09 of Raleigh joined the Greater Raleigh Chamber of Commerce as government affairs manager. She had worked in the office of science information management for the U.S. Environmental Protection Agency in Research Triangle Park.

John Russell Lassiter '09 of Hertford, N.C., was named principal at Hertford Grammar School in Hertford. He's a former principal at Chowan Middle School in Tyner, N.C.

Dr. Jordan Garrett Lee '09, '14 MR of Cary, N.C., joined the practice of Smiles of Cary Family Dentistry as an associate dentist after completing the doctor of dental medicine degree at the College of Dental Medicine-Illinois at Midwestern University.

Lauren Hillary Liles '09 and Tyler Morris Lancaster married May 19, 2018, and live in Raleigh. She's working on two master's degrees in animal science from NC State's Biomanufacturing Training and Education Center.

Brian Vincent Mathis '09 MR of Oxford, N.C., was named principal of Vance Charter School in Henderson, N.C. He had been Granville Central High School principal in Stem, N.C.

Allison Britton Wagner '09 and **Brandon Eric Wagner '09** of Moseley, Va., announce the May 16, 2018, birth of a daughter, Clara Merritt Wagner.

2010s

Johnny Lee "Jay" Dawkins '10 and Sarah Holbrooks married March 24, 2018, and live in Raleigh. He's chief executive officer at PublicInput.com.

Michael Obed Fine '10 of Denton, N.C., is an agriculture and natural resource agent for the Rowan County (N.C.) Cooperative Extension.

Mary Caroline Hinkle '10 and Kevin Arthur Shamburg married April 21, 2018, and live in Winston-Salem, N.C. She's a wealth manager at Sheets Smith Wealth Management.

Stephen Louis Mann '10 of Nashville, N.C., is social media manager for N.C. Wesleyan College in Rocky Mount, N.C. He was social media coordinator for the N.C. Department of Transportation.



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Nancy Toms Ratcliffe '10 and John Matthew Currin married Aug. 11, 2018, and live in Charlotte, N.C. She works with Lawn and Mullinix Mortgage in Charlotte.

John Kevill Cargill '11 and Rebecca Christine Plyler married May 19, 2018, and live in Raleigh. He's a consultant with Weatherby Healthcare in Durham, N.C.

Dr. Aaron Douglas Hampton '11 received a doctor of osteopathic medicine degree from Lincoln Memorial University-DeBusk College of Osteopathic Medicine in Harrogate, Tenn. He's continuing his medical training as a resident in psychiatry at The Medical Center in Bowling Green, Ky.

Andrew Jason Jarrard '11, '13 of Salisbury, N.C., is CEO of Kupper Mounts Inc., a bike transport system he developed.

William Anthony "Will" Mackvick '11 of Charlotte, N.C., is vice president of BlackArch Partners, a middle-market investment bank.

Peter Haywood Miars Jr. '11 and Celia Blake Foushee married May 5, 2018, and live in Fuquay-Varina, N.C. He's an implementation consultant with Envestnet/Tamarac in Raleigh.

Rachel Pence Smith '11 *MED* of Whiteville, N.C., was named principal of Edgewood Elementary School in Whiteville. She had been assistant principal of Hallsboro-Artesia Elementary School in Hallsboro, N.C.

Elizabeth Fleming "Liz" Sypher '11 and James Keaton Hurt married June 2, 2018, and live in Greensboro, N.C. She's an assistant marketing manager for Ecolab in Greensboro.

Shayna M. Heinrich '12 *MED* of Morrisville, N.C., is operations director of The Social Institute, a resource to empower students, parents, and young adult leaders to navigate social media positively.

Kelly Michelle Holland '12 *MED* of Kenly, N.C., was named 2018-19 assistant principal of the year for the Johnston County (N.C.) Public Schools system. She's assistant principal at Glendale-Kenly Elementary School in Kenly, N.C.

Jonathan Clegg McDonald '12 and Sarah Rebecca Pepe married June 2, 2018, and live in Raleigh. He's director of real estate for Captivate of New York City.

Kirstyn Dawn Shepler '12 of Jacksonville Beach, Fla., is director of safety, risk and human resources for Meridian Waste, an integrated, nonhazardous solid waste services company. She's a former senior claims consultant at Willis Towers Watson.

Matthew Tyler Woodward '12 graduated from the FBI Academy in May 2018 and has been assigned to the Philadelphia, Pa., field office.

