NEIGHBORHOOD CHANGE
Research Tracks Impact Of Transit Investments
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5,000 copies of this public document were printed in June 2018
at a cost of $1.32 per piece, for a total cost of $6,612.25

About the Cover:
The LYNX Blue Line Extension and neighborhoods it passes through represent a living lab
for researchers Isabelle Nilsson and Elizabeth Delmelle.

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Dear Alumni Friends,

Twelve years ago, the first issue of Exchange was published. With this magazine, we in the College wanted to connect to our alumni and friends, not just to send a one-way missive, but to invite a response back from you: to exchange. This reciprocal enterprise has been exhilarating, as “exchanges” that benefit our students popped up in the most interesting and unusual of places, from partnerships with cultural organizations in Charlotte to links with faraway universities such as Kingston University London and Shanxi University in China.

In this issue, we celebrate the exchange that occurs in the student research experience – the so special bond that develops between the mentor and the apprentice scientist/scholar.

This fall, biology students at Gaston College and Rowan-Cabarrus Community College will be the first participants in an innovative collaboration among our College and these two community colleges. The student scholars will benefit from targeted support and scholarships while completing their associate degrees at the community colleges, before enrolling at UNC Charlotte to study pre-biology or biology. Once they exchange their status as a community college student with that of a university student, they will have access to scholarships, faculty and peer mentoring, hands-on research opportunities, membership in a learning community of like-minded students and other initiatives designed to enable their success.

With this partnership, supported by the National Science Foundation, we are thinking big. We believe that by working together, our three institutions can increase the number of students who complete both associate of science and bachelor’s of science degrees in the biological sciences. We also expect to learn more about what helps and what hinders community college students who strive for careers in STEM fields. Through our research with this effort, through our exchanging of ideas, we join the national conversation about this issue.

Yet, we also are thinking about this work in a more intimate way. We appreciate what sustained support can mean for individual students and for their families. We only have to look at the impact of a preceding initiative at Gaston College and the life-changing opportunity it has afforded students. Erin Spurrier, who is now a biology major at UNC Charlotte, describes it as the best experience in her educational journey. “It provided me with new skills, support, opportunities, experiences and an environment that not only helped me succeed, but provided me with a new and exciting outlook on higher education,” she says.

Although she may not realize it, Erin has neatly summed up our beliefs. Active learning should be an integral part of experiences in higher education, including the way we approach research opportunities. Research increasingly is a collaborative process – an exchange – needing the ideas, interests and innovative spirit of the many – not just the few. In classrooms, labs, libraries, community settings, locations abroad and the myriad of other places where learning occurs, our students, faculty and other members of our College community engage in this collaborative, lively process. We all are enriched by this approach.

In this edition of Exchange, we can see this way of thinking illustrated in many of the stories, particularly in stories focused on students. While preparing for a study abroad trip to Poland, students shared insights with each other and with history professor Aaron Shapiro of UNC Charlotte and Talli Dippold, assistant director of the Stan Greenspon Center for Peace and Social Justice and Director of Jewish Life at Queens University of Charlotte. Students and mentors alike gained wisdom from these exchanges as they explored deeply the role of cemeteries in communities and collective memories.

Likewise, students who are part of a Research Experience for Undergraduates Program in Crime Analytics have received guidance from Matthew Phillips and other faculty in the Department of Criminal Justice and Criminology, as they conducted hands-on research, drawing on disciplines such as criminal justice, crime analysis, analytics, and data science.

Luke Hardy, who is pursuing his Ph.D. in Optical Science and Engineering, similarly has benefitted from working closely with his mentor, Nathaniel Fried, starting as an undergraduate student and continuing through his doctoral studies, making advances in the field of medical applications for lasers.

As these and other stories about our students reveal, the value of exchange resides in its transformative power. One of our most important roles in the college is to foster and nurture this process. We hope you will join us in our exchange. 🌐
UNC Charlotte historian Aaron Shapiro thinks deeply about the impact of society's resting places and the importance of protecting and understanding them. In his co-teaching of a history class called “Preserving Memory in the Digital Age,” Shapiro strives to help students broaden their perspectives on cemeteries and their surrounding communities, through in-depth research and class work.

As the cornerstone of the class, the students traveled to Poland in late May to do stabilization, preservation and interpretive work at cemetery sites. Many Jewish cemeteries in Eastern Europe remain under constant threat due to neglect and lack of awareness about their presence and condition.

“I would hope that the experience – of the class and the time in Poland – would contribute to students always asking questions about the world they inhabit,” Shapiro says. “That they not only challenge seemingly dominant narratives and investigate their emergence and acceptance, but also consider ways in which other narratives have been minimized or silenced. I don’t imagine many of the students will end up as public historians. In fact, most of the students aren’t history majors. But I do think that their experience together will encourage them to learn to listen to a multitude of views and perspectives.”

Shapiro and Talli Dippold, assistant director of the Stan Greenspon Center for Peace and Social Justice and Director of Jewish Life at Queens University of Charlotte, have taught this course as a team, with students enrolled from both universities.

“Our goal is for students to develop a deeper appreciation for the complexity of historic events, using the Holocaust as a case study,” Dippold says. “By spending a semester studying public history and the Holocaust on our two campuses and in our Charlotte community, and then visiting the historic sites in Poland that are connected to World War II, our UNC Charlotte and Queens University students will gain a deeper, richer and more nuanced understanding of the complexity of history.”

The project has employed community-based historical research, combined with a humanities curriculum and global focus. While in Europe, students visited Auschwitz, numerous museums and world heritage sites, as they explored how historians address commemoration and memorialization. The project immerses students in public history and offers an opportunity to consider how historians partner with the public, engage questions of memory and develop material for public audiences using new digital tools.

For UNC Charlotte history major Erin Robinson, the class has offered a glimpse into the communities around her and how historians reach out to the public in an effort to preserve memories. “These things have all made me want to continue working and volunteering in the Jewish community, and other minority communities after this class ends,” Robinson says. “For me, these communities add a richness and diversity to our society, which if it were lost, here in Charlotte or anywhere else in the world, would be a tragedy.”
The work helps students learn what it means to be global citizens and to be aware of the world around them and their role within the world, Robinson says. “If tragedies like genocides are forgotten, it has the negative effects of erasing a people’s contributions to society, it delays the pursuit of justice for crimes against a people, it plunges a people into further victimhood,” she says.

The hope is that the program will have a lasting impact not only on the students, but also for the people who live in the communities they are visiting.

“Preserving memory isn’t simply about taking a photograph and posting it on Instagram, but rather involves ongoing and meaningful dialogue with others in the world,” Shapiro says. “And it involves acting to preserve and maintain those very places where memory resides – whether a cemetery site in Poland, a lone individual farmhouse remaining in a sprawling urban landscape or any number of places across the globe that are important to individuals and communities.”

While the work holds the potential for broad impact, it also has affected students in a more intimate way.

Jacob Jordan, a finance major and sociology minor at UNC Charlotte, learned more about cultures different from his own. As he was growing up, he does not remember knowing someone who is Jewish or knowing much about the history of Jewish people. “Projects like this educate the community on Jewish heritage and why it is important to preserve it in today’s society,” he says.

“Preserving memory is a way to show respect for generations before you, but it is also important to preserve memory so it will be there for future generations to learn about.”

For Michael Farrell, a math major at Queens University, the class prompted conversations with his grandfather about his family’s history. Members of the family had immigrated to the United States from Russia, Ukraine and Poland. After the Holocaust, his family did what they could to help other Jewish people.

“My great-grandfather was a dentist in New York who out of his own kindness replaced a lot of the golden and metal teeth that were removed from the survivors’ mouths when they were in concentration camps,” Farrell says. “My grandfather has a lot of pride in his father. He said that when his family had looked back, they didn’t realize the full impact of what was going to happen. They just felt uncomfortable with what was going on and decided to move.”

Farrell initially was unsure he would find the class particularly relevant to his future career teaching math. Yet, he has found meaning in what he is studying. He says he will take this realization into his classroom when he becomes a math teacher and is faced with students who question the relevance of math. “By applying this, I can try to provide them with an understanding of why they are learning math and hopefully make sure they are getting something out of it,” he says.

During their study abroad trip, students have kept journals, documenting their academic learning and their personal observations. They are using these as one resource for sharing their findings with people in Poland and in Charlotte.

To help the students with this project, organizers reached out to Anna Brzyska, who had previously done work in Brzesko, working with the mayor and other local officials of Brzesko.

“The opportunity to work with local students and community members in Poland offers our students exposure to the ‘everyday reality’ of life in another country,” Dippold says. “Hopefully, this will increase their appetite for international exposure in order to learn about global historical events not only from books and the Internet but from the authentic sites.”

Preserving Memory in a Digital Age received support from the Blumenthal Foundation, the Jewish Federation of Greater Charlotte, private donors, Anna Brzyska, and the mayor and local people of Brzesko.

Words: Madison Bradburn | Images: Lynn Roberson
The button pinned to Tonya Wertz-Orbaugh’s sweater reads: A genocidal act occurs every 19 seconds. Stop the spread of hate. Moving around her classroom to check on students’ progress on their multi-media Holocaust projects, Wertz-Orbaugh holds this thought close.

“My goal is to change how people talk with each other about the Holocaust and genocides and to encourage difficult conversations,” she says.

As a teacher of writing and inquiry in the University Writing Program, Wertz-Orbaugh has spent time navigating and confronting her own doubts about whether she was qualified to research, write and teach about the Holocaust. At that time, she was a non-Jew, although she since has converted to Judaism and is a member of Temple Beth El in Charlotte.

She documents her early search for clarity in an essay, “What Is It My Business? Writing about the Holocaust,” published by the University Writing Program in their journal RE: Composing. In the essay, Wertz-Orbaugh tells of visiting the United States Holocaust Memorial Museum in 2007. She found herself unable to walk through a cattle car that transported Jews to concentration camps. She devoured every word on every display. She intently absorbed survivors’ testimony. She lingered in the engulfing Tower of Faces, a three-story tall display of intimate photographs of people living their lives.

