SIGHT, SOUND AND SYNAPSES

Conducting research on the minds of musicians

page 8
The world is facing a change in its economy as portrayed as the Industrial Revolution in the 18th century. Prior to the Industrial Revolution, the economy was based on manual labor. Following the Industrial Revolution, the economy was dominated by industry and the manufacture of machinery. We are now rapidly moving from a manufacturing-based to a knowledge-based economy. No longer are we in competition with individuals in our community, our state or even our country. The competition for economic well-being is global.

To quote Dr. Charles Moesner, director of the Program on Technology, Innovation and Entrepreneurship for the U.S. National Academies, “Innovation is essential for competitiveness.” Universities, home to innovations, are seen as critical to this change. By some they are viewed as the economic engine driving the change. By others they are viewed as the catalyst. By all they are viewed as essential.

North Carolina has been the necessity of engaging more fully with the universities as it moves from an economy based on manufacturing and agriculture to one that has greater reliance on technology. In his inaugural address in March 2006, President Erskine Bowles presented a challenge to the entire 16-campus UNC system and, in so doing, made a promise to the people of North Carolina: “in partnership with business, government and the other sectors of education, this University must continue to seek out ways to help every region of North Carolina foster and stimulate economic development.”

For the first time, the UNC Board of Governors has included “regional and statewide economic development” as one of its seven “strategic priorities.” They want to define economic development as “those activities occurring at the intersection of the public and private sectors designed to increase the long-term economic well-being and quality of life of its citizens. Workforce development, leadership development, public policy analysis, capacity building, the creation of intellectual capital and technology transfer are all relevant components. It is important to note that this definition implies a focus on long-term capacity building rather than short-term growth.”

UNC-G, a regional urban campus, has a long and robust history of engaging with the surrounding community in ways that improve economic well-being and quality of life. This role has become even more important as the Triad seeks to redefine its economic core and overcome the loss of 40,000 jobs in the last five years. This issue of UNCG Research captures some of the activities that illustrate this role.

Rosemary C. Wander, PhD
Associate Provost for Research and Public/Private Sector Partnerships

For more information about research at UNCG and the Office of Research and Public/Private Sector Partnerships, go to www.uncg.edu/research.
All these occupations are disappearing. Work is so central to identity. This is the last great generation of fishermen, the last who are able to do it in an artisanal way." Matt Barr

In 1999, Snooks Ferry was a sleepy fishing town. For generations, fathers taught sons the craft of the catch and a love of the sea. By 2004, when Matt Barr in the Department of Broadcasting and Cinema completed "Wild Caught," his documentary on the fishing way of life, much had changed. Tourism was taking a foothold, imported seafood was hurting sales, and government regulations were making it difficult to eke out a living on the water.

"I couldn't do the same film now," Barr says. "When I started in 1999, I had the idea of looking at one fishing community — its powerful sense of spirituality and palpable sense of community in 1999, I had the idea of looking at one fishing community — its powerful sense of spirituality and palpable sense of community and how this whole thing works together."

He began by simply spending a year in the town, gaining the fishermen's trust. Then he began thinking what he sensed, even then, was a disappearing way of life. As time went by Snooks Ferry began experiencing an incredible amount of growth. People who hadn't spent generations on the water were coming in and changing the town's identity. Government restrictions on what fishermen could and couldn't catch, coupled with competition from imported seafood, were making it hard for even the most seasoned fishermen to continue. Barr’s film shows a spotlight on the issues and will continue to be seen in the state and across the nation. It has been accepted at the Riverfilm Film Festival in Winston-Salem and the Delray Beach Film Festival, and has been shown in New Orleans at the International Workboat Expo and the Core Sound Waterfowl Museum, among other venues.

"The film has taken on a whole new life beyond the documentary," he says. "The film has become part of the advocacy for the fishing community. It’s changed how fishermen feel about themselves and their work."

