NATURE'S PHARMACY

Unearthing plants’ potential page 10
THE PUBLICATION OF THIS ISSUE coincides with the launch of UNCG’s new integrated marketing campaign and tagline Do something bigger altogether. UNCG is truly a community where the contributions of our students, faculty and staff make an impact far beyond our campus.

Doing something bigger altogether can mean many things. At its core, it evokes community – accomplishing something in collaboration that one could not accomplish alone. UNCG’s longstanding history of engaged scholarship is reflected in the mutually beneficial partnership of Dr. Bob Wineburg and Odell Cleveland and the Welfare Reform Liaison Project. Since 1997, the project has focused on helping people move toward self-sufficiency through job training and placement. More than 1,000 people with cumulative earnings of more than $10 million is clearly something bigger. The initiative not only transforms lives but, through this unique collaboration, is an economic engine as well. In a similar vein, the work of Dr. Joy Bhadury in operations, logistics and supply chain management and operations research applications has been applied to more than 15 public and private organizations, demonstrating that universities can be an economic driver.

The tagline also reflects the innovation that can stem from collaboration between faculty and students. The design work of Dr. Patrick Lee Lucas and his students for the Industries of the Blind highlights not only why Dr. Lucas won the 2011 UNC Board of Governors Award for Excellence in Teaching but also the value of student expertise in addressing community needs.

The Teamwork in Research and Intervention to Alleviate Disparities (TRIAD) Project is one of the best examples of faculty doing something bigger altogether in concert with partners in the community. Initiated in 2003 and based in the School of Nursing, the goal is to address the major health disparities of African-Americans, Hispanics/Latinos, and low-income children and adults in central North Carolina by harnessing expertise and creating partnerships among faculty and students in nursing; public health education; kinesiology; anthropology; mathematics; nutrition; the Institute for Health, Science and Society; the Center for New North Carolinians; the Center for Youth, Family and Community Partnerships; the Moses Cone Heart Center; the Guilford County School System and the HealthServe Medical Clinics.

UNCG’s impact on the health and welfare on the larger community is also reflected in the innovative work of Dr. Susan Phillips related to noise-induced hearing loss, as well as the research and policy work by Dr. Jackie White on intimate partner violence. Dr. Wei Jia and his colleagues also have made an impact with their groundbreaking research identifying and evaluating the bioactive ingredients from food, plants and traditional Chinese medicines for the prevention and treatment of metabolic disorders such as diabetes, obesity and cancer.

UNCG research is one way in which our students, faculty and staff make a meaningful contribution. Through their engagement across disciplines and collaboration with the community, each has found a way to Do something bigger altogether.

TERRI SHELTON, PHD
Vice Chancellor for Research and Economic Development
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The planned expansion of the Panama Canal promises to shake up the global shipping industry—and North Carolina is seeking expert advice to help gauge the state’s response.

Dr. Joyendu “Joy” Bhadury, associate dean for graduate study and research and professor of information systems and supply chain management in the Bryan School of Business and Economics, was named to the N.C. Maritime Strategy Advisory Council in May 2011. Bhadury has provided feedback and guidance as a part of this statewide panel to a study on the best response of the maritime sector of North Carolina to the Panama Canal expansion, which will be completed in 2014. The panel’s final report is scheduled for completion by mid-2012.

According to some experts, this Panama Canal expansion will trigger the construction and deployment of megaships in the shipping industry of the future. Currently, the state’s major port in Wilmington does not have the depth to accommodate such megaships.

“The expansion will allow megaships to pass through the canal as well as increasing total daily ship traffic by as much as 50 percent,” Bhadury says. “The challenge is this: what ports will they dock at, and should North Carolina invest in a port that’s big enough to handle these ships? If not, what are the alternatives?

North Carolina’s ports account for just 3 to 5 percent of the total shipping business on the East Coast, with ports in Charleston, Savannah, Norfolk, New York and elsewhere taking the lion’s share.

However, according to a recent economic impact study, North Carolina’s ports are a major engine of growth, generating $7.5 billion in annual economic impact and directly supplying nearly 40,000 jobs with about another 20,000 jobs through indirect multiplier effects.

“It’s not a sector we can afford to overlook,” Bhadury says. “But with such a major investment, there are major risks at either end of the decision-making spectrum.”

On the one hand, the state could do absolutely nothing in response to the canal expansion, an approach Bhadury likens to clinging to VHS technology in a digital world. On the other extreme, North Carolina could spend billions of dollars on a mega-port along with all associated upgrades in state’s highway and rail infrastructure—and it may not pay off.

“It remains to be seen what the study recommends as the optimal course of action—one of the two ends or somewhere in between,” Bhadury says.

The ultimate goal, however, should be economic development through job creation. Such a port could stimulate an increase in North Carolina exports that are in demand globally—such as pork, poultry, sweet potatoes, tobacco and wood chips. “We think that ships are going to get bigger, but how much bigger?” Bhadury says. “How are other ports responding? What can North Carolina realistically expect to gain? There are many variables, and considerable forethought is needed to make the right choices.”

All about the genes

Robert Amend, a biology major who graduated this spring, can tell you all about the interplay of 20-hydroxyecdysone (20E) and juvenile hormone (JH) on the ecdysteroid receptors in the genes of fruit flies.

For the non-biology minded, that translates into creating a super-speedy metamorphosis in insects. The result of causing hormone-triggered metamorphosis to leap ahead? Chaos within the insect cells, which leads to death.

It’s a new way to create insecticides that work on the cellular level.

Amend received a $5,500 grant from the North Carolina Biotechnology Center and Cotton Incorporated to determine what makes the genes in fruit fly cells respond to certain triggers and to replicate that.

It’s been a full year’s worth of cloning genes, studying what makes certain genes behave in the way that they do and testing what happens when genes in a cell are exposed to a hormone.

Similar practices have been tried in mammalian cells but not in actual insect cells. That’s where Amend’s work comes in. In theory, this type of insecticide will affect more than fruit flies—it has the potential to kill other crop pests such as boll weevils, moths, locusts and others.

He has been working with Dr. Vince Henrich, biology professor and director of the Center for Biotechnology, Geonomics and Health Research. At certain points he’s spent as much as 30-40 hours a week in the lab. “It’s more or less a full-time job,” Amend said.

“It’s not been an easy project, but he’s made headway with it,” said Henrich. “He will come out with skills and experience that will help him pursue a career.”
Dr. Susan Phillips, professor of communication sciences and disorders, prefers to call it “acoustic overexposure,” and that’s a better, more descriptive term. It can affect a variety of people who work in noisy occupations, whether in factories, a setting that immediately comes to mind, or in a music school or an orchestra, which many people wouldn’t imagine.

Here’s how the hearing damage happens. When a work setting involves noise that reaches very high intensity levels regularly, it can cause hearing loss through prolonged exposure. The pitches affected are around 4000 hertz with factory workers and 6000 hertz with musicians. It can’t be reversed but it can be avoided – and her research is showing that there may be a genetic component to noise-induced hearing loss (NIHL), according to Phillips, who is working with an interdisciplinary team at UNCG that includes geneticist Dr. Vincent Henrich; Dr. Sandra Mace with the Music Research Institute; and statistician Dr. Scott Richter.

NIHL is a growing health concern among young people, with studies showing it is found in 15.5 percent of those aged 12-19 years, in 28 percent of college students who use personal listening devices, such as iPods, and in 44 percent of student musicians in a university school of music.

The project’s short-term goal is to establish a basis for identifying people with a genetic susceptibility to NIHL. Long-term, the public health goal is to develop a personalized prevention program using audiological tests as indicators of genetic susceptibility. The project is supported by a $275,000 grant from the National Institute on Deafness and Other Communication Disorders and campus funding from the Music Research Institute and the Center for Biotechnology, Genomics and Health Research.

At UNCG, the research is looking specifically at musicians’ hearing loss and why it happens. Musicians probably get the greatest overexposure when they play in the practice rooms, but there are also lessons, ensemble practices and performances. One question to be answered is how this early hearing loss affects their musicianship. “Even a bit of hearing loss makes it hard for people to understand speech and background sound,” Phillips said. “In music, it could make it difficult for a person to understand the conductor if he’s giving directions when people are moving their instruments around.”

The research would enable musicians to take steps to protect their hearing. Phillips hopes that the genetic component will help identify people who are susceptible so they can take precautions. But it won’t just be musicians – the research has implications for factory workers who are in loud noise situations all day, hunters who use weapons, the military.

“We hope to be able to personalize prevention for a music student who picks up an instrument for the first time in the fourth grade; he or she might get a genetic test to see if they’re susceptible to noise.”