This is where she grasped that the history of the Holocaust is one of many stories. This is where her resolve to join in the telling of these stories strengthened, forming the foundation for much of her subsequent research, writing, teaching and engagement. And, this was when she decided she had to write about the issue.

It was not long before her own research and inquiry work blended into the classes she teaches at UNC Charlotte. She invites her students in University Writing Program courses to inquire and write about the Holocaust as they create print and digital materials such as websites and podcasts. In the fall of 2017 and spring of 2018, for example, classes were paired with public schools around the country. UNC Charlotte students created resource guides for the teachers to use as they teach about the Holocaust.

She asks her students to think about the ways they have been heroes, perpetrators, bystanders, and allies, which allows them through writing to interrogate their own roles.

Wertz-Orbaugh’s work also led to her selection in 2014 to attend a seminar in New York City, presented by The Memorial Library/The Olga Lengyel Institute (TOLI), a professional education program with deep roots in the National Writing Project’s values. A teacher-consultant for the National Writing Project, Wertz-Orbaugh has twice presented on social justice issues and Holocaust writing genres at National Writing Project conferences at UNC Charlotte.

In 2017, TOLI chose her to co-lead a weeklong satellite seminar for middle and high school and college-level educators. This summer, she and co-leader Donna Tarney, a teacher at Charlotte Catholic High School, will present their second seminar, housed at the Stan Greenspon Center for Peace and Social Justice at Queens University of Charlotte.

The theme is “Looking Beyond the Single Story in Holocaust and Human Rights Education,” building on an idea offered by Chimamanda Ngozi Adichie in her TED Talk, “The Danger of a Single Story.”

“She examines the rhetorical constructions of “others’” and how that constructs racism, anti-immigration and tribalism, thus making others not-human, and thus easier to disenfranchise or kill,” says Joan A. Mullin, University Writing Program executive director.

“She is changing how people talk with each other, and encouraging difficult conversations with her research, summer institute and community outreach that teach how to have
difficult conversations about the Holocaust and genocides. Her work goes a long way towards getting teachers to think about how to handle difficult discussions in their classes and how to prepare students to think beyond labels – and why they should do that.”

Through speaker presentations, field trips, a visit with a Holocaust survivor, and other interactive experiences, educators will engage with topics of Holocaust education that are not well-represented in the traditional Holocaust curriculum. The seminar will also provide participants with the tools needed to broaden their approach to teaching about the Holocaust and other human rights issues. The discussions help participants to become more adept at handling difficult content and to learn more about the use of writing, dialogue, and inquiry.

“To have been chosen to present the seminars is an honor and a huge responsibility,” Wertz-Orbaugh says. “This allows us to offer a local seminar to teachers and to replicate the experience we had in New York. We have speakers and experts in various areas. We want to relay the message that it doesn’t begin and end with the Holocaust. There was a rich and vibrant Jewish life before the Holocaust. We want to stress that there is a huge story behind the Holocaust, and to just focus on loss and devastation is just a little piece of the story. This gives teachers an exposure to things they maybe haven’t previously thought about.”

In this intense experience of research and teaching, collaboration naturally emerges.

“Something magic happens,” Wertz-Orbaugh says. “There are no egos, and everyone is welcome. We are eager to learn from each other, and bond with other teachers, and find resources to call on down the road. It’s important to have close colleagues, because this work is draining. You need moments of self-care.”

In March 2018, to continue her research, she attended a TOLI transnational seminar with American and Austrian educators in Innsbruck, Austria. Together the group explored Austrian and American family stories and national narratives that surround understandings of World War II and the Holocaust. Wertz-Orbaugh, who holds a master’s degree in English from UNC Charlotte, is also currently at work on a young adult novel about the Kindertransport, the rescues that brought refugee children, mostly Jews, to Great Britain prior to the start of World War II.

“I have discovered that I won’t be quiet about injustice,” she says. “I will not be a bystander – and I’m not. I’ve always had a sense of justice. I get upset about things that are unjust, and that aspect of my personality was always there. But, this work has made it impossible to be silent.”

Words: Brittany Algiere and Lynn Roberson | Images: Lynn Roberson
Letting $T^2 = 1$ keeps her focus on the underlying math behaviors of cancer cells and bacteria. In roads, load balancing in communication expertise in the fields of physics and materials science, Li’s work on mathematical models holds promise for issues such as the defects in crystalline structures that cause potholes in roads, load balancing in communication networks, and better understanding of behaviors of cancer cells and bacteria.

While the topics may appear dissimilar, Li keeps her focus on the underlying math and physics.

Take the issue of load balancing in communication networks and the increasing density of bacteria or cancer cells, for example. For Li, each of these issues represents a transportation issue, when considered from a mathematical perspective.

“These two things seem to be less relevant to each other,” she says. “But from an interior scope perspective, they are very related. You always want to keep the physics – the structure of the problem – in mind. Then you can design better schemes. The scope for crystals, or the scope for biological application, or the scope for these load balancing dynamics, they share some similarities.”

One of her research projects seeks to solve pattern differential equations that mathematically describe the physical phenomenon of the blowup of bacteria density. With chemotaxis, a chemical stimulus can cause bacteria to direct its movements.

“Because of this attracting property, that means the density of bacteria will concentrate,” Li says. “Numerically, or from a computation point of view, it looks like the density blows up. So, to compute the evolution of the density, how bacteria gather and are concentrated to a very local place, this simulation is not easy.”

Li’s work seeks to simulate this process using a mathematical model to help biologists and other researchers better understand the process that naturally occurs. By using modeling, the process should be observable in a more stable environment, with broad biological science implications.

The solution to an intricate mathematical problem is a thing of beauty for UNC Charlotte researcher Xingjie (Helen) Li – much like a poem, with its economy, precision and ability to give joy. “With a poem, you often just use a few words to describe something,” Li says. “And in mathematics, we also use a few expressions to describe a problem. It’s complicated stuff, but you know there is a unique path to this complex thing. And through the truth of mathematics, you can identify this unique path.”

As an applied mathematician drawing from expertise in the fields of physics and materials science, Li’s work on mathematical models holds promise for issues such as the defects in crystalline structures that cause potholes in roads, load balancing in communication networks, and better understanding of behaviors of cancer cells and bacteria.

“Biologists can apply these types of models to cancer because cancer cells also concentrate and blow up within a short time,” she says. This particular modeling also could be relevant to communications networks, such as server farms, distributed memory machines, cloud computing and communication systems. Companies use mathematics to balance the load on their networks, as the volume of customers, communications and files on the systems can affect their efficiency – and customers’ experience. In a conference proceeding published in December, Li and colleagues Reza Aghajani of University of California, San Diego and Kavita Ramanan of Brown University introduced a new framework to analyze large-scale load balancing networks with general service time distributions.

“This issue has some similarity compared to the evolution of the bacteria because they are all hyperbolic transportation type problems,” Li says. “So, in other words, the

Mathematician Melds Physics, Materials Science And Math
stabilization techniques used in the biology problems can be adjusted to the load balancing problems.”

In her work with crystalline solids, Li received funding from the National Science Foundation in summer 2017 for research into multiscale methods for crystalline nanomaterials. Crystals are solids whose components, such as atoms and molecules, form a regular crystal structure.

“Crystals are nice, organized materials,” Li says. “They have structures and usually these structures are periodic. And in the three-dimensional real world, there are 14 different types of structures. These crystals have perfect structure if there’s no defect, but once there’s a defect introduced – like a crack – locally near the defects, the perfect structures are lost. But away from the defects, the rest of the material is still nearly perfect.”

Crystal defects, such as cracks, dislocations and grain boundaries, can cause materials to fail. Understanding the physical forces at work can lead to improved materials and responses to defects. A practical implication can be seen with potholes in roads, which occur as a result of crystal defects.

“Due to the cold weather in winter, cracks occur in the highways, which are very dangerous,” Li says. “And in summer, the government puts a lot of money into filling in these holes, but they come again in winter. In order to model the provocation of these potholes, we are more interested in the evolution of the crack tip.”

She is researching how to combine one model that is more efficient – in other words, less expensive – and another model that is more accurate but more expensive, to model defects.

The two models are called bottom-up, which Li describes as coarse-graining of microscopic descriptions (atomistic models) of material behavior, and top-down, which is informing macroscopic models (continuum equations) with physics gleaned from the microscopic scales.

“The bottom-up approach usually is used for a relatively small real space problem – nano-sized,” she says. “Because you start from the atomic level, you would expect your problem cannot be of a huge size. But for the top-down approach, because you start with an empirical model, you are looking at something large, from a physical perspective.”

While the research has specific practical potential in its application, it also holds promise for learning more about how the models can be combined.

As Li continues to expand and pursue her research, she also will continue to expand her connection with student research and applied learning in the classroom. She will pursue forming a Society for Industrial and Applied Mathematics organization at UNC Charlotte and was instrumental in 2017 in arranging a Carolinas Women in Mathematics Symposium, which involved students.

“I think every student has their own gift, so it makes me feel very happy if I can motivate a student to find the beauty of mathematics and to find the connection between mathematics and other applications,” Li says. “Working with students is a lot of fun. They are very creative. They can have brilliant ideas about improving the model.”

Words: Lynn Roberson

ARCHIMEDEAN SOLIDS

CRYSTAL STRUCTURES
Individual 6 was about 30 to 40 years old when he died. His bones, dating to between AD 1000-1450, were found alongside the remains of eight other people in the Copacabana Peninsula in Bolivia’s Titicaca Basin, near Peru.

While each of the nine skeletons exhibited trauma, the evidence inscribed on his remains showed that Individual 6 had suffered significantly. He had sustained a massive cranial fracture – a deep depression in his forehead that cracked his skull all the way around. Judging by the severity of his injury, it is likely that he was unconscious for a period of time and certainly recovering for weeks.