He has also continued to film as fishermen battle against zoning laws and fight back in other ways.

The film is the cornerstone for the Unheard Voices Project, a nonprofit organization devoted to recording the stories of working class people whose livelihoods are threatened by globalization and other change.

Barr has received funding from North Carolina Sea Grant to have the film interviews transcribed and given to the library at NC State. A companion book is in the works. Barr anticipates it will be an illustrated oral history that will allow him to develop the themes of change more thoroughly than the film will allow.

"The research continues," he says. Turning the tide

Dr. Susan Andreatta, a professor of anthropology, and her undergraduate research assistant Anne Parlier didn’t know much about fish. They learned quickly, however, when they were asked to improve the plight of North Carolina’s fishermen by developing a marketing campaign to promote local seafood.

Parlier says it up succinctly: "It’s not about fish. It’s about people," she says. Their project, called "Harnessing Consumer Preferences to Create New Markets for N.C. Seafood," was funded for the first year with $21,000 from North Carolina Sea Grant. They have applied for a second sea grant to further their work.

Marine experts contacted Andreatta, who had worked with small farmers for 10 years, asking her to translate her skills to the seafood industry. Shrimpers in particular have been hurt by state and federal laws — for example, laws against killing shrimp predators like turtles and sharks — as well as stringent regulations and cheaper seafood being imported from Asia. The market for North Carolina-harvested shrimp plummeted from $110 million in 1995 to $64 million in 2005.

"At the end of the day we’re losing the fishermen," says Andreatta, whose efforts are primarily based in Carteret County and who get to know many of the fishermen through her research. These fishermen were carrying on a 300-year tradition. "Now, she says, "they use the expression, some of them are going to get ‘land jobs.’"

"It’s about people figuring out a creative way of bringing the consumer to the fishermen," Andreatta says. "Know your fishermen; put a face on it."

For More Than 30 Years, philosophy professor Dr. Terry McConnell has been examining life and death issues in medical ethics, and he’s lately found that literature and film have offered some new areas of research and new ways to engage his philosophy students.

"What I wanted to do was find pieces of literature with relevance for medical ethics," says McConnell. "I really didn’t have the idea of doing research, but the more I read, I found it would be a good way to look at contemporary issues."

The oldest of his teaching texts is George Bernard Shaw’s 100-year-old play "The Doctor’s Dilemma," in which a physician has developed a cure for tuberculosis. He has a limited supply of the vaccine and must decide not only which of the sufferers should be cured, but what factors should be considered in making a decision. Two 21st-century works are:

• The movie "Wit" (HBO, 2001), in which an English professor is diagnosed with terminal ovarian cancer. She is enrolled in a treatment protocol, but her condition worsens. The action pivots on the conflicting roles of doctors who are both practitioners and researchers, and how should they balance their obligation to act in the patient’s best interest and yet continue to gather data that could help future patients.

• Jodi Picoult’s novel "My Sister’s Keeper" (2004), focusing on a family in which the parents have "created" a second daughter to be a donor for her older sister who has leukemia. The conflict comes to a head when the younger daughter, at age 13, is expected to be a kidney donor. She rebels and seeks medical emancipation. The essential question is whether it is ethical or moral to create children to be donors for their siblings.

"Some of these questions would appear to be no-win situations, but they are the kinds of medical ethics questions that doctors and health workers face regularly," says McConnell. "Authors of novels and plays have a different insight on these kinds of things than philosophers or scientists. My thought was, ‘How can we mine these for insight?’ It’s a very good teaching vehicle; people get the conflict immediately."

McConnell has seen a change in attitudes. When he started teaching medical ethics 30 years ago, the celebrated Karen Quinlan case was 18 months old. Her family was attempting to remove life support for Quinlan, who had been in a persistent vegetative state for some time — and her physicians and the hospital would not allow it. Today, it is often the case that physicians tending to a patient in a persistent vegetative state will advise the family that nothing can be done, and families will retain life support even when there is no hope. The term “medical futility” — or keeping the body alive when no benefits are produced, has become widely used to describe such situations.