Courtney Leigh Bumgarner '13 of Gibsonville, N.C., is mobile dairy classroom instructor with Southland Dairy Farmers.

Chelsea Jordan Burrell '13 of Bryson City, N.C., is the wellness outreach coordinator for Harris Regional Hospital in Sylva, N.C., and Swain Community Hospital in Bryson City. She's been an adjunct professor at Western Carolina University in Cullowhee, N.C.

Emily Martha Cayton '13 *MED, '18 PHD* completed her dissertation on the funding nationwide for science teaching materials. She discussed her findings on the National Science Teachers Association's *Lab Out Loud* podcast. She's an assistant professor at Campbell University.

Brittany Renee Crisp '13 and Michael Edward Powell married June 30, 2018, and live in Cary, N.C.

Dr. Sarah Long Fatool '13 graduated from medical school and is entering her first year of residency at the University of Kansas School of Medicine-Wichita Family Medicine Residency Program at Wesley Medical Center.

Catherine T. "Taylor" Haley '13, '14 *MR* and Charles Bennett Younts married June 30, 2018, and live in Raleigh. She is owner of Surcie, a stationery and gift company.





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Pieces of the Past

Zac Guy '01 has built a successful business by reclaiming old wood and reusing it in homes, furniture and other ventures.

Zac Guy '01 was hauling some American chestnut boards he had dismantled from an old farm building for his high school football coach when he ran into a builder who bought most of the wood on the spot. Guy, still a teenager, used his unexpected windfall to buy an old barn. He sold its weathered, pock-marked wood to that same builder.

"A lot of people say, 'I'm waiting for the right opportunity.' I'm saying 'Don't wait.... When you find those opportunities, you need to tackle them,'" he says.

Guy, 41, has spent his life doing just that. While majoring in paper science and engineering at NC

State, he ran an aged-wood recycling business out of his dorm room (Wood Residence Hall) that made \$400,000 his senior year. Today, Appalachian Antique Hardwoods is a \$10 million juggernaut in the reclaimed wood industry.

It's based in Guy's hometown, Waynesville, N.C., where 40 workers transform salvaged wood into high-end flooring, cabinetry, furniture, siding and timbers. Whether it comes from a 400-year-old French chateau, a cattle barn in Canada or a Civil War homestead, every board has a story to tell. Each one goes through 25 steps, from kiln-drying and grading to sawing and milling, before it's ready for reincarnation.

Four thousand projects later, Guy's aged wood counts many devotees: Some country music

stars have it on their tour buses; sports stadiums in their suites. His commercial clients include Bass Pro Shops, Cabela's, Restoration Hardware and Pottery Barn. "It's as urban as it is country," he says.

His company has made three appearances on *Inc.* magazine's list of America's 5,000 fastest-growing companies. And this year, Guy's on pace to double his 2017 sales — thanks mainly to a massive religious retreat center he helped build near Omaha, Neb., for TD Ameritrade founder J. Joseph Ricketts.

"It goes back to people desiring something real, something that's natural, something that has some history and meaning to it," Guy says. "No two boards are ever alike: It's just like America — an eclectic blend of different stories."

CAROLE TANZER MILLER

"A lot of people say, 'I'm waiting for the right opportunity.' I'm saying 'Don't wait.... When you find those opportunities, you need to tackle them.'"

Alumni Drive *Class Notes*

Kelly Anne Shelton Mudd '13 MSA of Rocky Mount, N.C., was named principal of Martin Millennium Academy in Tarboro, N.C. She had been principal of Spring Hope Elementary School in Spring Hope, N.C.

Kelsey Anne Parrish '13 and Scott Wiley Novicki married May 19, 2018, and live in Seven Springs, N.C. She's a physician assistant with FastMed Urgent Care of Goldsboro, N.C.

Dr. William Smith Seymour Jr. '13 of Greensboro, N.C., joined the Drake Dentistry practice. He graduated from the East Carolina University School of Dental Medicine.

Michael Stephen "Mike" Stec '13 MR of Sanford, N.C., is owner and head brewer of Camelback Brewing Co.

Dr. Laura Marie Woodard '13 of Roanoke, Va., graduated from the Virginia Commonwealth University School of Pharmacy and is doing her residency at the Salem VA Medical Center in Salem, Va.

Emily B. Andrews '14 of Sparta, N.C., joined the practice of attorney Heather Klein.

Kathleen G. "Grace" Flanagan '14, '17 MA of Raleigh is a special education teacher at Ballentine Elementary School in Fuquay-Varina, N.C.