Yet, while his bones spoke of massive injury, they also clearly told a story of survival. Somehow, the grievous injuries healed. When bones break, like Individual 6’s did, the edges along the fracture are often sharp and cracked. Over time, if the body heals, new bone builds up and slowly smooths over the jagged edges. By studying how a bone was broken, the location of the fracture, and the signs of healing, scholars can learn about the injury – and gain some clues about what followed in the person’s life. 

One such scholar, UNC Charlotte bioarchaeologist Sara L. Juengst, was drawn to the details of Individual 6’s life that were revealed by the healing of his bones. His injury had mostly mended by the time he died, meaning that he must have lived for years after the initial wound. She could envision that he even received some care as he healed. She thinks about what that may imply about the society around him.

“I like to think about the fact that even in times in the past where there was a lot of widespread violence, people were still taking care of each other,” she says. “And I think that is the story we tell less often. We talk about whether violence is innate and are humans naturally violent, but we don’t really debate whether humans are naturally caretakers. Do we naturally take care of somebody who’s hurt? Is that an instinct as well? Some of my research has looked at these people who were really beaten up, but they had healed injuries. In some cases they actually had surgeries to help them survive.”

Bioarchaeologists like Juengst are part archaeologist, part biological anthropologist. They study human skeletal remains to learn about and tell the stories of past communities and cultures. While archaeologists more often study settlement patterns and artifacts like ceramics or stone tools from historical excavations, bioarchaeologists study burial sites, items found at burial sites, and bones.
“It is a way to understand what people lived through, and what their lives were like in a very direct way,” Juengst says.

By studying a person’s bones, Juengst can determine details about the person, such as age and sex, as well as a person’s diet and overall health. Bioarchaeologists can tell if a person was chronically ill or nutritionally deprived as a child by looking at teeth or measuring the length of bones. That is because a person’s body would divert resources toward keeping them alive as opposed to building teeth or growing taller.

“If you think back to your high school anatomy course or whenever you learned about human body systems, people think about the skeleton as this kind of static framework for muscles and organs,” she says. “But your skeleton is actually responding to everything you do over the course of your life or everything that happens to you.”

Bioarchaeologists can also sometimes discern biodistance, which is how groups are separated by time or geography, by studying the structural variation in bones and teeth.

An assistant professor in the Department of Anthropology, Juengst spends time at excavations in South America, specifically the Andes Mountain region of Bolivia. She has also worked in Peru and has started a new excavation project in Ecuador. Her research has focused on violence levels and medical practices in past Andean populations, diet and the body, and cultural and societal implications.

“I’m interested in questions of social identity and community and not just what people did but also how they conceived of themselves and their worlds and what that meant for power relationships and their daily lives,” she says.

In 2017, she co-edited a book, The Bioarchaeology of Community, published by the American Anthropological Association. She and co-editor Sara K. Becker shaped the book to address the question of what human skeletal remains can tell us about collective identity. Most of the prior literature on collective social identity has focused on the family or state-level society, but people really live their lives at an in-between, mid-level form of community, Juengst says.

After organizing a symposium on the topic, Juengst and Becker worked with authors and symposium presenters to pull together this volume of theoretical discussions and case studies from diverse time periods – 3000 B.C.E through the modern era – and varied geographic areas, including North, Central and South America and Western and Eastern Europe. The articles consider the concept of community by conceiving human skeletal remains as more than physical bodies. Instead, skeletal remains reflect the lived experiences of people. The research delved into whether a bioarchaeological lens could find evidence of community.

In addition to co-editing the volume, Juengst authored a study in the book investigating how communities in the Titicaca Lake Basin of Bolivia were structured during the Early Horizon Period of 800 B.C.E. to C.E. 200. During this time, communities in the lake basin area underwent significant social and economic changes. People lived in sedentary settlements for the first time. They domesticated plants and animals and established long-distance trade, while also creating the first regional ritual tradition.

She considered whether these changes affected how individuals related to one another.

“Archaeology is often unable to explore relationships that are not materially manifest; bioarchaeology can do so by studying bodies directly,” she says in the article. “Bioarchaeology explores who people were and who they associated with through their skeletons, as social transformations and interactions are inscribed on people’s bodies through what they ate, where and how they lived and how they were related to each other.”

With her work on the book, her research papers, and the approach she takes in her classes and on study abroad trips with students, Juengst reminds us to take great care. People’s remains, and the items they leave behind after their deaths, are more than simply objects. They reveal the intimate stories of their lives and deaths, and they deserve respect, she says.

“By focusing on community, you think about these bones as living individuals who you know had dreams and cared about people and had social networks,” she says. “So, I think that focus is an important reminder for bioarchaeologists and, broadly speaking, all people who study the past.”

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Words: Caitlin Mauk | Images courtesy of Sara Juengst
In his 2017 memoir *At Home, Away From Home*, UNC Charlotte’s Tanure Ojaide speaks of the indelible impressions from his early years in Nigeria. In his words, “One does not forget what one yearns for at heart.”

At age 70, Ojaide has long turned to his Niger Delta homeland for reflection and inspiration. As a boy living with his grandmother in a quiet rural area, he saw how oil exploitation polluted the land and rivers while leaving the people impoverished. Many of his poems, short stories, critical essays, and books serve as activist works calling out for justice and fairness for the people and the ecosystem of the Niger Delta.

“Tanure is the most prolific and most decorated faculty poet in the UNC system, and one of the leading African writers of our time,” says Akin Ogundiran, chair of the Department of Africana Studies. “Yet, this literary giant has an unassuming personality. Many people on campus would not know that Ojaide is one of the pioneers of what we now call environmental literature or eco-criticism.”

Before these terms came to be widely used, Ojaide had already created a large body of literary works on the issues of environmental justice, Ogundiran says.

This thing called patience is so persistent. Not just a crocodile waiting for a catch at the water’s edge. It is hope that another season will prevail and the hurt of today will intensify into copious tears of happiness, that there’s ample time in sickness to recover from death and that every distance collapses with a transporting spell. It cannot be far away that there in the dungeon of darkness day will surely break even if stealthily; the cripple can grow wings that nobody sees and prophecy transforms fears into smiles.

Still waiting further from the ogre nobody appears to calm the nerves but that thing called persistence carries you so far from one point into freedom; patience accompanies till arrival at the horizon over the crossroads.

Without patience one can kill oneself before one even comes close to dying, without persistence one defeats oneself and gives up the gold medal at hand.

After sacrifice you wait for the response of the divine and how long it takes if gods are hard of hearing as many are will be another matter not to worry about.

Patience can blow away obsidian clouds and place the sun on an outstretched palm.

The sun is up; there will be another day. I am still waiting. Waiting and waiting.

In his 2017 memoir *At Home, Away From Home*, UNC Charlotte’s Tanure Ojaide speaks of the indelible impressions from his early years in Nigeria. In his words, “One does not forget what one yearns for at heart.”

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In his 2017 memoir *At Home, Away From Home*, UNC Charlotte’s Tanure Ojaide speaks of the indelible impressions from his early years in Nigeria. In his words, “One does not forget what one yearns for at heart.”

At age 70, Ojaide has long turned to his Niger Delta homeland for reflection and inspiration. As a boy living with his grandmother in a quiet rural area, he saw how oil exploitation polluted the land and rivers while leaving the people impoverished. Many of his poems, short stories, critical essays, and books serve as activist works calling out for justice and fairness for the people and the ecosystem of the Niger Delta.

“Tanure is the most prolific and most decorated faculty poet in the UNC system, and one of the leading African writers of our time,” says Akin Ogundiran, chair of the Department of Africana Studies. “Yet, this literary giant has an unassuming personality. Many people on campus would not know that Ojaide is one of the pioneers of what we now call environmental literature or eco-criticism.”

Before these terms came to be widely used, Ojaide had already created a large body of literary works on the issues of environmental justice, Ogundiran says.

This thing called patience is so persistent. Not just a crocodile waiting for a catch at the water’s edge. It is hope that another season will prevail and the hurt of today will intensify into copious tears of happiness, that there’s ample time in sickness to recover from death and that every distance collapses with a transporting spell. It cannot be far away that there in the dungeon of darkness day will surely break even if stealthily; the cripple can grow wings that nobody sees and prophecy transforms fears into smiles.

Still waiting further from the ogre nobody appears to calm the nerves but that thing called persistence carries you so far from one point into freedom; patience accompanies till arrival at the horizon over the crossroads.

Without patience one can kill oneself before one even comes close to dying, without persistence one defeats oneself and gives up the gold medal at hand.

After sacrifice you wait for the response of the divine and how long it takes if gods are hard of hearing as many are will be another matter not to worry about.

Patience can blow away obsidian clouds and place the sun on an outstretched palm.

The sun is up; there will be another day. I am still waiting. Waiting and waiting.
the Association of Nigerian Authors’ Poetry Award. He received UNC Charlotte’s First Citizens Bank Scholars Medal Award in 2005, and was named the Frank Porter Graham Professor of Africana Studies in 2006. He has received two Fulbright fellowships.

In 2016, he was decorated with Nigeria’s highest academic honor, the Nigerian National Order of Merit, and received the African Literature Association’s Fonlon-Nichols Award in recognition of his scholarly contributions to democratic ideals, humanistic values, and literary excellence in Africa. Three celebrations honoring his life’s work have been held this year.

Ojaide joined the UNC Charlotte faculty in 1990 after teaching at The University of Maiduguri in Nigeria. The impact of his creative and scholarly works on the Department of Africana Studies and other academic programs at UNC Charlotte has been significant, Ogundiran says.

“His body of works on environmental justice influenced our department’s decision six years ago to develop the concentration in health and environment within the Africana Studies major,” he says. “His books and teaching have also been the gateway for students to enter the world of environmental justice and environmental activism.”