McConnell’s writings on life-and-death in literature have been published in his book, “Indelible Rights,” and the Journal of Medical Ethics as well as forthcoming anthologies, “Bioethics Through Film.”
Can you hear me now?

With cell phone service providers competing vigorously for customers, and municipalities and homeland security agencies seeking to understand what was underlying their concerns, found that many factors — identification of affected women and development of the theory — are addressed in this study.

The stories these women tell are very powerful,” he says. “I would like to use this as one more program that is established in their personal lives.

Carlone later decided to put her definition of science identity to the test. She teamed up with a colleague who had experience in fields such as medicine and sports.

The researchers divided the women into three categories — traditional, altruistic and thwarted scientists. The results surprised her.

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Change of heart

Research Excellence Award winner and critical care nurse Dr. Patricia B. Crane has spent nearly 30 years working with heart attack patients. Her research focuses on cardiovascular disease in older adults, primarily women. She joined the faculty in 2001 and is an associate professor in the School of Nursing.

A POPULATION AT RISK: I am really passionate about heart disease in older adults. This is a population that has really been understood and underrepresented, especially in drug development. And yet, they are the greatest consumers of our drugs and the greatest consumers of our health-care system. I think it’s very important to give them a voice.

PREVENTING ANOTHER HEART ATTACK: I was interested in why adults 65 and older tended not to go to cardiac rehabilitation after they had a heart attack. In fact, only 20 percent of them did. Of that 20 percent, even fewer women go; and if the women do go, they don’t stay the full time. I wondered how these older women knew how to take care of themselves to prevent another heart attack. They may not have had time to understand education about cardiac care because the length of stay in the hospital after an MI — or myocardial infarction, which is the official medical term for a heart attack — has gone from 10 to 14 days in the late 1980s, to between three and six days today.

FATIGUE AND BETA-BLOCKERS: One unexpected finding of that study was that all of the women but one talked about being tired, exhausted or fatigued. I thought maybe this fatigue was preventing them from engaging in healthy behaviors. So I designed another study to explore their fatigue, examining 64 women who were six to 12 months post-MI, to determine factors that might contribute to fatigue and how this fatigue might contribute to their participation in physical activity. I found that most women are fatigued six to 12 months post-MI. Depression and a lack of sleep contributed to that fatigue, but fatigue did not contribute to a decrease in physical activity. An interesting finding from that study related to beta-blockers, which are a type of medication given to protect heart attack survivors that decrease the workload of the heart. I hypothesized that beta-blockers were causing the fatigue because they lower your blood pressure. In fact, I found that the 64 women in the study who took beta-blockers were less fatigued than the women who didn’t.

ADDING NEW VARIABLES: From there, I designed another study, which I am currently conducting. It involves women, but I included older men since my hypothesis was that older women do poorer than older men. I also included physiological measures, such as their hemoglobin. I’m looking at a relatively novel biomarker, called a B-Type Natriuretic Peptide, to see if the heart is pumping effectively. I’m also looking at an inflammatory marker. The preliminary results indicate that the inflammatory marker is more intriguing than the other physiological markers.

TWO STUDIES OF AFRICAN-AMERICAN WOMEN: I have another trajectory that looks specifically at African-American women. We studied community-dwelling African-American women and their cardiovascular risk and physical activity, which we measured with pedometers. In a second study, I conducted a small, randomized clinical trial to see if an intervention would affect physical activity. All the women were randomized to either a pedometer-only group or a pedometer with a tape recorder that they could use to describe their physical activity. I thought if they had someone they were accountable to — kind of like Weight Watchers — they would have more incentive to be physically active. And the result from that study said no, they didn’t.