Whitney Rogers Malpass '14 of Roxboro, N.C., received a Sarah Elizabeth Morton "Teach in Person" award from the Person County (N.C.) Schools system, given to beginning teachers in 2017–18 who showed exemplary service. She's a teacher at Northern Middle School in Roxboro, N.C.

Caroline Afton Monson '14 of Draper, Utah, and her sister, Ashton Smart, founded Elizabeth + Afton, a hand-painted textiles company.

Brittany Talise Allison '15 of Concord, N.C., is an assistant principal at Harris Road Middle School in Concord. She had been dean of students at Central Cabarrus High School in Concord.

Lauren Ashley Martz '15 of New London, N.C., earned her master of science in geology from the University of Louisiana at Lafayette. She was part of an American Association of Petroleum Geologists' Imperial Barrel Award Team that became IBA World Champions.

Elizabeth Dale "Liz" Moomey '15 of Salisbury, N.C., joined the staff of the *Salisbury Post* as the city government and business reporter.

Ryan Kevin Roberts '15 MR of Clayton, N.C., is owner of R&R Brewery and Taproom in Mount Olive, N.C.

Garrett Murphy See '15, '17 MS and **Marisa Dawn Linton '16** MS married May 19, 2018, and live in Lincoln, Neb. He's a research assistant in the animal science department at the University of Nebraska-Lincoln.

Bradley Gray Taylor '15 MED was promoted to senior success coach in High Point University's Office of Student Success.

Marisa Dawn Linton '16 MS and **Garrett Murphy See '15, '17** MS married May 19, 2018, and live in Lincoln, Neb. She's an adjunct professor at Doane University in Cree, Neb.

Sara Ashleigh Milam '16 and **Bryan William Selser '16** married Aug. 11, 2018, and live in Cary, N.C.

William G. "Will" Pfitzner '16 of Mount Airy, N.C., is founder and co-owner of LazerEdge Designs.

2nd Lt. Stefan P. Vettters '16 of Enid, Okla., graduated from Air Force Specialized Undergraduate Pilot Training at Vance Air Force Base.

Matthew Thomas Bissette '17 MED and Leah Christian Farmer married June 16, 2018, and live in Wilson, N.C. He works at Southern Nash Middle School in Spring Hope, N.C.

Camaryn Ivie Byrum '17 of Tyner, N.C., was named 4-H agent at the Chowan County (N.C.) Extension Office in Edenton, N.C. She had worked as a microbiology resource analyst with JLA International.

Ashley Elizabeth Herrin '17 of Raleigh was named assistant county ranger for the N.C. Forest Service in Sampson County, N.C.

Rebeka Lee "Beka" Townsend '17 of Apex, N.C., was named one of the Wake County (N.C.) Public School System's First-Year Teachers of the Year. She's a math teacher at Rolesville High School in Rolesville, N.C.

Jeeyoung S. "Sarah" Bae '18 of Pinehurst, N.C., is tournament manager with the Carolinas Golf Association. A six-time CGA champion, she was captain of the Wolfpack women's golf team in her senior season.

James William Barnes '18 MBA moved to Buford, Ga., to take a role as an enterprise architect with Primerica.

Heidi Marie Boardman '18 MR of Wake Forest, N.C., joined Franklinton Middle School in Franklinton, N.C., as an assistant principal. She had been an administrative intern at Heritage Middle School in Wake Forest, N.C.

Meghan Faith Glova '18 of Charlotte, N.C., traveled the country on a Harley-Davidson over the summer of 2018 as part of an internship with the motorcycle company called #Find-YourFreedom.

Bethany Rayne Skellington '18 and Tyler David Fontaine married May 26, 2018, and live in Wichita, Kan.