Much like his travels between his physical homelands, Ojaide’s writing moves between traditions. His style is inspired by his people’s oral storytelling and performance traditions and also draws from his formal studies of Western literature as an undergraduate at the University of Ibadan and as a graduate student at Syracuse University, where he earned a master’s degree in creative writing and a doctoral degree in English.

“African literature, from the oral tradition, tends to be functional,” he says. “You tend to use it to fight your own issues towards resolution, in a way. My Urhobo people have an oral poetic performance genre, Udje.” Udje is employed satirically to expose vices and minor crimes and to communicate societal expectations.

“Above all I am a poet, and I have tried to use the tools of the indigenous tradition to bring something new into English, especially the performance tradition of the Urhobo people of the Niger Delta,” Ojaide says. “My own environment has fed me, given me the materials with which really to express myself.” He received a National Endowment for the Humanities fellowship to collect and study the Udje dance songs of the Urhobo people.

As a younger man, in his mind and in his writing, he blamed others

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—TANURE OJAIDE
for his country’s troubles.

“That’s an area where I may have matured,” he says. “I used to blame the colonialists for everything. Now I blame more of the national leaders because you get to a stage where you have to stop blaming others and put your destiny in your own hands. I look at things in a more holistic way. As you grow older, I think you become more understanding of why things are what they are. The younger persons are more impatient and angry. Not that I’m no longer impatient and angry, but not in the same way. I understand more why things are how they are.”

While much of Ojaide’s work relates to environmental issues, he also addresses topics including gender and women’s issues, sexuality, equity, race, and identity.

He writes by hand first, often jotting notes in a journal. He has filled over 30 journals since a former student who now is at Brown University gave him the first one.

“The inspiration can come only once,” he says. “If you leave it, it will go. When it comes you just have to capture the thoughts at that time. If you don’t do that, you lose them. When inspiration comes, there are different processes. Sometimes inspiration comes almost whole. Sometimes the beginning of the poem comes in.”

At times, it can take days, weeks or even months for the remainder of the poem to form. “You don’t really control it, but somehow it evolves to be something,” he says. “Sometimes you may have a sense of something, and then it comes, and you try to capture it.”

His teaching and research live in harmony with his writing.

“There’s a symbiotic relationship between teaching, research, and my creative writing,” he says. “How can you teach well if you don’t read, if you don’t do research and write?” With his readings and research in British, American, Greek, Russian, Caribbean and other literatures, he can infuse comparative readings in his classes.

Ojaide is sure his best work is yet to come. “I still feel I could do better,” he says. “Of course every writer is ambitious to be taken seriously by people who look at literature. I still feel with what I have coming later this year, with a new collection of poetry, that I will still try to distill my thoughts in a way to where people feel that, ‘Yes, we have a poet here who has really been able to express the realities of a people in a most poetic way.’ ”

Words: Lynn Roberson

MY ISLAND

My island is a world away from others but I cannot sleep in the night of my comfort because under the penetrating chatter of other islanders whose halogen-lit boats cruise through my backyard. At daytime my boats fill with fighters and prayers that I am sending to distant islands without quays; locked mansions without keys to enjoy affluence. I cannot have peace when others are facing riots for doing the right things prescribed in the books. The revolution in my hands raises bright flags; others invade my summer moon to avoid solitude. Nobody wants to condemn himself to depression, if he can avoid complaining without being heard; nobody chooses to lose his aces in the competition. My island is a world away from others but I struggle to keep from drowning in the tsunami of their cries; I hold to anything in the hysteria that has gripped me. My island runs the risk of evaporating if the world I don’t see as the same as mine weighs it down to save itself from going under as everyone presses others down. I am no uhovwe wood floating under any weight; the loads of others have exacerbated our personal ones. “I have nowhere else to go for relief than only yours!” The hemispheres are coming together in my island I had thought worlds away from the desires of others. What I see from a distance takes place in other islands; every island is under pressure in the storm watch alert. I have slept soundly in the peace of others far away; I have kept vigil in the demise of folks I didn’t know. I can’t deny that everybody far or near is a relative. I no longer seek comfort or security from the fact that my island is quite a troubled world away from others.
ON THE BOOKSHELF

College Authors Add To Knowledge With 2017 Books

At Home, Away From Home: A Memoir
Tanure Ojaide
Cissus World Press

For the Women in Their Lives: An Anthology of American Male Poets
Edited by Tanure Ojaide and Dike Okoro
Cissus World Press

Literature and Culture in Global Africa
Tanure Ojaide
Routledge

From Slaveships to Scholarships: The Plight of the African-American Athlete
Charles Pinckey
Author House

Contemporary African American Families: Achievements, Challenges, Empowerment Strategies in the Twenty-First Century
Edited by Dorothy Smith-Ruiz, Sherri Lawson Clark and Marcia J. Watson
Routledge

The Bioarchaeology of Community
Edited by Sara L. Juenigst and Sara K. Becker
American Anthropological Association

Is Science Racist? Debating Race
Jonathan Marks
Polity Press

Evolutionary Ecology of Marine Invertebrate Larvae
Edited by Tyler J. Carrier, Adam M. Reizel and Andreas Heyland
Oxford University Press

Engineering 3D Tissue Test Systems
Edited by Karen J. L. Burg, Didier Dréau and Timothy Burg
CRC Press

Workbook to Accompany Straight Talk About Communication Research Methods
Christine S. Davis, Brandy J. Stamper, and Sayde J. Brais
Kendall Hunt

The Eternal Present of Sport: Rethinking Sport and Religion
Daniel A. Grano
Temple University Press

Applied Small Group Communication: Learning Through Experience
Sandy Herrod Hanson
Kendall Hunt

Transparency, Public Relations, and the Mass Media: Combating the Hidden Influences in News Coverage Worldwide
Katerina Tsertsura and Dean Kruckeberg
Routledge Focus

The Love of Baseball: Essays by Lifelong Fans
Edited by Chris Arvidson and Diana Nelson Jones
McFarland & Company

Sycamore: A Novel
Bryn Chancellor
Harper Collins

Freedom Narratives of African American Women: A Study of 19th Century Writings
Janaka Bowman Lewis
McFarland & Company

The Ada Decades
Paula Martinac
Bywater Books

Edward II: A Critical Reader
Edited by Kirk Meinikoff
Bloomsbury Arden Shakespeare

Shakespeare and Ecofeminist Theory
Rebecca Laroche and Jennifer Munroe
Bloomsbury Arden Shakespeare

A Curious Peril: H. D.’s Late Modernist Prose
Lara Vetter
University Press of Florida

GeoComputational Analysis and Modeling of Regional Systems
Edited by Jean-Claude Thill and Suzana Dragicic
Springer International Publishing

Edited by Vasily Popovich, Manfred Schrenk, Jean-Claude Thill, Christophe Ciarumunt, and Tianzhen Wang
Springer International Publishing

Spatial Analysis and Location Modeling in Urban and Regional Systems
Edited by Jean-Claude Thill
Springer-Verlag Berlin Heidelberg

Feminist Translation Studies: Local and Transnational Perspectives
Edited by Olga Castro and Emek Ergun
Routledge

Goat Castle: A True Story of Murder, Race, and the Gothic South
Karen L. Cox
University of North Carolina Press

The Gifted Generation: When Government Was Good
David Goldfield
Bloomberg

Chromatius of Aqüileia and the Making of a Christian City
Robert McEachnie
Routledge

The Touch of Civilization: Comparing American and Russian Internal Colonization
Steven Sabol
University Press of Colorado

Soviet Historiography and the Questions of the History in Kazakhstan: A Retrospective of the life and work of Ermukhan Bekmakhanov
Edited by Abdulvahap Kara, Steven Sabol, and Bekir Sadik Topaloglu
Union of Turkic World Municipalities

Le Cinéma Français Contemporain: Manuel de Classe
Alan Singerman and Michèle Bissière
Routledge

Access & Equity: Promoting High-Quality Mathematics
Edited by Anthony Fernandes, Sandra Crespo, and Marta Civil
Teachers of Mathematics

American Mathematical Contests: A Guide to Success
Harold B. Reiter and Jonathan M. Kane
World Publishing Corporation

Infrared Antennas and Resonant Structures
Javier Alda and Glenn Boreman
SPIE Press

Gambling and War: Risk, Reward, and Chance in International Conflict
Justin Conrad
Naval Institute Press

American Cities and the Politics of Party Conventions
Eric S. Heberlig, Suzanne M. Leland, and David Swindell
SUNY Press

Cost Accounting in Government: Theory and Applications
Edited by Zachary Mohr
Routledge

Combative Politics: The Media and Public Perceptions of Lawmaking
Mary Layton Atkinson
University of Chicago Press

Religion: Embodied Religion
Edited by Kent L. Brintnall
Macmillan Reference, USA

Sexual Disorientations: Queer Temporalities, Affects and Theologies
Edited by Kent L. Brintnall, Joseph A. Marchal, and Stephen D. Moore
Fordham University Press

A Call to China
Jeffrey Meyer
Ingram Eilot

Words compiled by: Brittany Algiere
The LYNX Blue Line Extension’s first trip in March 2018 signaled dramatic change for UNC Charlotte and the Charlotte community. For students, the new light rail line means a quicker connection to jobs, internships, and cultural and entertainment options in Uptown Charlotte. Students also can take the train to classes, public lectures and cultural offerings at the UNC Charlotte Center City campus. For faculty and staff, the new line can mean a less stressful commute and convenient activities at the uptown campus. For community members, light rail similarly brings easier access to intellectual offerings and cultural and artistic assets at both campuses.

For researchers Isabelle Nilsson and Elizabeth Delmelle, the new line and the neighborhoods it passes through between Uptown Charlotte and the main campus represent a living laboratory for research exploring how transit investments affect neighborhood change and the implications for residential mobility and income segregation.