A HOLISTIC APPROACH: The nice thing about nursing research that I value is that it looks at people holistically — not just biologically, physiologically, psychologically or sociologically. Nursing research puts all of these together and gives a voice to elderly people that other disciplines are not doing in the same way. It’s making a significant contribution to making people’s lives better.

The cannabinoid code

Research Excellence Award winner Dr. Patricia H. Reggio is a computational chemist who researches compounds found in marijuana called cannabinoids. Specifically, she builds computer models to understand the action of the cannabinoids at a molecular level. By explaining how cannabinoids affect the immune system and appetite, Dr. Reggio’s research helps pharmaceutical companies develop medicinal and therapeutic uses of specific compounds contained in marijuana that bypass the psychoactivity or other adverse effects. For 25 years, her research has been supported by the National Institutes of Health. Reggio joined the faculty in 2004 and is in the Marie Foucher Rose Professor in the Department of Chemistry and Biochemistry. She has served as the department’s head since August 2006.

HOW CANNABINOIDS AFFECT THE BRAIN: I’ve been involved in a project for about 25 years now that has to do with the cannabinoids. Scientists have learned that a receptor for these substances exists in the brain. It’s called the cannabinoid CB1 receptor because the first compounds known to bind to it were from Cannabis sativa (marijuana). The cannabinoid receptor system has now been shown to be another heart attack system in the brain. One of the clinical applications involves compounds that act as inverse agonists at CB1.

MANAGING THE MUNCHIES: If you listen to anecdotal evidence, pot smokers will tell you marijuana gives them the “munchies.” In fact, cannabinoid agonists (compounds that turn the CB1 receptor on) are now used as appetite stimulants for wasting syndrome in AIDS patients. Well, cannabinoid inverse agonists (compounds that turn the CB1 receptor off) have been shown to have the opposite effect on appetite. They have been called “anti-munchie” drugs. One of the projects we have worked on is trying to find out exactly how CB1 inverse agonist works.

MEDICAL AND COMMERCIAL IMPLICATIONS: Nearly every major drug company in the world has had CB1 inverse agonist projects going on for the past five years due to these drugs’ potential as appetite suppressants. I have actually licensed one of my computer models — because what I do is computer modeling — to a major drug company to improve their lead cannabinoid inverse agonist quickly to shorten the time necessary to get their compounds into clinical trials.

THE DANGERS OF SMOKING: When you hear in the news about people wanting to smoke marijuana for medical reasons, such as to reduce their intraocular pressure in glaucoma or to alleviate nausea after chemotherapy or to use marijuana as an appetite stimulant — marijuana does really do all these things. The problem is that marijuana also produces psychoactivity and therein lies its abuse potential. Unfortunately, we see if they are unable to control their use. The brain, and those effects are all produced by turning the receptor on, it’s nearly impossible to create a drug that will still have these beneficial effects and avoid the psychoactivity.

CHEMISTRY AND COMPUTERS: As computational chemists, we construct computer models of the cannabinoid CB1 receptor. We can look at how drugs bind to it, and what you would have to do to change the drug to help it bind better. We are also interested in how things work. What is the sequence of steps to turn the receptor on or turn the receptor off? We design compounds to test ideas, and the compounds are actually made and evaluated experimentally so we know whether we are right or if we need to make further changes. We also have collaborations with molecular biologists to test ideas we have concerning the specific binding regions of cannabinoids at CB1. We’ve used experimental collaborations with computer modeling to come up with a really refined model of what this receptor must look like in the brain.

RESEARCHING THE CB2 RECEPTOR: We have also started working on the second cannabinoid receptor, CB2, which is found primarily in the immune system. There are lots of compounds now that are very selective for the immune system CB2 receptor that don’t bind to the brain CB1 receptor. This selectivity allows one to bypass the psychoactive side effects produced by CB1 and at what kind of therapeutic potential there is for something that binds to the second receptor and not the first one.
Music shapes the brain. Want proof? 
See how conductors’ brains differ from the rest of us.