“We hope to be able to personalize prevention for a music student who picks up an instrument for the first time in the fourth grade; he or she might get a genetic test to see if they’re susceptible to noise.”
When Patrick Lee Lucas’ interior architecture students began working on the entryway of the Industries of the Blind building, the company president expected them to simply pick new paint colors and carpeting, and maybe put up some history in a picture frame or two.

The company got way more than it bargained for. And so did the students.

Nine undergraduate students set out to make a brand for the nonprofit and ultimately express it in and on the building. The question they grappled with, Lucas says, was: “How do you tell the story of an institution in the space where you walk in?”

For years, Industries of the Blind (IOB) has been a UNCg neighbor on Lee Street, but few knew much about the factory.

The students started by conducting oral histories of some of the 200-plus employees, 80 percent of whom have some kind of sight disability. In its almost 80-year history, IOB has manufactured items such as its signature ball point pens, brooms, garments and, more recently, bomb-proof underwear for the military.

Students were fascinated to learn many of the employees inspected their products by touch, one of the reasons the quality of its products is so high, Lucas says.

Students then created a plan for the entryway and all the building’s public spaces using Braille as an inspiration. The plan calls for a fusion of colors, textures and lighting.

“I was completely impressed,” says David LoPresti, president of IOB. “I was completely floored by it.”

The partnership between Lucas’ class and IOB is an example of something important to UNCg — community engagement. A strategic priority for the university, community engagement is research or creative work that is mutually beneficial for the researcher as well as their community partner.

“The partnership between Lucas’ class and IOB is an example of something important to UNCG — community engagement. A strategic priority for the university, community engagement is research or creative work that is mutually beneficial for the researcher as well as their community partner. “Community engagement is working with, not for or to — a collaboration,” says Emily Janke, special assistant for community engagement in the Office of Research and Economic Development.

While “service” has long been the university motto, community engagement takes it a step further. “Service is a one-way exchange,” she says. “Community engagement is not just about doing good; it’s about doing well-informed research.”

The university’s faculty members have been involved in community-engaged research “since forever,” Janke says.

Now, the Office of Research and Economic Development is looking for ways to measure the impact of this work and give even more support to the effort.

Janke has created a database to track projects and partnerships. “One of the major struggles is all of the projects are going on and no one knows who is working with who,” she says. For example, if a researcher seeks permission to work in a local school, it can be embarrassing to be told that the school’s been working with another researcher on a different project for several years.

The database might eliminate those types of concerns. It’s also an opportunity for researchers to get their story out. When a faculty member
inputs the data on their project, they also put in either outcomes that are expected or those they have achieved. The community collaborator also gets an email to verify the project and gives them a chance to share their side of the story as well.

“It’s something we’re excited about,” she says. “We expect this to be a portal, a search site for partners.”

It’s also a way to identify areas where UNCG makes the most impact.

Already, Janke can see UNCG does good community-engaged work in the areas of homelessness, health and wellness, education, internationalization, and immigrant and refugee populations.

“We want to make things visible — this is who we are,” she says.

Lucas is an engaged scholar, who does the kind of work they want to highlight, Janke says.

For Lucas, community engagement is ongoing.

“It’s a long-term conversation, commitment,” he says. “The community engaged world — they don’t live in semesters.”

This past summer, Kristy Stroud, a junior who was in the fall class, worked on specifics for IOB along with Lucas. She won an undergraduate research award to move this work forward. In the fall, there might be an opportunity for fabrication.

And the IOB project was only one of three Lucas’ class worked on last fall. While one group of students was working with IOB, two other groups in Lucas’ class took on similar projects for the Greensboro Historical Museum and the Weatherspoon Art Museum.

It’s beneficial for all involved.

“In a community-engaged project, students learn much more deeply about themselves,” he says. “It helps them find their own design voice.”

LoPresti had a good experience with Lucas’ students and hopes to continue working with UNCG and other universities. “Students have great energy, great ideas,” he says. “They see things that are fresh and new, and that’s the kind of organization we want to be.”
Eight years ago, High Point police reduced crime in the West End neighborhood more than 57 percent, thanks to a partnership with UNCG researchers and community members.

Now they are taking the model used to quash the drug market and applying it to a different group—domestic violence offenders.

“Repeat offenders are generally violent guys anyway,” says Chief Marty Sumner of the High Point Police Department. “They have other types of violence on their records.”

Much like the overt drug market strategy, the domestic violence initiative started with research. UNCG’s Center for Youth, Family and Community Partnerships studied all domestic violence reports over a 10-year span, identifying known offenders and checking to see if they have records. That information led to the creation of four levels of people to watch:

- **A level** - Violent, repeat offenders. “Those you want to keep locked up,” Sumner says.
- **B level** - Those with two or more previous charges. That involves a face-to-face intervention with the message, “One more offence and we’ll move you to the A list.”
- **C level** - First time charged. They receive a letter of notice and a follow-up visit.
- **D level** - Those who are in an ongoing relationship but have not been violent with their partner yet. However, an officer believes the potential for violence and the potential for escalation exists.

After two years of research and planning, the police department held their first “call-in” session in February with 12 offenders.

With a call-in, those who are on the B list are brought in to a meeting with police, family, law enforcement partners and community members.

“We tell them they’re on a watch list, and we’re not going to tolerate it anymore,” Sumner says. “We’ll use any and every sanction to deter you.”

One of the best things about this initiative is the focus on the offender, not the victim, he says. “Too much emphasis has been placed on the victim in the past,” he says. “We want to take all that off of her. It’s all about what we are going to do.”

And he doesn’t buy the argument that they can’t control themselves. “He doesn’t assault everyone in the family. He doesn’t assault the arresting officer,” Sumner says. “He can control himself; he’s just not been properly motivated.”

This model is targeted at changing behavior before it gets to the A level. It looks at the offender holistically, taking into account their entire record and not just the domestic violence charges.

In the past, domestic violence prosecution has been fragmented. That’s different now. “For the first time, we said, ‘We’re going to own this.’ We’ve had 100 percent cooperation from judges, prosecutors, clerks, magistrates, and others.”

From 2004 to 2008, 32 percent of High Point homicides (16 murders) were domestic cases. The national average was around 11 percent.

Sumner expects the city’s percentage to drastically drop. “I know this has saved lives,” Sumner says. “I’m sure it has already made a difference.”

**Building bridges**

A NEW GROUP is linking academic experts with law enforcement officers and nonprofit professionals in a collaborative effort to stem violence against women.

The Innovations in Interpersonal Violence Prevention Research Group began meeting in May 2011 to open lines of communication between agencies and to join research with practice. In addition to semi-annual meetings, the network maintains an active listserv that distributes information about new programs, services and resources related to violence against women and girls.

“This is a practical approach to bridging the gap between what researchers study and what actually happens in the field,” says Dr. Christine Murray, an associate professor in the Department of Counseling and Educational Development. Murray directs the university’s Program to Advance Community Responses to Violence Against Women, which began planning for the network in September 2010.

“It’s a perfect example of UNCG’s community engagement,” she says. “It shows that a university can provide a
Professor helps shape national policy on teen dating violence

IF YOU THINK YOUR DAUGHTER won’t be a victim of domestic or dating violence, chances are you’d be wrong.

More than 80 percent of women say they’ve had at least one experience with physical or sexual violence between age 14 and the end of college, according to Dr. Jacquelyn White, a professor emeritus and former associate dean for research in the College of Arts and Sciences. About one-third of these students report some level of physical victimization, while nearly half experienced unwanted sexual contact.

“For some, the consequences are not always serious or long-lasting, but repeat victims in particular are subject to long-term issues such as physical injury, substance abuse, mental health problems and relationship difficulties,” White says. “Teen dating violence is not just kids being kids.”

White, who has published one of the country’s few longitudinal studies examining this topic, is now involved in developing national policies aimed at prevention.

Since her retirement, she has begun working with Congress through a fellowship.

Her research has been cited by Lynn Rosenthal, the White House adviser on violence against women, in a report about teen dating violence. White also serves as co-chairwoman of the National Partnership to End Interpersonal Violence Across the Lifespan. And she worked with Sen. Kay Hagan and the American Psychological Association to develop legislation that would fund training and research in this arena.

In recognition of her efforts, White was invited to a September 2011 reception at the home of Vice President Joe Biden and his wife, Dr. Jill Biden, to mark the 17th anniversary of the Violence Against Women Act. At the event, the Bidens spoke about preventing teen dating violence and sexual assault.

The high-level interest in the cause is welcome, White says. Violence against teens has often fallen through the cracks.

Her own landmark research grew out of a 5-year study of male and female students at UNCG. She assessed the students’ history of child abuse and exposure to domestic violence. Then, she monitored their experiences with teen dating violence and other factors.

“The biggest takeaway was that early childhood experiences are a predictor for what goes on in adolescence, and the biggest predictor of dating violence in college is having had those experiences as adolescents.”