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Northern Frontiers cruise **July 22–Aug. 4**
Canadian Rockies **July 26–Aug. 1**

AUGUST

National Parks and Lodges of the Old West **Aug. 28–Sept. 6**

SEPTEMBER

Inspiring Italy **Sept. 1–12**
Yosemite and California Coast by Rail **Sept. 7–14**
Northern Lights and the Great North American Migration **Sept. 11–16**
St. Lawrence Seaway and French Canada **Sept. 15–25**
Provincial French Countryside **Sept. 20–Oct. 4**
Barcelona **Sept. 21–29**
Timeless Cuba **Oct. 22–30**
Croatia & The Dalmatian Coast **Sept. 30–Oct. 11**
Masterpiece Montage **Sept. 30–Oct. 11**
Peru **Sept. 30–Oct. 18**

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Alumni Drive *In Memoriam*

1940s

Paul J. "Jamison" Brown Jr. '41, Hendersonville, N.C.
Bob Freeman Hill '43, Murfreesboro, N.C.
Rufus Kendrick Hester '45, Bladenboro, N.C.
Edward K. "Keith" Howell '48, Hendersonville, N.C.
M.A. "Mac" McDuffie '48, Fayetteville, N.C.
Wiley Arnold "Jack" Sykes Jr. '48, Greensboro, N.C.
Alan Wayne Warshaw '48, Salt Lake City, Utah
Richard Franklin "Dick" Bean '49, Greensboro, N.C.
Buell Pittman Floyd '49, Naples, Fla.
Joseph Della Hartsoe '49, Springfield, Va.
Ernest Cleveland "E.C." Hunt Jr. '49, Denver, N.C.
Dr. William Allen "Bill" Potts '49, Mount Olive, N.C.



Fred T. Pearce '49 of Houston, Texas, died June 22, 2018. After beginning his career at Bethlehem Steel, he worked in guidance and control with the Langley Memorial Aeronautical Laboratory's

pitotless aircraft research division. That led, in 1964, to a position with NASA as an aerospace engineer, working on the first space simulator to train astronauts for space travel. He also designed cameras used in lunar landings.

Dr. Al Worth "Doc" Stinson '49 of East Lansing, Mich., died Aug. 13, 2018. A U.S. Army veteran of the Korean War, he graduated with a doctorate in veterinary medicine in 1956 from the University of Georgia and spent his career in teaching and research focused on microscope anatomy, embryology and animal behavior. Outside the classroom, he was involved in dog breeding and protecting the rights of pets and dog owners. He served on the editorial boards of the *NC State College Handbook* and the *American Journal of Veterinary Research* and received numerous awards for his work on behalf of dogs.

1950s

Dale Ray Bowling '50, Laurel, Miss.
Norman Jay Concool '50, Roslyn, N.Y.
Thomas Lewis Disher Jr. '50, Southport, N.C.
William Eugene "Bill" Hollowell '50, Greenwood, S.C.
David Lane '50, Colfax, N.C.
Edgar Joseph "Ed" Lanious Jr. '50, Whitesboro, N.Y.
James Ritchie Mauney '50, New London, N.C.
Hazel Hughes "Hugh" Moore '50, Kinston, N.C.
John Wiley "Jay" Safley '50, Lenoir, N.C.
Tommy Arlindo Weisner '50, Greensboro, N.C.
Rupert Cecil Barnes Jr. '51, Tequesta, Fla.
Jack Ronald Barkley '52, Advance, N.C.
Gene Watts Jones '52, Raleigh
Howard Nathaniel Lumley Jr. '52, Cleveland, Tenn.
Robert Gene "Bob" Reyns '52, Covington, Va.
Dana Henry Rucker III '52, Matthews, N.C.
Charles Houston "Chuck" Saunders '52, Melbourne, Fla.
Raymond Cecil Sawyer '52, Brevard, N.C.
Robert C. "Carroll" Williams '52, '53, Hickory, N.C.
Sanford Eugene "Gene" Younts '52, '55 MS, Austell, Ga.
Stanley Wallace "Stan" Ahrends '53 MS, Mountain City, Tenn.
Guy Elmer Carrow '53, Bartlesville, Okla.
William H. "Howard" Cox '53, Lexington, N.C.



Roger Vernon "Buddy" Troxler '51 of Salisbury, N.C., died June 17, 2018. He was one of six brothers on the Wolfpack wrestling team between 1932 and 1950. Inspired by Frank Lloyd Wright's visit to NC State

in 1950, Troxler designed two mezzo-modern homes in Salisbury. A co-owner of Southern Implement Co., he also enjoyed painting watercolor portraits of houses and rural scenes.

Curtis Freeze '53, Raleigh
Eugene Stanley Hertel '53 MS, Cheshire, Conn.
Charles Russell "Charlie" Reed '53, '57, Salisbury, N.C.
Lee Roy Ellis '54, Chattanooga, Tenn.
George Parrott Maier '54, Tarboro, N.C.
Edgar Laird Dallery '55, Sumter, S.C.
Donald Richard "Don" Mills '55, Reidsville, N.C.
Sam Brown Parker '55, Concord, N.C.
Billy Stuart Batts '56, '70 PHD, Farmville, Va.
Sidney Buchanan "Buck" Cooke '56, Winnsboro, S.C.
John Ray Holt '56, Chapel Hill, N.C.
Michael Hilton Jones '56, '66 MSE, '73 PHD, Abilene, Texas
Donald Lee "Don" Keyt '56, Gatesville, N.C.