SIGHT, SOUND AND SYNAPSES 

The trio started with a group of 40 people — 20 conductors and 20 people without musical training. The average age was 34 and 33, respectively, and both groups were matched for other demographics such as gender and years of experience. 

“We started with behavioral studies, so we could tease it apart,” Hodges says. “First we gather data outside the lab, then we look to see what’s going on in the brain that leads to that behavior.” 

The first study asked participants to listen to two pitches and indicate which was higher or lower. As the respondents got them right, the pitches moved closer together until the respondents were much closer together. 

To test visual perception, researchers showed participants two circles in sequence and asked which appeared first. With this study, both the conductors and the control group performed the same. 

Then came the tricky part — adding sound to sight. The subjects were shown the same circles and heard beeps. The beeps sounded either simultaneously with the appearance of a circle or were delayed. Normally, everyone is more accurate at reporting which circle appears first when the sounds follow the appearance of the circle. However, the conductors responded even faster than their control counterparts. In other words, they got even more of a benefit from using multiple senses than the control group. 

In another test, subjects sat in a black room surrounded by small red lights, not unlike Christmas tree lights. As they saw a light come on, they pointed a joystick toward the light and pulled a trigger, shooting a laser beam toward the perceived target. This was also done with sounds from several small speakers. When the sounds were added to the lights at the same time, the conductors — once again — were able to combine the visual and auditory cues much more efficiently than the control group. 

So why are conductors able to integrate their senses better than untrained musicians? Are they 

...
white shirt, Black tails, unCG research spring 2007

members of the great ape family that at the School of Music, is addressing scientist at the Music Research Institute That’s the question Dr. Patricia gray, humans first learned to communicate? Can jamming on electronic keyboards sense at a time. Dr. Rebecca MacLeod show their brain to focus on one processing both sight and brain. Scans of untrained conductors’ brains, like the School of Music’s Dr. Rebecca MacLeod show blood flow in both the visual and auditory parts of the brain. Scans of untrained musicians, however, show blood flow only in one area. The control group tended to "turn off" the other parts of their brain to focus on one sense at a time.

The control group tended to...
The image of a professor sequestered away with leatherbound books and like-minded students is a myth. The simple truth is universities are engaging with corporate, civic and arts communities like never before.

Some long for a discrete split between the “real” world and the academic world. But was that ever the case? One thinks of Galileo at the University of Padua pondering pure science but also creating practical advances to the telescope and microscope. Newton at Cambridge advancing not only the fields of optics and mathematics, but also helping safeguard England’s economy by finding ways to restrict counterfeiting. Pasteur at the universities of Strasbourg and Lille pondering germ theory but also introducing pasteurization, helping to save his nation’s beverage industries.

Professors have always provided innovations and essential research needed for new products and for enhancing old ones. Corporate and civic leaders have long had a place on university boards of trustees or visitors at universities. But something has changed in the past decade. The world has become keenly competitive. The oceans have shrunk. Borders mean little. And from the new rising powers in Asia to the Old North State, the role of public universities is being envisioned in a whole new way.

“If we don’t wake up … our state and our nation are going to be a second-rate power before we know it.”

Erskine Bowles, president of North Carolina’s 16-campus university system, stands before the annual dinner of the Greensboro Partnership and lays out the facts. The audience of area business and civic leaders listens intently.

Will our schools produce workers that have the skills and abilities to meet the challenges of the 21st century?

The UNCG system president speaks of foreign competition and of the changes in technologies. “It’s a crisis, and we’d better start treating it like one.”

He speaks of competing in a knowledge-based global economy. Those satisfied with the status quo are living in a fool’s paradise. “Those people better wake up. The next new thing … it’ll be created in India or China.”

There are low graduation rates for our overall citizenry in North Carolina — something that must be improved. “That was fine in our day [with plenty of textile mills] — but you know what? Those jobs are gone. They are never, ever coming back.”