She advocates a three-pronged approach:
1) increasing the focus on protecting children from abuse;
2) developing programs to help adolescents develop a healthy sense of relationships and sexuality; and 3) targeting domestic violence, which can set the cycle of violence in motion.

“I am very, very committed and passionate about the violence prevention movement,” White says. “We have so many programs and resources in place to help victims of violence and abuse, but we’re not doing enough to prevent it. We need a shift in public consciousness, and we need to inspire the public to demand more from our leaders. There are many ways to intervene in this cycle.”

At the same time, UNCG professors can learn from law enforcement and non-profit agencies, which find themselves on the front lines of domestic and sexual violence and other crimes against women. “Sometimes, researchers may be disconnected from the community and what the needs are,” Murray adds. “This network gives us all the opportunity to learn from each other.”

Academic research can also validate the success of certain interventions, which can help agencies secure funding in a time of tight budgets. In addition, research findings can guide training and intervention efforts. For example, Murray and her collaborator, Dr. Kelly Graves, a professor at NC A&T State, are in the planning stages of a research-based training program on domestic violence for mental health professionals.

Julie Lapham coordinates the network as an AmeriCorps volunteer. She works closely with Murray and Dr. Paige Hall Smith, an associate professor of Public Health Education and director of the Center for Women’s Health & Wellness at UNCG, to build the effort.
Natural science

The winner of the 2011 Junior Research Excellence Award, chemistry professor Dr. Nadja Cech, grew up surrounded by herbs on her family’s farm. She knew people looked to herbs to help them with their colds and other ailments. As a scientist, she’s spent years looking at the components in plants. One of the things that surprised her was realizing that Echinacea contains bacteria, and that it just might be one of the bacterial components that makes it work. She has published numerous papers on Echinacea and goldenseal, and she continues to probe how the complex interplay of plant molecules might affect the equally complex human body.

THE SCIENCE BEHIND NATURAL MEDICINE We’re trying to identify new molecules in plants. We’re taking a look at medicines used traditionally by American Indians, and as part of traditional Chinese and Ayurvedic medicine. How do they work? Do they work the way they’re supposed to?

BACKGROUND I’ve been doing this particular type of research for 10 years. My background is as a mass spectrometrist. It’s an interesting and complicated tool. I love using it. When I first came to UNCG, I wanted to apply that tool to answer questions about alternative medicine, and this eventually morphed into my major research agenda.

FOSTERING THE NEXT GENERATION OF SCIENTISTS My research has a major student training element. This semester I have four undergraduates, six graduate students and two post-docs in my lab. A major part of my job is directing all of their projects. I meet with them every week to discuss progress and plan experiments. We do have specific scientific questions that we are trying to answer, but what I consider even more important is that they are learning the scientific method while answering these questions.

SYNERGY People say the reason herbal medicines work is because of synergy, when two things combined equal something greater. Two things that work additively can be described by the equation 1+1=2. Synergy is a situation where 1+1>2. That’s what our lab focuses on. We’re interested in how mixtures behave differently than single compounds. We try to answer questions such as, “How do we better study a mixture?” and, “Are there situations where it is advantageous to use a mixture instead of a single isolated compound?”

FIGHTING INFECTION Another area of our research concerns identifying new molecules from natural sources that could be useful in treating infections. Hundreds of thousands of patients die every year from infections such as MRSA (Methicillin-resistant Staphylococcus aureus). Resistance to current treatments is on the rise, and there are not a lot of good new drugs in the pipeline. It’s not something that has been the focus of pharmaceutical companies in the recent past. That’s why it’s important for academics to work on this problem.

GOLDENSEAL Our lab has done a lot of research with the medicinal plant goldenseal. Right now we’re looking at four different molecules that play a role in antibacterial activity, and I think a dozen or more are important. We hope that the use of multi-component therapies like goldenseal would be less likely to lead to resistance than the traditional single-agent antibiotics.

TWO RESULTS, ONE PLANT Echinacea is another plant that our lab has studied a lot. It is traditionally used for its effects on the immune system, but there is disagreement about what these effects are. Some think Echinacea prevents infection by stimulating the immune system; others think it protects the body from the inflammation that is caused by viruses. In truth, it may do both. It seems that the bacteria living in Echinacea stimulate the immune response, which could prevent infection. Chemicals produced by the plant itself may be effective at suppressing inflammation. Our group is working to answer these types of questions and ultimately to develop Echinacea preparations that are tailored for specific conditions.

SURPRISES IN THE LAB Nothing ever works the way you expect it will. The Echinacea-bacteria relationship was a mind-bending realization. And there have been plenty of things people swear up and down happen with an herb and tests prove just the opposite.
Poetry in motion

Dr. Christopher Hodgkins, professor of English, is an expert on the 17th century poet George Herbert and the winner of the 2011 Senior Research Excellence Award. Such expertise has led to the publication of two books and three collections as well as the formation of the international George Herbert Society. More recently, he has spearheaded UNCG’s acceptance into the prestigious Folger Institute Consortium, as well as leading the Atlantic World Research Network.

Hello George, nice to meet you

When I graduated from college, I moved to Berkeley, California, as a pastoral intern. At that time, one of my high school buddies was finishing up at Berkeley. One day he said, “I just finished this class in Renaissance lit and I’ve got this book you might be interested in.” So he handed me his own little Oxford Classics edition of George Herbert’s masterpiece, “The Temple.”

Though a book of lyric poetry, “The Temple” was intricately structured and shot through with arresting images and drama. It was deeply picturesque and almost theatrically situational — like Shakespeare at prayer. I have a deep, abiding love of the material. It’s soul-searching poetry, and Herbert has never let me down.

Poetry and religion

I’m interested in the relationship between religious thought and poetic practice, specifically the early modern Protestant lover’s quarrel with beauty, art, play and worldly power. I’m also interested in how the Word-centered Reformation helped to birth the word-rich culture of Tudor-Stuart England.

Asking a new question

Good research pays attention to things that people usually ignore because they think they’ve already got the story. So real research often involves a re-visioning of the entire field. There is at present a burgeoning of events and publications on Herbert, and I am happy to have been at the center of that movement.

In the temple

UNCG has one of the best Herbert collections in the world. To make it more widely available, I have co-edited a digital edition of “The Temple” for the University of Virginia Press — featuring dense digital captures of the two known manuscripts and the first print edition. And at UVA’s request, my co-editor and I are beginning a complete digital “Works of Herbert.”

Digital divide

Yet I’m only a “one-and-a-half cheers for digital” sort of guy. I’m delighted at the amazing search capacity, and the potential for dissemination is instant and worldwide. On the downside are looming problems of preservation, maintenance and cost. With a book on the shelf, someone can come back in 500 years and examine it. That’s what I’ve done for decades. If you think really long-term, and I do, how is anyone going to find our brilliant digital editions in 50 years, let alone 500? But you can’t beat digital for search capacity, close analysis, dissemination and speed.

The Atlantic world

In 2002-03, English department head Denise Baker had the idea to put together a conference on transatlantic issues. We thought it would be a great way to collaborate with our history department, which was developing an Atlantic World specialization. The burgeoning interdisciplinary field of Atlantic World Studies explores the transfer of culture across and around the Atlantic. It includes not only Britain and Europe, but also South America and Africa. We embrace the humanities, and also the fine arts and the natural and social sciences.

A few years after our successful first conference in 2004, College Dean Tim Johnston and Provost Dave Perrin suggested that we create a research network. We’ve put together a board, hosted lunchtime colloquia — almost 20 since 2007 — on a deliberately wide array of topics, and seven conferences and symposia, both at UNCG and abroad, so far in England, Wales and Scotland.

A place at the table

The Folger Institute in Washington, DC, doesn’t seek new members, but when we approached them about joining, we met their criteria. They look for demonstrated excellence in the areas the Folger sponsors — not only in literature and history, but also in languages and fine arts. So this Folger membership recognizes UNCG’s research achievements. Over the 20 years that I’ve been here, I’ve seen us develop from a very, very good teaching institution into a truly wide-ranging and fully articulated research university.
Pictured, Clint Alfaro, an undergraduate who works with Dr. Nadja Cech, clips goldenseal leaves for future study.
Above, graduate research assistant Danielle Hayes holds an entire goldenseal plant, from roots to leaves, while post-doc research associate Dr. Huzeba Raja reaches down for another. Raja works with Dr. Nicholas Oberlies, studying the fungi that grow in and on the plant. Left, Danielle Hayes and Dr. Nadja Cech harvest goldenseal roots. Center, a closer look at the goldenseal root. Right, after a few hours of gathering plants, Dr. Nadja Cech walks with farmer Bill Burch as she takes some bags of plants back to the van.