Philip E. "Phil" DiNardo '57 of Raleigh, died Oct. 18, 2018. Recruited out of Philadelphia, Pa., to play basketball at NC State, he became a co-captain for Everett Case and played on three ACC-championship winning teams for the Wolfpack in the 1950s.

Edward Seawell "Ed" Massenburg '57, Cary, N.C.
Harold Eugene Ours '57, Annapolis, Md.
Fred Griffith Welfare '57, '59 MS, Staunton, Va.
Hugh Curtis Beeson '58, Knoxville, Tenn.
James Samuel "Sam" Easley III '58, Clemmons, N.C.
Jack Eugene "Gene" Ferrell '58, Raleigh
Albert Johnson McCracken Jr. '58, Granite Quarry, N.C.
Edward Wayne "Ed" Nuckolls '58, Hendersonville, N.C.
Ralph Jerome Parker '58, Laurinburg, N.C.
Robert Clarence "Bob" Pearson '58, Spartanburg, S.C.
Lenard John Flynn '59, Anderson, S.C.
Martin Boger Foil Jr. '59, Charlotte, N.C.
William Franklin "Bill" Funderburk '59, Columbia, S.C.

James Leonard O'Briant '59 AAS,
Bahama, N.C.

George Edson "Spoff" Spofford III '59,
Fort Lauderdale, Fla.



Harry Eugene Stewart Jr. of Raleigh died Oct. 22, 2018. A mainstay on NC State's campus in the 1940s and 1950s, he worked at the university as the director of dining halls for 13 years

and served as the director of the Wolfpack Club for six years. After he left his roles at the university in 1958, he held various other jobs during his career, including the president of Andy Griffith products in the 1970s.

1960s

Robert Carroll "Bob" Clark '60,
Asheville, N.C.

Kenneth Evans "Ken" Conley '60,
Matthews, N.C.

Romulus Odell "Pete" Livengood '60,
Winston-Salem, N.C.

Roy Lee Overton '60, Wendell, N.C.

John Leon Seymour '60, Palm Beach Gardens, Fla.

Bobby Warren "Bob" Tuttle '60, Augusta, Ga.

Robert Charles "Bob" Ellis Jr. '61,
Kittrell, N.C.

Clarence Lee "Dick" Holland Jr. '61 MS,
Decatur, Ga.

John Patterson McPherson '61,
Charlotte, N.C.

Thomas Calvin "Tom" Stout '61,
High Point, N.C.

Percy William Wright '61, Hagerstown, Md.

Charles Alvin Yorke '61, '64 MS, Golden, Colo.

Virgil James Edwards '62, New Bern, N.C.

John Aaron Singleton '62 MS, Apex, N.C.

Richard Warren "Dick" Abbott '63,
Clemmons, N.C.

Millard Cleveland "M.C." Howell Jr. '63,
'77 MED, Monroe, N.C.

Eugene Richard Hughes Jr. '63,
Richmond, Va.

Harold L. "Landis" Satterwhite '63,
Winston-Salem, N.C.

John Wesley "Johnny" Utley '63,
Greensboro, N.C.

John Wesley Lucas '64, Venice, Fla.

Luther Alcorn "Al" Bennett Jr. '65,
Greensboro, N.C.

Donald Thomas "Tom" Cooper '65 MS,
'69 PHD, Leland, Miss.

Carlton E. "Earl" Davis '65,
Myrtle Beach, S.C.

Jimmy Oakley Hardin '65, Rocky Point, N.C.

Hiram Howard Lee '65, Beaufort, S.C.

Michael Andrew "Mike" Taras '65 PHD,
Clemson, S.C.

Jack Owen Watson '65, Mooresville, N.C.

Marvin Eugene Weant '65, Salisbury, N.C.



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Alumni Drive *In Memoriam*



Donald James "Don" Farish '66 MS of Warren, R.I., died July 5, 2018. President of Roger Williams University at the time of his death, he had led the school since 2011 and advocated for change

in the U.S. model of higher education. He was instrumental in the development of the university's Community Partnerships Center, providing experiential learning opportunities for students while benefiting neighbors through hundreds of projects. Previously, he worked at the University of Missouri, the University of Rhode Island, Sonoma State University and Rowan University.