Bowles has the audience’s attention. He speaks of accountability and efficiency measures. And he speaks of his relationship with UNCG Chancellor Patricia A. Sullivan. “Pat and I, we get it. We are at a dead run. We will produce the types of graduates you need.” The audience of corporate and civic leaders applauds enthusiastically, but Bowles waves it off. “We don’t deserve applause. It’s what we’re paid to do.”
The economic engine that could need help. UNC’s programs such as the Center for New North Thrive. Social capital translates into real capital. It creates a critical mass for the “creative class,” which helps a city on campus at UNC or has been generated in part by the university. Of the weekly arts papers — much of what’s happening in the city is ing a critical mass of talent, knowledge and ambition. look in one help draw in young professionals, all part of the synergy in creat- theatre and filmmaking that help quicken the pulse of our city. That every night of the week. That provides other arts such as dance and that has live music at the School of Music and around the city almost one on campus to hear. “We’re already engaged, but we’re going to become more strategic and do more relative to community engagement,” he says. “We’re building on the base we already have. The world is changing. We’d do better to embrace change and shape it rather than react to it.”

His other message is equally clear. “This is a quality of life issue. Everyone should see themselves as part of this. You can’t look at eco- nomic development with one set of lenses. It’s multi-dimensional.”

That means there’s more than just dollars and cents to consider. There is social capital — making the region the place you want to live, to bring in a 20-something, to raise a family, to retire. One that has live music at the School of Music and around the city almost every night of the week. That provides other arts such as dance and theatre and filmmaking that help quicken the pulse of our city. That helps draw in young professionals, all part of the synergy in creat- ing a critical mass of talent, knowledge and ambition. Look in one of the weekly arts papers — much of what’s happening in the city is on campus at UNC or has been generated in part by the university. It creates a critical mass for the “creative class,” which helps a city thrive. Social capital translates into real capital. There’s also the value in helping provide for those who need help. UNC’s programs such as the Center for New North Carolinians, Leadership & Service-Learning and the Center for Youth, Family and Community Partnerships provide for a livable area for people of all economic strata. That strengthens the fabric of our com- munity. Less crime. Better schools. More opportunities. Developing lives and communities and human potential has very tangible benefit for the economic success of our region.

Then there’s applied research like that done by Keith Debbage, who helps the city with planning land use and development. UNC’s impact on Greensboro and the surrounding region is far-reaching, but it can be so much more. Campus leaders have embraced this new way of looking at UNC’s role, being one of the first of the 16 UNC campuses to pull together its Economic Development Council and start putting plans in place to deepen that impact.

“The Council has identified several strategic initiatives and will be developing efforts to implement them with input from an advisory board composed of both campus and community folks. It’s an exciting initiative,” says Dr. Rosemary Wander, who is spearheading the Council’s efforts to push economic development forward. She is associate provost for research and public/private sector partnerships. As her title suggests, UNC views the university’s role as a win-win partner- ship. Additionally, outside agencies like the Greensboro Partnership have tapped into the idea and have laid out plans to use the expertise of the local colleges and universities.

As Uprichard says, universities are among the few institutions involved in the four areas that are most important to a community — education, culture, economy and health.

21st Century Education
It almost goes without saying that one of UNC’s greatest contribu- tions to the community is its graduates. That these graduates are the university’s top priority is also understood.

The second annual N.C. Nanotech Conference in March brought nanotechnology experts, investors and executives to Guilford County. The two-day event was hosted by the Piedmont Triad Entrepreneurial Network, led by UNC alumni Jon Obermeyer (left). UNC-Associate Provost for Research and Public/ Private Sector Partnerships Dr. Rosemary Wander was a featured panelist.