**By Beth English, UNCG Research Editor**

**Photography by David Wilson, Assistant Photography Editor**

Research doesn’t always mean hours in the lab. In late June, chemistry professor Dr. Nadja Cech and several students on her research team traveled to western North Carolina to harvest leaves, berries, roots and entire plants of goldenseal. It’s part of a multi-year partnership with Bill Burch, who grows the plants. Each year Cech and students travel to his goldenseal patch to take what they need for the lab at UNCG. After the leaves dry, Cech’s team analyzes the molecules of the plant thought to play a role in antibacterial activity. (Read more about Cech’s research on page 8.)
WITH BETTER HEALTH FOR ALL

TRIAD researchers address health disparities

BY BETH ENGLISH, UNCG RESEARCH EDITOR
PHOTOGRAPHY BY CHRIS ENGLISH, PHOTOGRAPHY EDITOR
“It looks like we’re moving in,” she says. “We have a biohazard box and in the car we have a portable freezer and centrifuge, so we can go ahead and spin the blood down if we’re in the middle of nowhere.”

And yet, with all the equipment, she and the nurses who help with the study know exactly how to make the study participants feel at ease. “Nurses are trusted,” she says. “People have the view that we have their best interests at heart.”

During the data collection visit, which usually lasts an hour and a half, researchers talk to the participant about how they felt before and after their heart attack; what medicines they’re taking; how well they’re sleeping, eating, exercising. Then team members measure weight, blood pressure, height, hips and waist and sagittal diameter (the measurement of the belly from belly button to lower back). Finally, two tubes of blood are drawn.

Each of these visits represents a person who has had at least one myocardial infarction (MI), or heart attack. They were treated at either Cone Health in Greensboro or First Health in Pinehurst.

Talking in her office in Petty Building, Crane is surrounded by pictures and certificates. One poster displays a quote from Albert Einstein: “If we knew what we were doing, it wouldn’t be called research.”

One question is uppermost in Crane’s mind. “A third of people will have a heart attack again within six years,” Crane says. “How can we (figure out) who’s going to have another one?”

Her work is part of a larger research initiative on campus called TRIAD (Teamwork in Research and Intervention to Alleviate Disparities), funded by the National Institutes of Health. The TRIAD Center, which has spanned eight years, has brought together researchers from a variety of disciplines to tackle issues that affect populations who have not received as much attention until now. In June, TRIAD received a new four-year, $4.79 million grant from NIH to fund two large interventions.

Dr. Patricia Crane laughs when she describes what she looks like when making a home visit for her research on preventing recurring heart attacks.
Partners in Crane’s study include Dr. Michael McIntosh from nutrition, Dr. Sat Gupta in mathematics and statistics, Dr. Willie Mae Abel RN, ’11 PhD who teaches at Winston-Salem State University and Dr. Susan Letvak RN, who, along with Crane, is a faculty member in the School of Nursing.

In addition to faculty involved in the study, Crane has several graduate students who work as research assistants: Chia-Chi Chuang, who graduated in May with a PhD in nutrition; Gloria Paul, RN, and Janis Puglisi, RN, both working on their nursing PhD; Rhonda Lucas, working on her nurse practitioner degree; as well as two doctoral students, Sheryl Coley ’10 MPH and Lori Mattox, and three master’s students, Duygu Gurleyik ’12 MS, Danielle Harris and Jonathan Collins ‘12 MPH working on data entry.

And the glue holding everything together is project manager Debbie West ’90 MS, a registered dietitian who formerly worked as area director for the American Heart Association.

TRIAD has three core components – research, training and community outreach. Crane is conducting what is considered a large study in the research core.

By the time Crane completed her data collection visits this summer, she expected to have information on more than 150 people who have had at least one heart attack. She’s examining the differences between those who have had one MI and those who have had more than one MI, and then further analyzing the data based on race and gender.

In addition to the data collection visits, 30 of those participants agreed to answer more questions in a qualitative interview. Generally, they were asked what they are doing to prevent another heart attack and would they consider various interventions.

“There is a gap in the science,” Crane says. “I need to understand what specific symptoms or risks that place persons at higher risk for another MI. This includes traditional symptoms and non-traditional symptoms such as fatigue and depression. Then, I can create an intervention. Where are there disparities? We can do cluster analyses to begin to have a predictive model so we can use more targeted approaches with those at highest risk that will use time and resources more wisely.”

Heart attacks are the number one killer in America. Up until a few years ago, no one understood that women’s heart attack symptoms differed from men’s. Crane and her team of researchers wonder, “How we can make the most difference? Those who have had multiple heart attacks need to change some element of how they live, but many will not change all elements. What is the most important thing to change? “

In her previous study, she along with her co-investigator in that study, Dr. Michael McIntosh, found that inflammation is tied to fatigue after a heart attack. The precursor to a heart attack – atherosclerosis, or hardening of the arteries – is an inflammatory disease.

They have also been looking at the role of cytokines, specifically IL-6 and TNF-alpha, which regulate immune response. These cytokines at high levels may contribute to fatigue in adults and may indicate those at highest risk for recurrence of MI. Further, when someone is fatigued, it’s hard for them to get the exercise they need to prevent another heart attack.

It all goes back to the central question – how can heart attacks be prevented?

### Physical Examination

Crane then measures height, weight, blood pressure, hips, waist and sagittal diameter.

### Drawing Blood

During the visit, two vials of blood are drawn for analysis.
PUTTING IT ALL TOGETHER
Crane’s work is just one of 15 studies conducted under the TRIAD Center umbrella.

Studies range from reducing diabetes risk among older African-American women to addressing rural Latina/o adolescent health disparities through school nursing and school counseling services. Researchers from nursing, public health education, anthropology, mathematics, nutrition, social work, counseling, education, kinesiology, and human development and family studies are team members.

Dr. Debra Wallace, associate dean for research in the School of Nursing and principal investigator for TRIAD, notes the need for such research studies is great.

“We are in the buckle of the stroke belt,” she says. “And North Carolina was named a diabetes hot spot last year.”

Through the years, as the state has moved away from agriculture and manufacturing professions and its people have become more sedentary, coupled with a dramatic population growth, some health issues have become more pronounced.

What’s most alarming are the disparities of health issues found in minority populations such as African-Americans, Hispanics and low-income children and adults.

For example, 12 percent of Hispanics develop diabetes as opposed to 7.8 percent of non-Hispanics. African-American men are more likely to die from heart disease than other groups.

Wallace and everyone else associated with TRIAD want to eliminate those kinds of disparities.

Sometimes health disparities come from lack of access to knowledge. Or maybe various groups need to be communicated with in a different way – especially if language or culture has an impact on how the messages are received. Or it could be just finding out what works universally.

Researchers work with others outside their disciplines to pool their expertise and look at the issues in different ways.

It’s a winning situation for all who are involved. Faculty grow in their research. Students get an opportunity to participate in studies firsthand. Study participants ideally walk away with a better understanding of how to manage their health.

Wallace can also list community partnerships created, including Larry Burnette with the YMCA and Sandra Blaha with Davidson Medical Ministries; community engagement pieces such as Martin County radio spots in both Spanish and English on how to recognize a stroke or manage high blood pressure, diabetes or heart disease; and outreach activities such as blood sugar, blood pressure and cholesterol screenings throughout the Piedmont and south central North Carolina.

TRIAD also has partnered with the NC Office of Minority Health and Health Disparities and UNCG’s Center for New North Carolinians.

She is equally proud of the mentorship between faculty members and with graduate and undergraduate students. Christina Hernandez, a co-principal investigator on a TRIAD health literacy study, has gone on to do post-doc work at Harvard and the Dana Farber Institute. Other students have received fellowships for graduate school.

In the meantime, small groups of underserved people are gaining understanding about what it means to take charge of their health.

Process Blood
After a visit, Crane can either store the vials of blood in a portable freezer on her floorboard or she can place them in a centrifuge and spin it down.

Testing
After spinning in a centrifuge, blood separates into its component parts for testing.
A NEW APPROACH

Dr. Jie Hu, professor of nursing originally from Beijing, has spent years working with older people with chronic disease. Now she has turned her attention to Hispanics with diabetes.

“It’s hard if you don’t speak the language,” she says. “They are the ones who need a lot of help. They can’t always get access to care.”

For her pilot study, which wrapped up in January, she created a family-based intervention for Hispanic adults with Type 2 diabetes. Diabetes patients, along with at least one family member, participated in an eight-week education program and clinic.

Adding family members to the sessions was a crucial component. “In their culture, they value their family members,” she says. “Family members can support a change in behavior, especially if they’re in the same household.”