George Thomas "Tom" Holmes III '66 MS, '70 PHD, Cornwall, Vt.

Joseph B. "Branson" Redding '66, Homosassa, Fla.

Ransom Victor "Randy" Hinton '67, Marietta, Ga.

Harold Eugene Garver '68, Florence, Ala.

William Lucian "Bill" McGee '68, Charlotte, N.C.

David Emory Barwick '69, Charlotte, N.C.

Samuel Kirkbride "Sam" Collier '69, Ann Arbor, Mich.

Peter Edward Davis '69 MR, Denville, N.J.

David Edward "Dave" Herlt '69, Litchfield Beach, S.C.

Martin J. "John" Quincannon '69, '74, '75 MR, Bangkok, Thailand

Phillip Morris "Phil" Rouse '69, Virginia Beach, Va.

Dr. Mark "Doc" Silvers '69, '85 DVM, Greensboro, N.C.

1970s

Virgil M. "Milton" Boyce '70 EDD, Stephens City, Va.

Gladys Marie Ellis Bredenberg '70, Raleigh

Theodore George Brna '70 PHD, Cary, N.C.

Stephen Mozley "Steve" Cooper '70, Newton, N.C.

Lee Allyn Heckman '70, Morrow, Ga.

Mary Thompson Lennon '70 MED, Clarkton, N.C.

Ermine John "Erm" Venuto '70, Phenix City, Ala.

Glenn William Armfield Jr. '71, Mount Airy, N.C.

Jack Carter Austin '71, Garner, N.C.

Robert Ervin "Bobby" Lutfy Jr. '71, Raleigh

Roderick Leland "Rod" Beverly '72, San Antonio, Texas

Karl Frederick "King" Hehl Jr. '72 AA, Warrenton, N.C.

Harriet Esther Herrin '72, Port Orange, Fla.

Byron Sherrill Horne '72, Longview, Texas

Roger Lee Sherman '72, Rupert, W.Va.

Stacy Gene "Butch" Smith '72, Cary, N.C.

Hans-Peter Binswanger-Mkhize '73 PHD, Washington, D.C.

Leland W. "Wayne" Poole '73, Raleigh

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Alumni Drive *In Memoriam*

William Bristol “Willie” Hood ’72, ’75, of Raleigh, died Sept. 4, 2018. He began his career in landscape architecture in 1976 with Jerry Turner & Associates, working as a principal landscape architect and vice president until semi-retirement in 2016. He served for 10 years on the City of Raleigh Appearance Commission, including two years as chair, and was a former president of the N.C. Chapter of the American Society of Landscape Architects.

Lechi Tran Rodriguez ’73, ’75 MED, ’79 PHD, Fayetteville, N.C.

William Habersham “Bill” Barnwell Jr. ’74, High Point, N.C.

Gary Wayne Coffey ’74, Wilkesboro, N.C.

Clinton Addison “Clint” Coram ’74, Winston-Salem, N.C.

Thomas Elmer “Ted” Deans Jr. ’74, Bailey, N.C.

Ramesh Gulabchand Fofaria ’74 MR, Garner, N.C.

Bonnie J. “Joyce” Frazier ’74, West Haven, Conn.

Paula Davis Gregory ’74, Savannah, Ga.

Cornelius David “C.D.” Sides Jr. ’74, Minneapolis, Minn.

William Lee Tunstall ’74, Franklin, Tenn.

James Kenneth “Ken” Beck ’75, Glendale Springs, N.C.

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Marshall Stewart III ’75, Raleigh

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Robert Gerald Wood ’77, Henderson, N.C.

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William Alfred “Billy” Port ’78, Charleston, S.C.

Mickey Steele Williamson ’78 MED, Raleigh

Philip Abraham ’79 PHD, Cary, N.C.

Dennis Carlyle Downing Jr. ’79, Charlotte, N.C.

Maurice Jennings “Pete” Yates ’79, Fleetwood, N.C.

1980s

Joseph Woolard “Joe” Harrison ’80 AA, Williamston, N.C.

Jeffrey Leon “Jeff” Johnson ’80, Clayton, N.C.