Scott Richardson (below right) is one of many UNC liberal arts grads leveraging their education to make a real impact on our community. After earning his BFA in theatre design and technical direction, he headed to New York City and high-profile architectural projects, then returned to Greensboro to start his own lighting design business, Light Defines Form. His projects have includ- ed the new School of Education building at NC A&T, the Thompson Theatre renovation in Raleigh, the International Civil Rights Museum and the Wachovia Securities flagship office in Charlotte.
What may be different is their level of preparation. In an increas-ingly global economy, college graduates need to have creative think-ing tools, technical acumen, business expertise and the ability to communicate well. Much of that is achieved by moving outside of traditional boundaries. Today’s students work well in interdisciplinary environments and, frankly, that’s what we need.

Those needs are shaping the curriculum as well. Look at generic counseling, gerontology and entrepreneurship. Each is designed to meet the needs of the 21st century and each pulls a little from several different disciplines.

Consider the biotech option in biology, the management program in the Bryan School and the Lloyd International Honors College. Each is a response to the type of community we’re building. They’re in addition to the hands-on learning that occurs with undergraduate research and service-learning classes.

UNC-G’s graduates are prepared. And the university continues to foresee the developing needs of our region so that they will be met.

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LIBERAL ARTS PROGRAMS — PRODUCING RESULTS THAT ARE LUCRATIVE?

Step over to the offices of the nearly 40-year old literary magazine, The Greensboro Review: Jim Clark, head of the MFA program in creative writing, has his own views of economic development and success stories.

“When I told my faculty I was going to an entrepreneurship meeting, they thought I was nuts.” He notes that “entrepreneurship, it fits in with writing. The creative process — it’s a way of making things happen.”

He’s quick to point out that a lot of his graduates make a differ -ence in our area.

He’s eager to drop a few names. Charles Wyrick opened his own publishing house. Quinn Dalton joined “The King’s English,” an advertising and publication firm, after graduating from the MFA program, rising to public relations director before publishing her first novel. Brandon Rauch moved from being the managing editor of The Greensboro Review to Key Chemical’s corporate communications specialist. Mark Caskie, a leader and editor at Pace Communications, was once poetry editor at The Greensboro Review.

And then there’s Jon Obermeyer. The MFA program drew him to Greensboro, where he became the poetry editor of The Greensboro Review. From there he went into banking and business and now, as the president of the Piedmont Triad Entrepreneurial Network, is one of the leading figures in area economic development and assisting start-up ventures. Our region landing the RF Micro wafer fabrication facility in the 90s? The Business Journal is among those who gave a lot of credit to Obermeyer.

AN INNOVATION. NEW TECHNOLOGY. A SEEMINGLY SMALL IDEA THAT CAN MAKE A BIG DIFFERENCE.

“It doesn’t have to come from a test tube!” That’s one of the mantras of Jerry McGuire, director of UNCG’s Office of Technology Transfer. Tech transfer is another part of what the university is trying to achieve: harnessing the ideas that are already being generated, and trying to ensure that, instead of being left in folders and forgotten, they are brought to the fore. As he says, it doesn’t have to be a cure for cancer — new technology for managing auras or new ways to teach can prove quite valuable economically. His office is looking for innovation.

“We’re getting that from all parts of the university — staff, stu-dents and professors.”

Innovative ideas, submitted as “disclosures,” are flowing in. “Our disclosure rates are now above the national average. We’ve exceeded our projections by 10-20 percent. We were at 23 last year. We’re pro-jecting 28 this year.”

Each submission is scrutinized. For an idea to move forward, it must meet three benchmarks. It must be a protectable, marketable idea. Venture capital must be forthcoming to back it. Management must be secured to get it up and running.

The university has seen success: Live Cargo, a company offering web-based storage capabilities globally, leverages the licensed encryption algorithm created by Dr. Shan Sutharharan in the Department of Computer Science. Prevention Strategies, co-owned by Dr. David Wyrick in Exercise and Sport Science, results from Wyrick’s research on alcohol abuse prevention. Two spinoff companies have emerged from work at the School of Education: Learning Together, which fosters school kids’ achievement through tutoring and mentoring programs, is located in the heart of Greensboro’s business district. Partnership for Dynamic Learning is located in the Nussbaum Center. This start-up business licensed pedagogy from the university devoted to the focal point of each high school senior’s year — the senior project.