Hu wanted to apply Social Cognitive Theory, which basically says that personal and environmental factors influence behavior. In her study, family members are considered to be an environmental factor that can have an impact on a patient’s diabetes self-management behavior. “Our intervention was focused on improving diabetes self-management through self-efficacy (the personal factor) and support by family members (environmental factor).”

She also wanted to be sure information was shared in the best possible way for this population.

“Most don’t speak English at all and they have a low literacy level (in English),” Hu says.

Sessions were conducted in Spanish and an interpreter was on hand to help as well. Most of the materials were pictorial. Additional investigators on the study included Wallace, Dr. Anita Tesh, newly completed PhD student Karen Amirehsani, and a community member. Amierhsani conducted education in Spanish with a bicultural and bilingual research team member.

“We tried to teach them basic knowledge and skills to manage their diabetes,” Hu says. “We taught diabetes knowledge. We asked about their diet and exercise. We talked about how to cope with depression.”

When the participants started the program, most did not know what constituted a normal blood sugar level. Hu hoped the outcome would show they had improved their diabetes knowledge and control.

She is working on data analysis but so far the results of the 72 participants look promising: People showed a trend to control their diabetes glucose levels; patients and family members increased knowledge; participants increased their activity levels and changed their diets.

The new grant will help her continue researching this type of diabetes intervention.

“Myself as a minority, I like to help minority populations,” Hu says. “If I have any way to help them close the disparity gap (I will).”

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LARGE STUDY #1

**Efficacy of motivational interview to lower diabetes risk in African-Americans**

**INVESTIGATORS:** Dr. Carolyn Blue (Nursing), Dr. Todd Lewis (Counseling and Educational Development), Dr. Scott Richter (Mathematics and Statistics)

**GOAL:** Try new ways to motivate African Americans to increase physical activity and decrease their chances of having diabetes

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LARGE STUDY #2

**Comparing risk of myocardial infarction reoccurrence in whites and blacks**

**INVESTIGATORS:** Dr. Patricia Crane (Nursing), Dr. Mike McIntosh (Nutrition), Dr. Susan Letvak (Nursing), Dr. Sat Gupta (Mathematics and Statistics), Dr. Willie Abel (WSSU faculty member)

**GOAL:** Discover knowledge to prevent recurrent myocardial infarction symptoms and outcomes

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PILOT STUDIES

1. **Testing an intervention to prevent risky sexual behavior in African-American middle school girls**

**INVESTIGATORS:** Dr. Robin Bartlett (Nursing), Dr. Terri Shelton (Office of Research and Economic Development)

**GOAL:** Find new ways to prevent behaviors that can lead to pregnancy and/or HIV among African-American middle school-aged girls and to increase mother/daughter communication about this topic.

2. **Reducing diabetes risk among older African-American women**

**INVESTIGATORS:** Dr. Martha Taylor (Nutrition) and Carinthia Cherry, doctoral student

**GOAL:** Implement a program focusing on good dietary habits and lifestyle changes to decrease the chances of having Type 2 Diabetes among African American women ages 50 and older.

3. **A tailored nutrition intervention for African-American child caretakers**

**INVESTIGATORS:** Dr. Lauren Haldeman (Nutrition), Kandis Ingram, graduate student

**GOAL:** Adapt and test a nutrition education program taking into account behavioral, environmental and personal aspects to prevent cardiovascular disease among African American women who take care of young children.
Addressing rural Latina/o adolescent health disparities through school nursing and counseling services

INVESTIGATORS: Dr. Jose Villalba (Counseling and Educational Development)

GOAL: Give schools' health providers practical and useful treatment tools that consider the unique experiences and needs of young Latina/os to deal with their mental and physical health problems that can help them be successful in school.

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Personal assessment of gender and self-reported sexual behavior among African-American male students

INVESTIGATORS: Dr. Robert Aronson (Public Health Education), Dr. David Jolly (Public Health Education, North Carolina Central University)

GOAL: Better understand the role that culture plays in gender and sexual behavior in young African-American men and how this affects their risks of HIV.

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Development of instruments for tailored interventions to prevent and treat hypertension among young African-American men

INVESTIGATORS: Dr. Margaret Savoca (Nutrition), Dr. Robert Aronson (Public Health Education)

GOAL: Develop ways to prevent and treat high blood pressure in young African American men.

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The effect of acute, moderate intensity aerobic exercise on gene transcription in human peripheral blood mononuclear cells (PBMCs) of pre-diabetic African Americans

INVESTIGATORS: Dr. Laurie Wideman Gold (Kinesiology), Dr. Ellen Jones (Nursing), Dr. Laurie Kennedy-Malone (Nursing) and Dr. Vincent Henrich (Center for Biotechnology, Genomics, and Health Research)

GOAL: Identify patterns of differential gene expression in African-American pre-diabetic individuals in response to acute moderate intensity aerobic exercise compared to healthy controls.

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A diabetes self-management family-based intervention for Hispanic/Latino adults with Type 2 diabetes

INVESTIGATORS: Dr. Jie Hu (Nursing), Dr. Debra Wallace (Nursing), Dr. Anita Tesh (Nursing), and community members.

GOAL: Help Hispanic adults with Type 2 Diabetes and their family members develop positive habits that can improve their health.

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Enablers of HIV testing decision-making in Hispanic/Latina women in the US South

INVESTIGATORS: Dr. Sharon Morrison (Public Health Education), Dr. Sudha Shreeniwas (Human Development and Family Studies)

GOAL: Examine what helps Hispanic/Latina women to seek HIV testing and counseling and what makes it difficult for them.

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Intervention to reduce HIV risk in Latina middle school age students

INVESTIGATORS: Dr. Robin Bartlett (Nursing), Dr. Terri Shelton (Office of Research and Economic Development)

GOAL: Decrease risk factors for HIV with Hispanic/Latina girls by providing education on HIV prevention for girls and their mothers, enhancing ethnic/cultural pride while increasing girls’ assertiveness, and by providing a service learning component for girls to practice the assertiveness and communication skills they have learned.

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Heart of Hypertension Project 2: Community-engaged approach to lifestyle change for African-American men

INVESTIGATORS: Dr. Margaret Savoca (Nutrition), Kevin Carter (Social Work)

GOAL: Test an anti-hypertension intervention for African-American men ages 25-45, which uses a Meal Pattern Timeline.

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Health literacy among Southern African Americans and Hispanic/Latinos

INVESTIGATORS: Dr. Debra Wallace (Nursing), Dr. Yolanda Griffin (Nursing), Dr. Louise Ivanov (Nursing), Christina Hernandez (doctoral student)

GOAL: Examine African American and Latino/Hispanic client health literacy, communication and trust in interactions with health care professionals.

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Biobehavioral predictors and outcomes of child and adolescent obesity

INVESTIGATORS: Dr. Susan Calkins (Human Development and Family Studies, Psychology), Dr. Peter Graziano (Postdoctoral Fellow Center for Children and Families, Florida International University)

GOAL: Analyze existing data from a 15-year longitudinal study of child development to use a biobehavioral approach to determine the biomarkers, psychosocial and developmental predictors and outcomes of obesity in white, black and Hispanic/Latino children.
EARLY COLLEGES ARE GROWING IN POPULARITY. They merge the high school and college experiences, trying to help students succeed. More ninth through twelfth graders are enrolling. But are they effective?

Dr. Julie Edmunds is the lead principal investigator of two studies looking at the issue.

This is one of many issues that UNCG’s SERVE Center is addressing head-on. With 50 researchers and two decades of results, SERVE works to find and share best practices, as well as generate new knowledge, for those in the pre-K through grade 12 community throughout the Southeast.

Edmunds is project director for high school reform at the center. "Where we differ from most contract firms is we do rigorous research, but in a very collaborative manner," she explains. "We work with people on the ground. We don’t just study schools; we also help them use the information we gain."

The recent early college studies are financed with two competitive grants from the Department of Education, totaling $4.7 million.

In the studies, each early college used a lottery to select students. "Students apply to attend the school. Some of the students get in through the lottery process. Some are not accepted and they go back to regular schools."

This kind of study design gives you two comparable groups - luck was the only difference. "We’re comparing apples to apples."

The researchers then follow students in both groups – those who got in and those who did not – and compare outcomes such as: Are more early college students on track for college? How well do they perform on tests? How is their attendance/behavior/suspensions compared to the students who applied and did not get in through the lottery? Do more early college students graduate from high school? Do more enroll in college?

The first study began in 2006, focusing on high school outcomes. Not enough time has passed to gauge college performance.

But with a second study iteration that began in 2011, they’ll continue to look at college readiness as well as performance in college.

Nineteen schools in North Carolina are a part of this study.

The policy brief "A Better 9th Grade: Early Results from an Experimental Study of the Early College High School Model" has been published. "Expanding the Start of the College Pipeline: Ninth Grade Findings from an Experimental Study of the Impact of the Early
College High School Model" was published in the Journal of Research on Educational Effectiveness in April. Results for upper grades have been presented at various conferences.