Kevin Lee McPherson ’80, Raleigh



WELCOME TO OUR NEWEST LIFE MEMBERS

September 1, 2018, through November 30, 2018

Fred C. Abernethy Jr. '61	Charles H. Cates Jr. '60	Robert T. Gibbs '67, '69 MS	Jennifer M. Kaufmann '06	M. Howard Perry '80, '82 MS	Craig S. Shoaf '97
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Kathy Kearns Montgomery '80, Statesville, N.C.
Lt. Col. Robert Leon Wilkie '80 MS, Owens Cross Roads, Ala.
Leslie Paul "Ty" Moore '81 AA, Greenville, N.C.
Regina Hope Alston '82, Raleigh

Roger Preston Meekins '82 MS of Mantoo, N.C., died June 28, 2018. A U.S. Air Force veteran of the Vietnam War, he later spent five years with the Defense Intelligence Agency before retiring as a lieutenant colonel. He worked in several businesses, including real estate, before earning the Master of Technology for International Development at NC State. As a volunteer with the International Executive Service Corps, he provided management consulting in South American, Caribbean and Eastern European nations.

Danny Wayne Lail '83, Raleigh
Marcus Randall "Marc" Tilley '83, Durham, N.C.

Peter Lorentz Lassen '84 MS, Los Angeles, Calif.
Ronald Bruce "Ron" Moser '84, Charlotte, N.C.
David Clark Thompson '84 PHD, Thompson, Conn.
Jeffrey Steven "Jeff" Sauer '85, Auburndale, Mass.
Christine White Bissette '86, '87, Raleigh
Jo Anna Lilley McMillan '86 MS, Raleigh

Maureen Ann Murray '87 of Merrimack, N.H., died July 1, 2018. After graduation, she worked in communications with the National Football League, the International Management Group and The Trump Organization and was an executive producer and director at ESPN. She was the first Miss New Hampshire Teen USA.

Clara Lee Schreiner '87 PHD, Apex, N.C.
Steve Tyler Bland '89, Raleigh
Sue Oi-Yee Chow '89, '90, Cary, N.C.
Frederick Scott White '89, Clayton, N.C.

1990s



Diane Britt Moose '90 of Clayton, N.C., died Sept. 11, 2018. An NC State employee for 21 years, she worked in the athletic department for more than 18 years as senior associate athletics director and chief financial officer for Wolfpack athletics.

Brian Lamar Nixon '90, Blythewood, S.C.
Romulus Sanderson "Tony" Spencer III '90, Engelhard, N.C.
Evelyn Davis Raper '91 MS, Goldsboro, N.C.
Dr. Rodrick Andrew Alston II '92, Wake Forest, N.C.
Edward Owen "Ed" Barber '92, Sugar Land, Texas
Samuel Edward "Sam" Crawford '94, Raleigh
Carroll Frederick "Fred" Gunter '94 MS, Greensboro, N.C.

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Alumni Drive *In Memoriam*

Angela Marie “Angie” Levi Lanier ’95,
Topeka, Kan.

Brian Edward Russell ’95, Apex, N.C.

Kenneth Allen “Ken” Deutsch II ’96,
Clayton, N.C.

Dr. Gordon Perry Flake ’97, Chapel Hill, N.C.

Susan Clark Burns ’99 MR, Raleigh

2000s

John Hampton Dempster ’00, Raleigh

Jonathan Marcus King ’00, Charlotte, N.C.

Leslie Phelps Newton ’00, ’03 MS, ’13 PHD,
Knightdale, N.C.

Michael Brian Sweitzer ’01, Charleston, S.C.

James Chauncey “Jack” Keel ’03, Raleigh

David Nelson Hall ’04, Asheville, N.C.

Dr. Amanda Lloyd Lumsden ’08 DVM,
Arlington, Texas

Michele Pivinski Kenlan ’09 MR,
Durham, N.C.

Steven Grant Somers ’09, ’10 MS, Cary, N.C.

2010s

Clarice Ann Hundredmark Baracca ’10,
Raleigh

Sally Elizabeth Moore ’10, Raleigh

William Floyd “Jay” Mercer III ’11,
Rocky Mount, N.C.

Joshua William “Josh” Brown ’11, Eden, N.C.

Marguerite Conrad Barnes ’13, Cary, N.C.

Carlos Tyrell Gray ’14, Pinson, Ala.

Luke Brett Moody ’14, Siler City, N.C.

Jordan Christian Baber ’16,
Upper Marlboro, Md.

Students

Joshua David “Josh” Helms, Newton, N.C.