The collaboration between the two assistant professors in UNC Charlotte’s Department of Geography and Earth Sciences is supported by National Science Foundation funding for a large-scale mixed-methods study of neighborhoods along the Blue Line Extension. The research comes at a time when Charlotte is reckoning the effects of an affordable housing crunch, rising rents and the city’s rank in a national study as 50th out of 50 large metro areas for economic mobility.

Nilsson and Delmelle have published a related article in the *Journal of Transport Geography*. In the article, “Transit Investments and Neighborhood Change: On the Likelihood of Change,” the team examined nine metropolitan areas that had invested in new light rail or heavy rail systems since 1980 to determine whether and how neighborhoods containing new transit stations changed compared to non-transit neighborhoods.

“One of the main takeaways was that the majority of a neighborhoods, as we looked at them, did not change after a transit station was placed there,” says Delmelle.

Yet, transit neighborhoods were slightly more likely to change than neighborhoods without rail transit. More significantly, transit neighborhoods changed in different ways, adding more apartment buildings and a younger, more educated population.

While the study that yielded the first article did not include Charlotte, Nilsson and Delmelle say similar changes are likely here.

“You have already started to see that with apartment development along North Tryon Street,” says Nilsson.

Research on the neighborhood effects of rail transit lines is nothing new. Geographers, criminologists and political scientists, including colleagues in the College of Liberal Arts & Sciences, have studied the effects of transit investments on crime rates and property values. Now, Delmelle and Nilsson’s contribution in their latest paper – and in their future research – includes a broader look at the factors that define a neighborhood.

“Property values (in a neighborhood) might go up, but that might not mean that the neighborhood has really changed,” says Delmelle. “It doesn’t feel different. That doesn’t lead to big changes.”
Building on Delmelle’s previous scholarship on neighborhood classifications, the team in its study reported in the *Journal of Transport Geography* grouped neighborhoods into five types based on several demographic, economic and housing-related factors such as housing age and vacancy. Those types included Impoverished, Blue Collar, Young and Educated, New Single Family, and Stable Single Family neighborhoods.

While most neighborhoods changed little in the decade after a transit station opened, Newer Single Family neighborhoods were the most likely to change in both transit and non-transit neighborhoods. In transit neighborhoods, though, they were more likely to gain a young and educated population and more multifamily housing. Non-transit New Single Family neighborhoods, on the other hand, were more likely to become Blue Collar, characterized by an aging housing stock.

The most impoverished neighborhoods showed a similar pattern. Though less likely to change overall, the population living in impoverished neighborhoods with new transit options was more likely to gain a younger and more educated than in non-transit neighborhoods.

The idea of young and educated people moving into impoverished neighborhoods raises the issue of gentrification and displacement. While this first study could not answer those questions directly, Nilsson and Delmelle did find that impoverished neighborhoods that saw increases in income did not see large changes in racial makeup.

“Neighborhoods that gentrified tended to be more racially mixed,” Nilsson said. “And they remained more racially mixed. One thing that we don’t know is why we see these increases in neighborhood-level income. Is it because higher-income people moved in and lower-income people moved out?”

**“PART OF THE STUDY IS TO IDENTIFY WHERE PEOPLE ACTUALLY MOVE AND WHAT IMPACTS THAT MIGHT HAVE ON INCOME SEGREGATION, DO (TRANSIT INVESTMENTS) CONTRIBUTE TO RISING LEVELS OF INCOME SEGREGATION?”**

— Elizabeth Delmelle

To answer that question, the duo will need to dig deeper. They will do so close to home. The new NSF funding will allow Nilsson and Delmelle, along with Geography and Earth Sciences Department colleagues Heather Smith and Claire Schuch, to research individual movements in cities that have invested in transit as well as field research in neighborhoods around Charlotte’s new Blue Line Extension.

The study will include in-depth interviews with residents in neighborhoods along the line as well as focus groups with city officials, housing advocates and Realtors on perceptions of affordability and who is moving in and out of these neighborhoods.

“Part of the study is to identify where people actually move and what impacts that might have on income segregation,” says Delmelle. “Do (transit investments) contribute to rising levels of income segregation?”

While preliminary results indicate that people are less likely to move out of rail transit neighborhoods, Nilsson and Delmelle note that overall trends in neighborhoods and individual impacts are separate issues, on which the in-depth study is expected to provide insight.

The topic of mobility – both in transportation and economics – is timely in Charlotte. In 2017, corporate, philanthropic, educational and political leaders in Charlotte issued a call to action through the Opportunity Task Force, calling for increasing the opportunity for low-income residents to move up the economic ladder. Research on transit neighborhoods could be one piece of a large and challenging puzzle.

“If lower-income people are being displaced from a new mobility option, that can have severe consequences on economic mobility,” Delmelle says. “We definitely see our research fitting into that conversation.”

Words: Chuck McShane
Doctoral Student Integral To Biomedical Optics Research

The pain can be excruciating – a stabbing sensation in the side, abdomen or back. It can start in one spot in the intestinal tract, then spread. The agony can bring people to tears, and, often, to the hospital emergency room.

This suffering is caused by stones, the pebble-like lumps of minerals and salts that can form in a person’s urinary tract. While the stones themselves can be as small as grains of sand, their impact can extend beyond the initial diagnosis and discomfort.

“Most North Carolinians have known someone who has had kidney or bladder stones,” says UNC Charlotte student Luke Hardy, who is pursuing a doctoral degree in optical science and engineering. “We’re in what is called the Stone Belt. The Southeastern part of the United States, including North Carolina, South Carolina, and Virginia, has more kidney stone occurrences than other places, about a 50% greater prevalence of stone disease.”

With the incidence of stones increasing not only in the Southeast but elsewhere too, due to increasing obesity, diabetes, dietary factors, and even climate change, Nathaniel Fried’s research lab in the Department of Physics and Optical Science at UNC Charlotte is working to transform treatment options. Hardy is an integral member of the research team.

“Luke is a highly accelerated student by all measures,” Fried says. “One of his greatest strengths is that he works extremely hard. He’s very focused and a very serious student. It’s his curiosity, his heart, his work ethic, and his productivity. He’s just done so much. He’s really a role model for other students.”

Hardy first joined Fried’s lab as an undergraduate physics student participating in the Charlotte Research Scholars program in the summer of 2013. Since then, he has been a co-author on over a dozen peer-reviewed papers and a similar number of conference proceedings. He also received a 2017 Optics and Photonics Education Scholarship from SPIE, the international society for optics and photonics.

“I like learning things and figuring things out, and I’ve always wanted to use that interest in helping people in some way,” Hardy says. “I felt like this work was a good way to do that.”

The specific area of research is called biomedical optics and laser-tissue interactions, mostly occurring in the therapeutic realm. “You can think about it as minimally invasive surgery using lasers, optics and/or fiber optics,” Fried says. “We do a little bit of optical imaging and what I would call diagnostics, diagnosing disease or characterizing abnormalities. But most of the work is on the therapy side for treatment.”

The research is exploring less invasive surgical options, seeking to speed recovery time, decrease complications and time spent in surgery, and reduce costs for patients and the health care system. That is where the innovative devices that Fried’s lab develops come in.

“There has been little or no evolution in laser technology for treating kidney stones in the last 30 years or so,” Fried says. “We are one of only a few academic labs that I know of in the world that is trying to introduce new laser technology for breaking up kidney stones. The conventional technology has been around for almost 30 years. The technology that Luke is working on in the lab as part of his project allows us to miniaturize the optical fiber delivery system, and perhaps the endoscope as well, that goes inside the body.”

Hardy counts his work with the Thulium fiber laser for breaking up kidney stones as some of his most productive. “One of the major issues with the laser we are researching now is that it operates at very low pulse energy,” he says. “We were limited by that. We were able to show that what you need to do is pulse it faster, to increase the average power. You can ablate the kidney stones faster, and there’s also a reduction in the movement of the stone compared to the current lasers in use. Then, later on, we were able to show by using a fast camera why there was a reduction in the movement of the stone. There are a lot of reasons why reducing the movement of the stone is important.”

When a stone breaks up, it can bounce around, much like a pinball in a pinball machine. Pieces can be missed, requiring more surgery, or the patient has to let the fragment pass while the urinary tract is still healing. If a stone moves around during the procedure, the surgery also can take longer, which is costly and potentially more risky for the patient.

While much of his work has focused on the actual lasers and probes, Hardy also has branched into computer simulations. With this work, the team is researching treatment options that use non-invasive lasers and their thermal effect to remodel subsurface tissues to treat female stress urinary incontinence. Currently, women either learn to live with the condition or turn to more extensive surgical options, such as mesh slings. One of the major themes in the lab’s research is developing options for the use of lasers in urology, with implications for quality of life issues.

“We currently have a National Institutes of Health grant to look at female incontinence, which is a big problem,” Fried says. “Millions of women suffer from female incontinence after childbirth and in aging.”

Hardy also took a six-month turn in space exploration as an intern at the Jet Propulsion Laboratory of the California Institute of Technology in Pasadena, California, starting last summer. “There’s the kid part of me that was drawn to this lab, and then there’s the practical side, in that I wanted to expand my research beyond what I had done at UNC Charlotte,” he says. He is exploring whether he wants to pursue a post-doctoral
research position in academia or a post in industry. Either way, the work continues to fascinate him, particularly when he stops to reflect on the power of light.

“Using light to break up a kidney stone is so cool,” he says. “We are used to ambient light – very low level light – and we don’t really think of light interacting to heat something up and then break it apart. It’s amazing. The fact that we can create enough coherent light to melt something is a testament to innovation.”

As president of UNC Charlotte’s SPIE/OSA student chapter, Hardy works with his peers in volunteer projects, such as the university’s Science and Technology Expo and visits to schools.

He remembers wanting to be a sound engineer, as a high school student at the Middle College at GTCC-High Point, and he still plays bass in a band. When he came to UNC Charlotte to study physics, he realized the parallels between sound waves and light waves, and his mind opened to other possibilities.