Among the findings so far: More early college students are on track for college. They have better attendance and substantially lower suspension rates. And they are more likely to remain enrolled in school.

Edmunds has theories on why she sees such encouraging results.

- **Positive relationships.** "They’re small schools. Everyone knows everybody."
- **There’s nowhere to hide in these schools.** "You can’t go missing — or coast. The students are all academically and socially involved."
- **Plus, there are higher expectations.** "They start taking college courses in their ninth grade year." The students see the immediate benefit — and they feel like a college student. It changes the way they think of themselves.

  "When we talk to students we will hear them say things like, ‘People think this school is for smart kids — but really it’s for kids that work hard.’ The schools have created an environment where learning is cool," she says.

  That leads to the next question: Can you take these principles and apply them to a standard high school setting, with its established cultures? SERVE is conducting the evaluation of a brand new effort, led by the North Carolina New Schools Project, which is attempting to answer that exact question. "That’s the natural next step. That’s pretty exciting."

  The SERVE Center has researched the work of the North Carolina New Schools Project for seven years, as the project coordinates the early college initiative and other high school reform efforts statewide.

  "They are able to use the results from our studies to improve their work in North Carolina."

  Edmunds has been working in education for 20 years. While working at the US Department of Education, she decided she wanted to teach.

  With a BA already in hand from Yale, she earned her master’s at UNCG, and taught in Durham County. She then obtained her doctorate from UNC-Chapel Hill. With her background, she has the perspective of policymakers and teachers. "I call it my checkered past."

  She knows firsthand how challenging it is to bring about great change in schools. "What teachers face — it can be really daunting at times. I always say that teaching was the hardest I have ever worked."

  In her current role at SERVE, she is able to bring her different experiences to bear in having an impact. "It’s amazing to see the pace of change in North Carolina," referring to the growing number of early colleges (sometimes called middle colleges) around the state. There are about 70 now, the largest number in the United States. "They work really, really well."
A CAREER OF MAKING ASSISTS
From creating a nonprofit to get people off of welfare to encouraging students to see the people behind the figures, social work professor Dr. Bob Wineburg has spent a lifetime working for justice.

It’s the Bob Wineburg way. That’s how his students see it.

He teaches, writes books, challenges authority and backs up whatever he does with reams of research. He tells his students to never sanitize anyone’s pain by calling them the homeless, the disabled, the old, the poor.

All of them have names, families. Wineburg tells his students never to forget that. And never forget something else: toilets.

Or really fixing toilets. It’s always about helping people, not finding a plunger. He tells them that no matter where he is, even near downtown Greensboro in a sprawling warehouse as big as two football fields. With his hands in his pockets, his glasses perched on his head like a crown, he walks them past mountains of boxes and turns a concrete floor into his classroom.

“It’s not just words on a page; it’s real people,” he tells them. “What you’re learning is the sewer lines of how things work. It may look sexy on top, but it’s hard work underneath.”

For more than three decades, Wineburg has taught social work at UNCG. He’s pushed the buttons of university administrators – Chancellor Patricia Sullivan once called him her “problem child” – and he’s punched the comfort zone of his students until anxiety knots their gut.

It must’ve worked. He has an endowed scholarship named after him, created by one of his own students, a woman who worked with pregnant drug addicts and thought of the lessons she learned from Wineburg the entire time.

He’s written four books, won various grants and been named a Fulbright scholar. And along the way, he’s worked with various nonprofits in Greensboro and shown them how the academic framework of social work can bring some order to the disorder of what they do: mending fractured lives.

Don’t expect him to slow down.

“I know I look like an old gigi professor, but I still have that same spirit, that same culture that makes you young,” Wineburg says. “You know, I was born with a teenage soul.”

WINEBURG STILL CARRIES IN HIS WALLET his grad student ID from Syracuse University. He pulls it out whenever he talks to his students about systems theory and the need to find data to help understand social work.

Systems theory and an old ID? To Wineburg, it makes sense.

His ID shows a long-haired grad student with a full beard. But that photo was
taken when bell bottoms were popular. Today, what remains of Wineburg’s mane is snow white, cut close to his balding head.

He tells students theory always needs to adapt and be ready to change.

When it comes to research, Wineburg loves associating real life with abstract. He’s done it his whole life.

Since coming to Greensboro 30 years ago, he’s worked with various nonprofits that help the marginalized and the needy. The latest is the Welfare Reform Liaison Project, a nonprofit he’s worked with for 15 years.

It’s an exceptional example of a town-gown partnership.

Wineburg has worked with the Rev. Odell Cleveland, the nonprofit’s president and CEO, to help hundreds of people, most of whom live either on the street or close to the street, barely making enough to get by.

Welfare Reform helps them find work by giving them skills they can use — writing, interviewing and producing video, working with digital photography and dealing with the nuts-and-bolts of business by relabeling out-of-fashion suits from Men’s Wearhouse and distributing them to markets nationwide and around the world.

In the process, their self-esteem improves, their confidence grows. They steer clear of the courthouses, the social service offices and the other systems that have given them labels they hate.

And the big thing? Welfare Reform accomplishes what Cleveland and Wineburg wanted it to do — reduce welfare dependency.

In the past 15 years, according to data of wages earned by clients the nonprofit has helped, Welfare Reform has reduced welfare dependency by $10 million.

That work got Cleveland invited to the White House earlier this year. Federal officials saw the nonprofit in Greensboro as an example of how to create jobs. It’s because of the numbers provided by Cleveland and Wineburg. And for Cleveland and Wineburg, those numbers have names of people they both know.

They emphasize that often, especially to the UNCG and N.C. A&T graduate students who take their class.

Cleveland and Wineburg constantly harp on the need to merge book smarts with street smarts. So, they teach their students away from the halls of UNCG. They teach in a conference room in downtown Greensboro, in the huge distribution center at Welfare Reform — any place that lends credence to the need to understand the link between research and real life.

“The data tells you a story, and if you know this stuff, you see people moving around,” Wineburg says. “This is what I see.”

EARLIER THIS YEAR, Wineburg completed a survey that showed how engaged Health and Human Sciences faculty members are in civic affairs. It’s good data because 83 percent responded and showed HHS faculty are involved with more than 780 community organizations involving at least 1,000 students.

Like with everything Wineburg does, there’s a reason for his research: He wants to change the culture of the university and how it’s viewed in the city where he lives.

“It’s not about us,” Wineburg says. “It’s about the community. The narrative of the university is that we enlighten the mind. But what about enlightening the community? With the knowledge of the university, look at what we can do.”

Look at what Wineburg tries to do.
He plays basketball several times a week. He wears silver goggles and a yellow headband and takes short, choppy steps up and down the court, the squeak of sneakers around him. He plays with people his age. He once called basketball his “heart attack prevention program.” He now gives it another name: “geezer game.”

Wineburg likes to joke about death. He even mimics Fred Sanford from the 1970s comedy “Sanford and Son” by grabbing his chest and yelling, “Elizabeth, this is the big one!”

He’s a cancer survivor, a member of a family with a history of heart disease, and he’s lived far longer than his father and his older brother, Mike, both of whom died young.

So, at age 62, he makes sure he moves every day. But what really energizes Wineburg is his work. It’s in his voice, his eyes, inside the frames of pictures and posters in his house.

When he teaches, his voice rises and falls with emotion, and he stares hard to make a point. The idea of social work — or really fighting for social justice — is his real court.

His students are his players; he’s their coach, a Jewish professor from upstate New York, a fan of heavyweight champion Muhammad Ali.

There’s a poster of Ali in Wineburg’s basement, his home office. His grown children, Hannah and Zach, gave it to him as a present for Father’s Day. Beside the menacing photo of Ali is another framed poster. It’s big, hangs over the couch and carries a 10-word slogan that’s indicative of who he is.

“At the table of peace,” the poster reads, “will be bread and justice.”

TODAY, WINEBURG DIRECTS community engagement in UNCG’s School of Health and Human Sciences. It’s a concept he learned long ago in a tough, working-class section of Utica, N.Y., where he worked in a store.

The store’s name: Ruth’s Department Store. It was his family’s store, named after his mother. But many in his neighborhood knew it by another name: Bennie’s.

Bennie was Wineburg’s dad. He always was there.

“Thank you very much for coming in,” Bennie said to anyone who bought anything. “We hope the Bird of Paradise flies into your wallet and gives you a million dollars. And please call at your earliest convenience.”

Wineburg’s dad could look at a ledger and see the faces of his customers. He also could see the need for civil rights. In the era of segregation, Wineburg’s dad became a member of the NAACP and gave blacks store credit to help them get by. He had felt the sting of racism.