Tonicha Ashanti “Toni” Henry-Wesley,
Cayce, S.C.

Steven Vaughn Ray, Concord, N.C.

Taylor Virginia Marie White, Apex, N.C.

Faculty/staff



August Albert De Hertogh ’57, ’61 MS

of Raleigh died Oct. 26, 2018. A longtime department head of NC State’s Department of Horticultural Science, he was known worldwide for his research on flower bulbs. He developed various

shipping procedures and protocols for handling bulbs and bulb-cooling processes. He also co-edited *The Physiology of Flowering Bulbs*, one of the leading reference books in the bulb industry.

Gene Watts Jones ’52, Raleigh,
former instructor in civil engineering.

Evelyn Davis Raper ’91 MS,
Goldsboro, N.C., former N.C. Cooperative
Extension home economist.

Lauren William “Red” Taylor ’77,
Cary, N.C., former staffer in computer science.

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17. Signature: Sylvia Adcock, Managing Editor.

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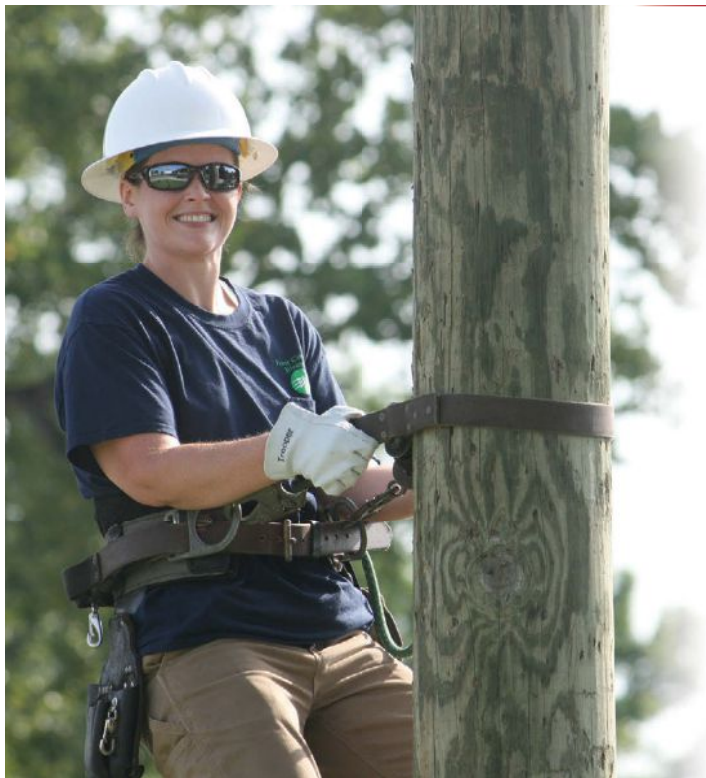
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Then & Now

Quite the Bandwidth

WKNC has a long history of serving as the campus go-to for a good tune.

The first student radio station launched on campus at NC State in the 1920s as WLAC. Fast forward through different call letters and a leap from AM to FM in 1966, and you arrive at one of the campus' longest-standing institutions, WKNC.

Located at 88.1 on the dial, WKNC is a source of campus news. Student government candidates have debated policy before over its airwaves. It's even home to Wolfpack baseball and women's basketball.

But what students and other listeners within a 50-mile radius, thanks to the power of WKNC's 25,000 watts, have always wanted is music. And the music has changed, say, since the 1950s, when "Campus Beat" played top-30 hits. Or even the 1960s, when WKNC delivered top-40 tunes along with, according to the 1969 *Agromeck*, "jazz, progressive rock, news features and educational material that left no doubt in anyone's mind that experimentation was the rule and conformity was taboo."

Indie rock vibes are strong today as WKNC plays bands like Culture Abuse and the Illuminati Hotties on "Daytime Rock," one of WKNC's 30 shows, each specializing in genres, including hip-hop, R&B and metal. The lineup of 60 student disc jockeys includes DJ Emotionally Unavailable, The Saw and Lil Yahtzee.

As for the call letters' meaning? One legend has it standing for "We Know North Carolina." "One hundred percent false," says Jamie Lynn Gilbert, associate director of student media and the station's adviser. "It means nothing." **CHRIS SAUNDERS**

ON THE WEB: wknc.org

Gone are the days of turntables spinning tunes at WKNC. Today, the DJs play songs from their computers and iPhones.



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