Now, he wants to open up that understanding of the expansive nature of science for others. “I think outreach helps with the public image of science, and it helps to recruit more scientists,” he says. “It’s also fun because you show science to younger students.”

Words and Images: Lynn Roberson

Laser Focus

Luke Hardy works with lasers to improve treatment.
Crime has gone global.

Transnational organized crime is increasingly complicated and connected, requiring complex analysis to uncover patterns and respond effectively. This is where the work of UNC Charlotte criminologist and quantitative methodologist Matthew Phillips comes in.

“My current focus is transnational organized crime, and particularly how quantitative analytics and data science can be used in a national security context,” Phillips says. His research considers the specific areas of terrorism, human trafficking, and drugs – including drug trafficking, and drug offending and violence.

“I definitely consider these to be linked,” he says. “I do not consider them to be discrete areas, because there is inherent bleed-over from the kinds of activities that drug cartels engage in, and the kinds of activities that terrorist organizations engage in, and the type of activities international human traffickers engage in.”

Quantitative analysis of data reveals important underlying patterns, showing that the processes of how those crimes are facilitated in an international context are quite similar.

“My research goals are to try and understand those processes,” he says. “These are areas that are inarguably damaging to human society. A better understanding of the processes could lead to a disruption of those processes and, therefore, a reduction in these negative events in society.”

After he earned his master’s degree in sociology from UNC Charlotte and his doctoral degree in criminal justice from University of Albany, SUNY, Phillips worked as an intelligence analyst with the U.S. Department of Homeland Security, focused primarily on counter narcotics and counterterrorism.

“Coming from the intelligence community, that’s where most of my thought training was done,” he says. “The way that I think about these issues is largely a product of my experiences when I was with the intelligence community.”

His early research interests focused on drug offending by individuals and the consequences those drug offenses held for the course of an individual’s life, such as how arrests would affect employment. His focus later broadened to the more systemic level, where he started noticing the foundational processes that can be unearthed through statistical analysis.

“That spurred an interest in transnational crime and geo-political affairs and how the cartels may be cooperating or co-opted by insurgency groups and terrorists, and so forth, so I got interested in studying terrorism,” he says.
Phillips has published about two dozen book chapters and academic papers.

“One recent paper examined patterns of drug violence, trends in drug violence in Mexico, and how those patterns may be related to drug harvesting cycles,” he says. “There has been a large debate in the intelligence community for a while about whether or not drug violence patterns are seasonal.”

The research, detailed in “Time series applications to intelligence analysis: a case study of homicides in Mexico,” in the journal Intelligence and National Security, found that homicides in Mexico do follow seasonal patterns linked to the drug trade, specifically heroin cultivation.

The paper also makes the broader point that time series and other statistical methods are an untapped resource that can complement standard intelligence analysis. This application would be much like the more common use of data analysis and quantitative methods in sectors ranging from healthcare to commercial business.

Another paper, published in Journal of Criminological Research, Policy and Practice, with colleague Matthew Valasik of Louisiana State University, argues that the Islamic State of Iraq and Syria (ISIS) is more like street gangs than like other terrorist groups. The two also wrote about this research in The Washington Post.

“These findings suggest that responses that might be successful in deterring gang membership and gang recruitment, might be effective in deterring ISIS recruitment, calling for a different policy response,” Phillips says.

The researchers drew upon a century’s worth of gang research in their case study, finding that the Islamic State may fit at the center of the street gang and terror continuum. They documented that both ISIS and gangs have a bureaucratic, yet spread-out structure; both attract marginalized young people in search of belonging; both show violence and criminality that is broad in scope; and both exploit women.

As he has conducted his research, Phillips has worked with students in his classroom and in research settings to help them learn data analysis and statistical methods. Students have been co-authors on academic papers, with more pending. He also has encouraged curriculum development between the Criminal Justice and Criminology Department, the College of Computing and Informatics, and the Data Science and Business Analytics programs.

One initiative in which his expertise has been critical is with the Research Experience for Undergraduates (REU) Program in Crime Analytics, a summer program funded by the National Science Foundation to help students prepare for graduate studies or careers in fields such as computer science, criminal justice, crime analysis, analytics, and data science. As project director, Phillips worked with a team of faculty researchers who mentored the students as they conducted their hands-on research in 2017.

“The REU program really allowed me to broaden my research skills,” says Sarah Moses, who was a student in last year’s group.

“While the new skills that I learned and real research experience that I gained through the program can help me better complete future research projects assigned in college classes, the new skills and experience also can help me be more qualified for jobs that I am interested in.”

A new REU cohort is at UNC Charlotte through July of this year, researching topics including the potential impact of legislative initiatives on gun violence; homicide hotspots in Charlotte and the related geographic, situational and environmental factors; and an assessment of the potential impact of the light rail expansion on crime trends.

Phillips documents the importance of teaching criminal justice and criminology students how to use modern “big data” tools in a February 2018 article in The Criminologist. He also sees the need for students and the broader population to grasp the impact of transnational crime.

“I think that it’s critical in today’s geopolitical climate that students and others understand how insurgent elements and international criminal organizations operate and the threat they may pose to civil society,” he says. “In the news today, you don’t have to look far for examples of terrorist attacks or non-state actors threatening either our country or others. Certainly we’ve all heard about the blight of human trafficking and the suffering that trafficking causes on an international scale. If students and other persons are better prepared to understand what those processes are, then they can be more aware of the consequences they have.”

Words: Brian Halliburton | Image: Lynn Roberson
When UNC Charlotte researchers Kirill Afonin and Ian Marriott describe their labs’ RNA nanotechnology research, they use these words: alphabet, library, language, and code.

This may be because their work – at several levels – deals with communication. They are collaborating to engineer better treatments for cancers and other diseases. Their work focuses on developing novel functional RNA-based nanomaterials that can communicate with each other or with cellular machinery, or respond to various stimuli.

To maximize the benefit of these nanostructures, it also is critical for researchers to understand and influence how the structures prompt immune responses within the body. Some immune responses can be harmful, while others can be beneficial.

To understand their work, a good place to start is with RNA. Ribonucleic acid is present in living cells. Its main job is to serve as a messenger carrying instructions from DNA – deoxyribonucleic acid – to control the synthesis of proteins. RNA functions as an enzyme, a powerful regulator of gene expression, and a natural molecular scaffold due to its natural versatility and structural properties.

“RNA regulates lots of processes, for example, the expression of disease,” Afonin says. “It helps us to fight viruses. It helps us to fight bacteria. Some primitive organisms, like plants for instance, don’t have immune systems the way we think about it, but they use RNA, in particular RNA interference processes, to fight pathogens.”

The UNC Charlotte partnership draws on the expertise of Marriott, a Department of Biological Sciences faculty member with expertise in immunology and cell biology, and Afonin, a faculty member in the Department of Chemistry and the Nanoscale Science Ph.D. Program, who has
composition, but also the form that can actually dictate a response,” Marriott says. “It’s not only the shapes themselves could be an influencing factor; rings and cubes deliver therapeutics. As well as carry embedded functionalities, such as serving as a way to know it is compromised.

These foreign RNA molecules. Basically that’s a cue for the cell to let it acids like RNA. We have these sensors inside our cells that recognize lot of our own cells can recognize certain shapes and forms of nucleic responding to disease, the researchers found. The potential is enormous, Marriott says. “It will be totally transformative. It would be an unimaginably powerful tool. The idea that you could deliver whatever you wanted wherever you wanted, and engineer the host response to whatever it is you’re trying to combat, would be extraordinary.”

The lead researchers, their lab teams, and colleagues elsewhere have published a number of academic papers documenting the research, including one in the journal Small, with Brittany Johnson, who was a postdoctoral fellow in both labs, as lead author. Johnson has since moved to a research assistant professor position at UNC Charlotte.

The paper presented a set of 16 nanoparticle platforms that are highly configurable and that can be tuned to elicit the desired immune response or lack of response. Rationally designed programmable RNA nanostructures offer unique advantages in addressing contemporary therapeutic challenges such as distinguishing target cell types and responding to disease, the researchers found.

“Kirill has generated these therapeutic nucleic acids, and they are very novel because they overcome a lot of problems you have with these traditional nano-therapeutics,” Johnson says. “The ones he’s generated can be specifically engineered, and that’s one of the strongest things about them. You can engineer their melting temperature and their resistance to degradation in the body.”

The researchers are measuring the physical and chemical properties of these particles, such as melting temperatures, stability in blood serum, dissociation constant, sizes, and composition.

“All that is fed into the program,” Afonin says. “This program can be trained to recognize patterns. The program was able to find the strong connections between the physical properties and the immunological responses.”

The team is characterizing each of the nanoparticles in terms of their immunological responses.

“Kirill is putting together this library of nanoparticles, and our job with my lab is to throw those letters and words into a system to test what they do to the immune system,” Marriott says. “We know that a lot of our own cells can recognize certain shapes and forms of nucleic acids like RNA. We have these sensors inside our cells that recognize these foreign RNA molecules. Basically that’s a cue for the cell to let it know it is compromised.”

Their paper in Small documented the distinct immune responses to the RNA, which can self-assemble into different shapes or structures, as well as carry embedded functionalities, such as serving as a way to deliver therapeutics.

“We’ve got some tantalizing preliminary data that the distinct shapes themselves could be an influencing factor; rings and cubes and fibers will dictate a response,” Marriott says. “It’s not only the composition, but also the form that can actually dictate a response.”

Work is continuing on designing nanoparticles and testing them. “I want to create an actual molecule language which can be used by these structures to communicate with the immune system,” Afonin says. “I want to make it so simple that you don’t have to be an immunologist, and you don’t have to be an RNA nanotechnologist. You will have already an alphabet. It’s like letters.”

A hurdle for all drug delivery systems, including this one, is that cells can see these RNA nanostructures as a threat.