The synagogue the Wineburgs attended had been tattooed with Nazi swastikas, and the family’s rabbi took a young Bob outside to feel the swastikas, saying, “I want you to feel hate.”

Wineburg got it. He heard the same thing from his dad.

Bennie wanted his customers, no matter their skin color or sexual orientation, to feel comfortable. And they came for everything — clothing, conversation and a chance to watch on a television a young civil rights leader give a speech about his big dream.

Wineburg absorbed it all from his usual perch in the store — the gumball machine.

“You just stand there and help people,” his dad told him.
In his family, Wineburg was the athlete; his brothers, Sam and Mike, were the scholars. Wineburg would rather hit the baseball and hit a jumper than hit the books. His mom always joked that he had the smartest refrigerator in Utica.

Wineburg parked his books there all the time. He didn’t cotton to academics. At least at first. But in 1968, when his dad died of a heart attack, Wineburg got busy with books.

He had wandered through college, community college and night school before enrolling in Utica College to play baseball. He became a left-handed first baseman – and a good student. He graduated with a degree in English and married Cate Riley, whom he met at age 18.

They moved to Montana and worked as recreation education specialists at an American Indian reservation. They lived in a trailer with no running water and a two-seat outhouse out back. While there, Wineburg found his future through a guy named Dennis when he asked about Dennis’ degree.

“I’m an MSW,” Dennis said.
“What the hell is that?” Wineburg thought.
Wineburg found out — a master’s in social work. Wineburg liked what he heard, and after a year out West, he came back and enrolled in Syracuse University, where he got a master’s degree in social work, with a concentration in communities and organization.

He went on to receive a doctorate in social work at the University of Pittsburgh, and on a cold day in March, when he scanned a bulletin board full of job listings, he grabbed a notecard from a friend’s hand and discovered information on a teaching gig at a university in Greensboro, N.C.

“Let’s go South,” he told Cate. “It’s cold up here.”

IT WAS 1980, their first child, Zach, was three weeks old, and they came to a state Wineburg had never visited. Yet, in North Carolina, Wineburg made his mark.

He worked with local agencies that served the poor, the homeless, the laid off and local AIDS patients, and he taught scores of students.

Like Stacy Galligan.
She came from Cherry Hill, N.J. She was a firecracker, a self-described “piss-and-vinegar” Yankee. Wineburg was her advisor. She took four classes with him in the early 1980s, and once confronted him over taking a test on a book she read.

“I don’t want to take a test where I can spit stuff out,” she told him. “Let’s talk about the book.”
They did. Later, in New York City where she worked as a social worker, her clients included heroin addicts. She always remembered what Wineburg told her: “If you want peace, you work for justice.”

She has a name for that philosophy: the Bob Wineburg way.

After she married and had two kids, she left social work. But she always remembered what Wineburg taught her, and when a retirement account from an old job showed she had $15,000, she set up an endowed scholarship in his name.

“The word ‘teacher’ to me is a precious word, a religious word almost, and when I heard he was battling cancer I thought, ‘God, I don’t want to honor him after he’s dead,’” she says. “There’s very little I’ve done in my life professionally or as a volunteer that wasn’t influenced by Bob.”

In 2005, Stacy Galligan Vogel set up the Bob Wineburg Endowed Scholarship in Community Service – two years after he beat prostate cancer. The scholarship is one of the few set up at UNCG for a faculty member still alive.

And Wineburg is very much alive.

Last year, he published his fourth book. He wrote it with Odell Cleveland, his longtime friend. In 196 pages, Wineburg and Cleveland showed how a Baptist minister from South Carolina and a Jewish professor from New York developed a friendship and built a nonprofit that created jobs for people who need it.

Where did they meet? On the basketball court.

Of course.

“Wineburg is very much Jewish — and proud of it — and having book smarts is a big deal, even something as simple as playing Scrabble,” Cleveland says. “It’s as important as basketball in a black family. But he was the intellectual runt of his family, and he was always competing to show he had the goods. He wanted to be the best.

“And he’s a rascal,” Cleveland continues with a laugh. “He likes coloring outside the lines, pushing the envelope and challenging authority, especially when he’s helping people who can’t help themselves. He wants them to get a hand up, not a handout.”

In their 2011 book, “Pracademics and Community Change,” Wineburg wrote: “I am an old-fashioned liberal who believes that if someone is stuck 20 feet off-shore, government should throw a 13-foot rope and say, ‘Swim — we have to meet you halfway.’”

He and Cleveland wrote the book in Wineburg’s basement, his home office near the framed poster of Muhammad Ali and a black-and-white photo from 1987.

That photo shows a younger Wineburg in round glasses and a brown beard standing in downtown Greensboro. He’s helping protest a Ku Klux Klan march through Greensboro, and he’s helping hold a poster that reads, “Behold How Good And Pleasant It Is To Dwell Together In Unity.”

Up 12 steps, in his den, is another picture. It’s of Wineburg as a baby. His daughter, Hannah, now 25, loves that photo.

“Oh God, I see that photo, and I smile,” she says. “It’s the fire, the passion, the bevy of emotions that radiates from that picture. It’s that incredible spirit at eight or nine months. It’s just as strong at 62.”

Her dad, the man who calls her “B,” short for “Bebop,” doesn’t disagree.

“I look at that picture on the wall,” he says, “and think I always need to have more fun.”
WE ALL HAVE CANCER.

Or, more accurately, we all have cancer cells within our bodies — abnormal cells that coexist with our healthy ones, kept at bay by our immune systems. The problem starts when these cells begin rapidly multiplying, forming tumors that quickly develop their own vascular systems and, if not successfully countered by chemicals, radiation or removed by surgery, eventually kill the host.

No one really knows how that process of metabolism begins. But Dr. Wei Jia, co-director of the UNCG Center for Translational Biomedical Research, is working on it. “Everybody has pre-cancerous cells,” he says. “A healthy immune system is able to destroy these cells so that they cannot duplicate and grow to form a tumor. Somewhere there is a signal out there,
probably environmental or mental, like stress. Those cells will start to multiply.”

The university recruited Jia from his native China based on his work identifying bioactive ingredients from natural foods and plants, and a background in traditional Chinese medicine. Now, with his team at the NC Research Campus in Kannapolis, he’s using metabolomics — the study of metabolism and metabolites — to understand the way cancer works.

“In simple words,” he says, “a biological system is regulated by genes. The study of these genes is genomics. Most of our biological functions are carried out by proteins; proteomics is the study of these proteins. And then downstream is metabolism.”

Metabolism is the means of action: biodegradation of foods and proteins, biosynthesis of new molecules. Metabolites are the product of this action: glucose, uric acid, alcohol. “There are somewhere around 5,000 – 10,000 of these metabolites in our bodies you can potentially detect,” Jia says.

Genetics factor into the cancer equation. If a parent or sibling has had cancer, then your likelihood of developing the same type of cancer is increased. But genetics, he says, is just a small part of the story.

“Genetics only tells a possibility,” Jia says. “We do see genetic defects (in subjects), but that person may never develop cancer. We figure, whatever your situation, genetic or environmental — you drink too much or you keep eating...
something toxic — this is going to have an impact on your metabolism and the regulating genes. And we do see unique metabolic defects that are induced by environmental toxins and trigger the transformation from normal cells to cancer cells. In other words, cancer can be regarded as a metabolic disease.”

A NEW APPROACH

Doctors treat cancer today in much the same way they have for the last 50 years.

“Doctors rely heavily on machines,” Jia says. “Computed tomography (CT), magnetic resonance imaging (MRI), X-rays. It’s more visual. The drawback is, when you can see the tumor, it’s already there, sometimes in the late stages. It takes steps to develop cancer — it doesn’t happen overnight. That’s why patients usually have a very poor prognostic outcome. We shift our focus from late-stage treatment to early-stage, diagnostic treatment. If we catch it early, we can increase the survival rate and quality of life.”

Jia and his team currently focus on breast cancer and colorectal cancer, dabbling a bit in leukemia and oral cancers. They obtain samples — blood, urine and tissue — from patients at the City of Hope Cancer Center in Los Angeles, the MD Anderson Cancer Center and several major hospitals in Shanghai, China. Using mass spectrometry and chromatography to break the samples into particles, they can identify hundreds of metabolites from a single drop of blood. Biomarkers show where metabolism differs in cancer patients.

“We basically compare the metabolites of a healthy subject and a cancer subject and identify the weird ones,” Jia says. It’s a different approach. Jia calls it “top down.”

“In the medical field, when they work on cancer, they start with the cells of animals,” he says. “But most of the time the results do not translate to humans. That may be an important reason why in the last 50 years we haven’t made any major breakthrough. We’ve been doing it from the bottom up.

“We start with the human first, from the top down,” he continues. “To study a human disease, you have to start with the human body. In traditional Chinese medicine, there’s never a lab animal. You never hear of a traditional Chinese doctor with 200 mice.”

DR. JIA

Jia has no special affinity for cancer research. He’s never lost a loved one to the disease and never thought about it more than anyone else until his research led him to believe he might be able to help create a better understanding of it.

China, he says, never had much of a cancer problem until recent decades, something he attributes to dietary, lifestyle and environmental changes.

“It’s the only way to explain it,” he says. “Prostate cancer was almost zero. The Chinese used to eat a lot of soybeans, which suppressed prostate cancer.”

But the Westernization of the Chinese diet and lifestyle, as well as deteriorating environmental conditions, he says, have caused many cancer rates to “skyrocket.”

Jia came to the States in the late 1980s to get his master’s and doctoral degrees from the University of Missouri. He returned to China for 10 years and moved to North Carolina in 2008.

On a recent trip to his home city of Shanghai, he was struck not just by the differences between his home city, the largest in the world with 23 million people, and Kannapolis, where he now resides with about 42,000 others, but also the increasing ubiquity of the Western diet.

At a spring festival several years ago, he saw a queue nearly half a mile long outside an American fast-food restaurant.

“I was so impressed,” he says. “Confused as well. There are long lines for Pizza Hut and KFC. You never see those long lines in front of a traditional Chinese restaurant.”

THE CURE

Cancer affects this country like a plague. Last year, almost 1.6 million Americans were diagnosed with some form of the disease.
It claimed more than half a million American lives in 2011.

Jia and his team are not looking for a cure.

“Not yet,” he says.
They are trying to understand cancer metabolism and what causes cancer to grow.

“We are looking for metabolic defects,” he says. “The next step is to evaluate dietary influences, the effects of nutraceuticals and pharmaceuticals to correct these defects.”

He’s already identified several important biomarkers for colorectal cancer patients and filed patents for his — and, ultimately, the university’s — discoveries. Breast cancer, which claimed 40,000 lives in the US last year, is in his sights.

“When we build a platform of technology, you always want to have an application. My goal is to make something usable in a clinic. I think I’m pretty close.”

**Above**, Wei Jia looks over student’s research. Jia is comparing the metabolites of healthy subjects against the ones with cancer. Such an approach — starting with humans — is different from what many researchers have done over the last 50 years.

**Below**, is an example of some of Jia’s work on detecting colorectal cancer through a urine test. His research has found a panel of metabolite markers that make it possible to discriminate between those with colorectal cancer and those without.

**Distinct urinary metabolic profile of human colorectal cancer**

The scores plot of the OPLS-DA prediction model of colorectal cancer (CRC). An OPLS-DA model was constructed using data from 62 healthy controls (blue dots) and 61 CRC patients (red diamonds) (the “training set”); this model was then used to predict CRC of a further 81 samples including 41 healthy controls (black triangles) and 40 CRC patients (green boxes) that were not used in the construction of the model (the “testing set”).

**Urinary metabolomic study of CRC patients**

(n=101, Healthy control subjects n=103)
Technology is a means to an end. You don’t need to know everything. Just be aware and competent.” Dr. Anthony Chow

Many libraries share the fear of being “left behind” in the age of technology. But technology information empowers, educates and brings knowledge, Chow says. And it’s not important to understand every facet. “Technology is a means to an end. You don’t need to know everything. Just be aware and competent.”

Although much research was done in North Carolina libraries, Chow and Bucknall hope libraries everywhere will see the value of first understanding the needs of their communities and then leveraging technology accordingly to meet those needs in a more effective and efficient fashion. By transitioning to current technology some library functions could be automated, allowing employees to spend time concentrating on understanding and providing high quality user services. Ultimately, patrons would be served and gain information faster and easier.

Many have been responsive to the suggestions and changes offered, although funding is an issue for many libraries aspiring to make the transition. Chow has been asked to assist Orange County with its library strategic planning efforts.

Both Chow and Bucknall believe that the need for information will not fade but rather only increase over time as technology continues to proliferate and become more accessible to more people. As professors, they stress the importance of finding quality knowledge and information at the library versus the limitations of a Google search, which has access only to “free” information and not most journals that require expensive subscriptions or books that are expensive.

“Strong libraries make us empowered,” Chow says.
Jennifer Meanley, assistant professor of art, had a solo exhibition of her work at Beaux-arts des Americanique in Montreal in 2011, including this piece, “Blue Speakeasy.” In her artist statement, she says: “My work depicts spaces and moments of reflection. The most recent collages and prints are striated by light and color which function rhythmically and luminously. ...These pieces are equally about memory and about the ways in which its residues potentially accumulate and entwine. Here, memory is imagined as a space of dense growth. Birds sing silently, but with familiar voices. Color might register as a known variable, depicting the smell of the soil in the spring or in the fall. The figures, often pieced together from fragments of a single origin, suggest a span of growth and of time.”
DR. ASHLEY BARRET KNOWS A THING OR TWO ABOUT PATIENCE.

More than three years ago, she struck upon the idea of creating a CD of oboe music written by women. The professor of oboe then spent a year and a half collecting scores, listening to MP3 recordings and talking to composers.

She found that talking to one generally led her to another and another, and so on.

“It was nice being able to talk to the composers,” she said. Most of the work she has performed in the past has been from individuals long gone.

One of her goals with the CD, called “Falling Still,” was to record works that had not been recorded or had only been recorded once before.

“These composers were so excited,” she said. “They would bend over backward to help.”

After the work of researching the pieces was complete, it took another six to eight months to line up the performers, all of whom are UNCG faculty members - Barret on oboe, Inara Zandmane on piano, Michael Burns on bassoon, Marjorie Bagley on violin, Alexander Ezerman on cello and Scott Rawls on viola.

Then the recording began Jan. 5 in the Music Building Recital Hall. She was grateful for the donation of recording space. Also for Kelly Burke, the producer, and Dennis Hopson, who did the recording and editing.

She is already at work on a second CD of more oboe works by women composers. But she’s still happy with the tracks on “Falling Still.” “I didn’t get tired of any of them.”

A history of plays

Historical Dictionary of Contemporary American Theater, 1930-2010
Jim Fisher
Scarecrow Press (1,002 pp.)

The “Historical Dictionary of Contemporary American Theater, 1930-2010” spans two volumes and 1,002 pages. For its author, Jim Fisher, putting together this enormous “monster” of theater knowledge has been a labor of love.

Fisher’s new theatrical reference, published by Scarecrow Press, includes about 1,700 separate entries on everything from plays and playwrights to Broadway producers and directors to critics and theatrical agents. The hardest part of writing the book, he says, was deciding what to include: What contemporary playwrights would have impact and staying power? Which plays were too obscure?


“I was working on the two dictionaries simultaneously, and once the other one was done I sort of dove into working on this one,” says Fisher, head of the Department of Theatre. “I just loved the excuse the book provided me to immerse myself in American plays and theater history. We have an amazing cultural heritage in American theater that I don’t think most people fully appreciate, and it’s a much more diverse story than one might imagine.”

After American drama’s “Golden Age” of the 1920s and ’30s, Broadway began to open its doors to writers, actors and directors who “had been, if not locked out, on the periphery,” Fisher says. These new voices included African Americans, fueled by the Harlem Renaissance, artists from Yiddish theater, women, gays and lesbians.

Experimental productions like Tennessee Williams’ modern classic “The Glass Menagerie” came to the forefront because producers could afford to take risks, Fisher says. As production costs skyrocketed, fringe venues like Off-Broadway and Off-Off-Broadway emerged, as did regional theaters.

As he worked toward the contemporary era, Fisher’s job became more difficult. “You’re trying to make a call based on success today and who will have a lasting impact,” he says. “I was constantly asking myself, ‘What works are most representative?’ Finally, you are left with your own judgment, trying to get a handle on what matters.”

Who are some of the contemporary playwrights Fisher chose to include? Tony Kushner, best known for his epic “Angels in America,” Paula Vogel (“How I Learned to Drive”), Sarah Ruhl (“The Clean House”) and Tracy Letts (“August: Osage County”) are among those who made the cut.

“You don’t see artists today staying in one box,” Fisher says. “They are acting, directing and writing plays. Today, playwrights are willing to do more than one thing.”
This kind of performance art, with its old-fashioned typewriters and face-to-face conversation, is really antithetical to the world of technology.”

Sheryl Oring
Thanks to Dr. Christopher Hodgkins’ efforts, UNCG is now a member of the prestigious Folger Institute Consortium, which sponsors advanced study and research in the humanities. Here, Hodgkins is pictured with rare volumes found in UNCG’s University Libraries. Read more about Hodgkins’ research on page 9.