“That’s the kind of thing that will provoke an immune response and maybe an inflammation and all that nasty, bad stuff such as a septic-type shock,” Marriott says. “What we want to do is find the particular motifs that provoke particular responses that either are ignored by the cell, which could be good, or that are provoking not this bad inflammatory response, but maybe just certain responses that would be beneficial to fight a cancer.”

An example of a beneficial immune response would be how the body’s immune system responds to a vaccine. Unlike chemotherapy, which is a brute-force type of treatment and targets all rapidly dividing cells, including “good” cells, the type of approach these researchers are developing is more specific and focused.

“In these therapeutics we are trying to design, we want them to be more targeted therapy,” says Justin Halman, a Ph.D. student in the nanoscale science program who is part of Afonin’s lab. “In this case, we’re looking for an immune response, and if we can generate a specific immune response, which we’re seeing as tailored by the composition, by the shape, by the structure of our nucleic acid nanoparticles, we could better combat these type of diseases.”

The potential is enormous, Marriott says. “It will be totally transformative. It would be an unimaginably powerful tool. The idea that you could deliver whatever you wanted wherever you wanted, and engineer the host response to whatever it is you’re trying to combat, would be extraordinary.” &

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Words and Images: Lynn Roberson

Biologist Ian Marriott, who is an immunologist and Brittany Johnson (left), work in his lab.
Academically talented, low-income students who want to study biological sciences can find life-changing opportunities through a new regional partnership among UNC Charlotte, Gaston College and Rowan-Cabarrus Community College.

This innovative initiative is possible as a result of $4.5 million in funding from the National Science Foundation’s Scholarships in Science, Technology, Engineering and Mathematics (S-STEM) program. The collaborative effort seeks to increase the number of students who complete both associate of science and bachelor’s of science degrees in the biological sciences.

The initiative – called the SPARC4, or STEM Persistence and Retention via Curricula, Centralization, Cohorts, and Collaboration Project – will provide 156 scholarships over five years, beginning in fall 2018. The initiative is an expansion and scale-up of a project at Gaston College called SPARC3 that resulted in improved academic scores for the participating students and higher percentages of that college’s students completing their associate degrees when compared to the college’s general population.

For each year of the new initiative, 10-12 students at each community college will be chosen for one-year renewable scholarships, faculty and peer mentoring, and targeted advising designed to promote successful transfer to the biology or pre-biology major at UNC Charlotte in the College of Liberal Arts & Sciences. Students will be eligible for continued scholarships and academic support when they transfer to UNC Charlotte.

While the initiative will work with specific students at the three institutions, knowledge gained from the partnership holds the potential for broader impact, academic leaders say. This anticipated impact particularly relates to upward mobility, which can be linked to educational attainment levels.

“This partnership will accomplish much more than helping these specific students,” says Joan Lorden, UNC Charlotte Provost and Vice Chancellor for Academic Affairs. “The initiative will help all three partners implement and then study interventions to find out what works best to help these students, and others like them, succeed. We can then apply these proven interventions more broadly, with far-reaching impact at our institutions and elsewhere.”

“The initiative will help all three partners implement and then study interventions to find out what works best to help these students, and others like them, succeed.”

— Joan Lorden

The successful SPARC3 project at Gaston College began in 2009 and has shown increased rates of students transferring into STEM majors at North Carolina universities, in addition to improved academic scores and associate degree completion by those students. The new initiative will draw from that work and the efforts of SPARC3 program leaders at Gaston College: Ashley Hagler, SPARC3 Director, Melissa Armstrong, Science and Mathematics Chairperson, and Heather Woodson, Associate Vice President of Academic Affairs.

“We expect to see additional students finishing their degrees and transferring to UNC Charlotte as a result of this grant,” says Woodson. “The impact on Gaston College and our partner institutions in this initiative will be very positive, and the effects on individual students in our community will be profound. The new partnership will allow community college transfer students to benefit from an enhanced student experience and significant financial support at both the community colleges and UNC Charlotte. We also will be able to more closely track student performance after transfer.”

Students who were part of the SPARC3 project at Gaston College and who transferred to UNC Charlotte call the support they received transformational.

“SPARC3 was the best experience in my educational journey,” says Erin Spurrier, a biology major at UNC Charlotte. “This program provided me with new skills, support, opportunities, experiences and an environment that not only helped me succeed, but provided me with a new and exciting outlook on higher education. To me this program represents the future and a way schools can encourage their students to enjoy learning.”

The SPARC4 partnership effort is expected to expand participation in STEM fields by a more diverse population.

“We are proud to work collaboratively on this initiative. Increasing the number of students pursuing careers in STEM fields is critical to diversifying the science and technical expertise in our region,” says Carol S. Spalding, President of Rowan-Cabarrus Community College. “This grant will help support students who will really benefit from additional mentoring and financial resources.”

The students will be members of discipline-based learning communities at the community colleges and UNC Charlotte. They will participate in hands-on research opportunities and inquiry-based activities in STEM courses. Each of the partner institutions will also emphasize student-centered learning by redesigning STEM courses in which students frequently struggle. With the course redesigns, the
CHANGING LIVES
Collaboration Seeks To Increase Life Sciences Graduates

SPARC4 scholars will benefit from hands-on research, as do these current UNC Charlotte students.

project will directly benefit more students than just the scholarship recipients.

At UNC Charlotte, the scholarship recipients will benefit academically from enrolling together in sections of required courses outside the biology major where those majors have historically struggled. These courses will feature the use of peer mentors trained specifically to address transfer student issues. They also will have the opportunity to work on research projects with UNC Charlotte biological sciences faculty and to present their work at professional conferences.

“Students who transfer to UNC Charlotte in the biological sciences from community colleges can find the transition difficult, and many drop out, particularly those who have not completed their associate degrees,” says Elizabeth Stearns, SPARC4 Project Director and UNC Charlotte sociology professor.

“Academic, financial and social support can increase the graduation rate for these students, and we believe our new partnership will allow us to use that support to intervene at critical moments for these scholars at all three institutions.”

The regional partnership is expected to contribute to the nationwide conversation around the issue of what helps – or hinders – community college students as they strive for careers in STEM fields, particularly in the life sciences.

Collaborators at each institution include faculty from diverse disciplines, as well as institutional leadership. At UNC Charlotte, in addition to the College of Liberal Arts & Sciences, partners include the University Transfer Center, which is a resource for transfer students. Each year, UNC Charlotte welcomes more community college transfers than any other North Carolina college or university.

Words and Images: Lynn Roberson
In the ninth year of Personally Speaking, five published scholars from the College of Liberal Arts & Sciences will lead conversations about their books. The season begins with two timely, pre-election looks at government and politics, past and present, on Sept. 25 and Nov. 1. The following three books will offer history and mystery, with dates to be set.

The community is invited to Personally Speaking, which will educate, entertain and challenge through faculty scholarship.

Visit: clas.uncc.edu/ps

In *The Gifted Generation*, David Goldfield examines the generation immediately after World War II and argues that the federal government was instrumental in the great economic, social, and environmental progress of the era. Following the sacrifices of the Greatest Generation, the returning vets and their children took the unprecedented economic growth and federal activism to new heights.

This generation was led by presidents who believed in the commonwealth ideal: the belief that federal legislation, by encouraging individual opportunity, would result in the betterment of the entire nation. In the years after the war, these presidents – Harry S Truman, Dwight D. Eisenhower and Lyndon B. Johnson – created an outpouring of federal legislation that changed how and where people lived, their access to higher education, and their stewardship of the environment. They also spearheaded historic efforts to level the playing field for minorities, women and immigrants. But this dynamic did not last, and Goldfield shows how the shrinking of the federal government shut subsequent generations off from those gifts.

From the Affordable Care Act to No Child Left Behind, politicians often face a puzzling problem: Although most Americans support the aims and key provisions of these policies, they oppose the bills themselves. How can this be? Why does the American public so often reject policies that seem to offer them exactly what they want?

By the time a bill is pushed through Congress or ultimately defeated, we have often been exposed to weeks, months – even years – of media coverage that underscores the unpopular process of policymaking, and Mary Layton Atkinson opines that this leads us to reject the bill itself.

She argues that journalists and educators can make changes to help inoculate Americans against the idea that debate always signifies dysfunction in the government. Journalists should strive to better connect information about policy provisions to the problems they are designed to ameliorate. Educators should stress that although debate sometimes serves political interests, it also offers citizens a window onto the lawmaking process that can help them evaluate the work their government is doing.
In 1932, the city of Natchez, Mississippi, reckoned with an unexpected influx of journalists and tourists as the lurid story of a local murder was splashed across headlines nationwide. Two eccentrics, Richard Dana and Octavia Dockery, known in the press as the “Wild Man” and the “Goat Woman,” enlisted an African American man named George Pearls to rob their reclusive neighbor Jennie Merrill at her estate. During the attempted robbery, Merrill was killed. The crime drew national coverage when it was learned that the alleged murderers shared their decaying antebellum mansion with goats and other livestock, which prompted journalists to call the estate “Goat Castle.”

Pearls was killed by a policeman in an unrelated incident before he could face trial. But, typical in the Jim Crow South, the white community demanded “justice,” and an innocent black woman was sent to prison for Merrill’s murder. Karen L. Cox tells how Dana and Dockery avoided punishment and also profited from the notoriety of the murder by opening their derelict home to tourists.

Out for a hike one scorching afternoon in Sycamore, Arizona, a newcomer to town stumbles across what appear to be human remains embedded in the wall of a dry desert ravine. As news of the discovery makes its way around town, Sycamore’s longtime residents fear the bones may belong to Jess Winters, a teenage girl who disappeared suddenly some 18 years earlier, an unsolved mystery that has soaked into the porous rock of the town and haunted it ever since. In the days it takes the authorities to make an identification, the residents rekindle stories, rumors and recollections both painful and poignant as they revisit Jess’s troubled history. In resurrecting the past, the people of Sycamore find clarity, unexpected possibility and a way forward for their lives.

Bryn Chancellor’s Sycamore was named one of Oprah Winfrey’s “O’s Top 20 Books to Read This Summer” and was chosen by Publishers Weekly’s as a starred review and Pick of the Week. Bustle included Sycamore in “The 17 Best Debut Novels by Women in 2017,” and Amazon picked it as one of “100 books of 2017.” It has been optioned for television.

While narratives of enslavement have become more central to conversations about African American women’s writing, this book first discusses the genre of narratives of freedom and then examines women’s relationships to the community as they seek to illustrate a collective free identity. Janaka Bowman Lewis argues that these texts represent a sense of civil rights that emerges prior even to the ideas of racial uplift that reached a height for women in the late 19th Century and moved into the 20th Century.

Under the umbrella of freedom narratives, this book also reads black women’s narratives of education, individual progress, marriage and family, labor, and intellectual commitments to see how they both reflect and produce national and community rebuilding projects. Lewis opines that black women define freedom through all of the means listed above, but what is most significant for the purposes of their writing is freedom to choose their paths and to tell their own stories, in their own words and on their own terms.
South Point High School English teacher Bobbie Cavnar describes teaching as 25 percent preparation and 75 percent pure theater. Lately, the UNC Charlotte alumnus has taken his place on the national stage, sharing his views of teaching, the humanities, the arts and issues confronting the nation’s schools.

Cavnar, who earned his master’s degree in English at UNC Charlotte in 2011, was named the nation’s top educator for 2018, as selected by the National Education Association (NEA) Foundation. Officially called the “2018 NEA Member Benefits for Teaching Excellence Award,” this prestigious recognition has given him an opportunity to serve as an advocate for students and teachers and to showcase the power of public education.

“Many of our great artists, thinkers, and inventors were born into poverty and were given the opportunity to let their genius show,” Cavnar says. “That’s how a public education equalizes life.”
Glenn Boreman, chair of the Department of Physics and Optical Science, has been elevated to the status of IEEE Fellow by the Institute of Electrical and Electronics Engineers, in recognition of his significant contributions to optical and infrared antenna technologies. His group investigates the properties of antennas and other resonant structures at infrared frequencies, enabled using electron-beam lithography.

The IEEE Fellow is one of the most prestigious honors of the IEEE, and is bestowed upon a very limited number of senior members who have contributed importantly to the advancement or application of engineering, science and technology, bringing significant value to our society. The number of IEEE Fellows elevated in a year is no more than one-tenth of one percent of the total IEEE voting membership.

UNC Charlotte’s Steven Rogelberg is a pioneering researcher in the field of organizational science. In acknowledgement of his profound, international impact on the discipline, Germany’s Alexander von Humboldt Foundation has named him a recipient of its prestigious research award.

The Humboldt Prize, also known as the Humboldt Research Award, is given annually to up to 100 internationally renowned scientists and scholars across academic disciplines. Recipients receive a prize currently valued at €60,000 (Euros). The award is named for the late Prussian naturalist and explorer Alexander von Humboldt, and it is considered one of the most esteemed honors presented to a scientist.

Rogelberg says receiving the Humboldt Prize is a great honor and one for which he is profoundly grateful. “My greatest hope is that my scholarship and service to the profession help advance our science and ultimately help people and organizations in meaningful ways,” he says. “My passion is to try to do things that matter. I am also so fortunate to have done this work in partnership with incredible friends, colleagues and students.”

Chair of Physics And Optical Science Named IEEE Fellow

Organizational Science Professor Wins International Humboldt Award

The University Writing Program has implemented a number of curriculum, assessment and other innovations that have led to national recognition from the Conference on College Composition and Communication. UWP was one of nine institutions to receive the conference’s Writing Program Certificate of Excellence.

CCCC is a constituent organization within the National Council of Teachers of English. “This award pays tribute to the University Writing Program faculty who have spent six years building an independent program through curricular research and design, and through the revision of student learning outcomes and assessments designed to inform how we teach writing,” said Joan A. Mullin, University Writing Program executive director and English professor.

“While our faculty have worked to transform the University Writing Program, we could not have done so without the collaboration and support of the offices of the Provost, Academic Affairs Assessment and the Dean of the College of Liberal Arts & Sciences and many others across the university,” Mullin said. “We are honored to receive this national acknowledgement of our labor and our institution’s support of student writing.”

University Writing Program Wins National Award For Excellence
Andrea Pitts, an assistant professor in the Department of Philosophy, has received a six-month Career Enhancement Fellowship from the Woodrow Wilson National Fellowship Foundation. With the fellowship, Pitts will work on a book project in fall 2018, analyzing structural racism and linguistic communication, including making a research trip to the Gloria Evangelina Anzaldúa Archive at the University of Texas, Austin. Funded by the Andrew W. Mellon Foundation, the fellowship creates career development opportunities for selected faculty fellows with promising research projects. The program provides fellows with a six-month or one-year sabbatical stipend; a research, travel, or publication stipend; mentoring; and participation in a late summer professional development retreat. The Foundation awarded 33 fellowships this year.

Shan Yan, associate professor in the Department of Biological Sciences at UNC Charlotte, has received a $1.7 million R01 research grant from the National Cancer Institute at the National Institutes of Health. Findings are expected to offer insight into how cancers develop and to open avenues to new therapeutic strategies, especially with pancreatic cancers. Yan's lab researches DNA damage that human cells sustain each day from internal and environmental assaults. Oxidative DNA damage and single-strand breaks, or SSBs, in the DNA duplex are critical challenges to genomic stability and can lead to the formation of tumors when the body does not repair the damage quickly or properly.

An elaborate network called DNA damage response pathway detects these abnormal DNA structures through a process called checkpoint signaling, and coordinates the repair and activation. Yet, the processes by which this signaling and DNA repair take place are still only partly understood, and little is known about how cells sense the unrepaired oxidatively-damaged DNA in the first place.

The 5-year grant (NIH R01CA225637) will support the continuation of the lab's study of the mechanism of a repair protein called APE1 in DNA damage response. While APE1 is known for its critical functions in base excision repair and transcriptional regulation, it is currently unknown whether APE1 plays an essential role in DNA damage response pathway.

The Research Project Grant (R01) is the original and historically oldest grant mechanism used by NIH. The Yan lab also has been supported, in part, by grants from the NIH/NIGMS (R15GM101571 and R15GM114713) and funds from UNC Charlotte (Duke Energy Endowment Special Initiatives Fund and Faculty Research Grants).

John Reeves, Blumenthal Professor of Judaic Studies, and Annette Yoshiko Reed (New York University), have published a work they anticipate will provide historians of religion with a new tool to explore the intertwined histories of the major religious communities of the ancient and medieval Near East.

With the publishing of the first volume of *Enoch from Antiquity to the Middle Ages: Sources from Judaism, Christianity, and Islam* (Oxford University Press), Reeves and his co-author hope they have provided new resources to assess the intertextual relationships between different religious corpora and the major religious communities' connected histories.

This compilation and analysis focuses on a massive library of literature associated with the biblical character Enoch, which has been gleaned from Greek, Latin, Hebrew, Aramaic, Syriac, and Arabic language sources. “The Enoch project is one that I’ve been working on for the last 25 years,” Reeves says. “It consists of a collection of literature that’s either attributed to Enoch, or in some cases, just literature about Enoch that I’ve extracted from Jewish, Christian, Muslim, and gnostic sources from the Dead Sea Scrolls up to about the time of Christopher Columbus.” Reeves emphasizes the importance of exploring the connections between different religions in the past, and the implications for today.
A classroom approach in which students seek solutions to problems rooted in real meteorological data; non-traditional teaching techniques to help students grasp organic chemistry; and a focus on students choosing research projects geared to their interests are just some of the innovative, hands-on approaches this year’s CLAS Excellence in Teaching Awards recipients use to challenge students.

In recognition of their exceptional teaching, Casey Davenport, Jacob Horger and Valerie Bright have received the College of Liberal Arts & Sciences’ Excellence in Teaching Awards for this academic year.

Davenport, an assistant professor in the Department of Geography and Earth Sciences, has received the Integration of Undergraduate Teaching and Research Award. Horger, a lecturer and organic lab coordinator in the Chemistry Department, has received the Award for Outstanding Teaching by a Full-Time Lecturer. Bright, an adjunct faculty member in the Department of English, has received the Award for Outstanding Teaching by a Part-Time Faculty Member. They received their awards at a college celebration on Monday, April 23 in the Halton Reading Room in Atkins Library.

Davenport is described as a talented educator and a rising scholar in the fields of Severe Weather Meteorology and Science Pedagogy. Her scholarship is evidenced by seven articles published or in press in top-tier journals. Horger teaches a number of organic chemistry courses and labs. In these, he uses a variety of different pedagogical strategies, including active learning activities, in-class problem solving, specification grading, and collaborative laboratory projects. Students frequently comment on Bright's high energy, her enthusiasm for the course material, and her creativity in the classroom. Impressive too is the way she structures her classes, so that students can be self-directed learners and personally involved with their work.

Finalists for the Integration of Undergraduate Teaching and Research Award were Heather Perry, an associate professor in the Department of History and Shan Yan, an associate professor in the Department of Biological Sciences. Finalists for the Award for Outstanding Teaching by a Full-Time Lecturer were Peta Ann Katz, a full-time lecturer in the Anthropology Department, and John Russell Taylor, a full-time lecturer in the Department of Mathematics and Statistics. Finalists for the Award for Outstanding Teaching by a Part-Time Faculty Member are David Clausen, an adjunct lecturer in the Department of Religious Studies and Felecia Harris, an adjunct lecturer in the Department of Africana Studies and the Women’s and Gender Studies Program.
Plant lovers can find a wide selection of native plants and exotic botanicals, including trees, shrubs, perennials, annuals and other options, at the UNC Charlotte Botanical Gardens’ spring and fall plant sales. All proceeds support the operations of the Botanical Gardens.

Learn more: gardens.uncc.edu

Image: Lynn Roberson