Additionally at the Nussbaum Center, the Tech Transfer office has partnered with North Carolina A&T’s Office of Technology Transfer to create a technology transfer service for the people of North Carolina: Technology Outreach at Nussbaum. Any individual who has an invention or marketable idea can receive guidance toward licensing the innovation. McGuire says there has been little need to advertise — a lot of people are bringing in disclosures.

On campus at UNCG, the tech transfer initiative does not call on professors to do anything differently, really, just think a bit differently — about how their ideas and innovations can be used for the greater good, McGuire says.

Professors come into the academic world to teach and do research, not necessarily to be a part of pushing innovations in the marketplace, he says. And they don’t have to. His office can take care of that, free-ing professors to continue with their primary responsibilities.

A STUDY IN ENTREPRENEURSHIP: A PROFESSOR AT THE FORE

Helping people. Building a company. Taking ideas and research and grant funding and propelling it all forward into products that you...

The economic engine that could...
The economic engine that could

The Office of Technology Transfer has proven pivotal in assisting Wyrick. “UNC-G helped me spin out a company, through Jerry McGuire’s office, called Prevention Strategies,” he says. “If we’re successful, sure, someday we could have 30-40 employees. “Uncg helped me spin out a company, through Jerry McGuire’s office, called Prevention Strategies,” he says. “If we’re successful, sure, someday we could have 30-40 employees. "Uncg helped me spin out a company, through Jerry McGuire’s office, called Prevention Strategies," he says. "If we’re successful, sure, someday we could have 30-40 employees."

Tom May, assistant to the dean for economic development initiatives at the Bryan School, points out that internships are a small part of the Bryan School’s work toward boosting the business community. There’s Andrew Bird’s Office of Business and Economic Research assisting businesses with their specific needs. There’s the MBA Outreach program, with students getting practical experience as they assist Randolph Community College, Red Hat, Tyco, a Triad winery — they are now working with the Alamance/Burlington Chamber of Commerce on a business incubator feasibility study, May says.

On campus, the university is setting up an entrepreneurial major, possibly as early as this summer. Dr. Marty Covey, head of the Office of Undergraduate Research, and Dr. Kevin Lowe — who teaches entrepreneurial courses — are leading that effort.

As the UNC president and Board of Governors reevaluate the mission of the university system over next 18 months, there will be more measurable accountability. There will be an emphasis on the skill-sets that industry needs, May says, such as teamwork, communication, science and technology skills, overseas experience and problem solving. May has been directly involved in entrepreneurship in the years since his long career at AT&T where he (among other things) managed sales support overseas. He led the Naussbaum Center for Entrepreneurship for six years, helping it double in size. From his perspective, May sees a great need and great potential for universities in economic development. And he saw the culture of universities changing as they adapt to new economic realities.

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BUILDING BRIDGES, STAYING ABOVE THE RISING WATERS

The campus has close ties with the corporate community in numerous ways and on a number of levels. But its drive to be a major player in economic development for the region is new. How to proceed? What is needed? How to best partner with the corporate community?

A big boost came this past year with the first annual Corporate Expo on campus. Many members of the region’s business community assembled with Unnc leaders to discuss ideas, air concerns and look to the future.

What was up for discussion was “a new way to think about the university’s role in the community,” Chancellor Patricia A. Sullivan said, referring to greater emphasis on aligning with the business community with greater collaboration.

Dr. David Wyrick, assistant to the chancellor for economic development initiatives, said the Corporate Expo promises to provide more opportunity for frank discussion and exchange of ideas.

In the past some have spoken separately of the corporate world and the academic world. But those lines are blurred. Just as the lines are blurred as you look at a world map. With outsourcing of jobs and offshoring of responsibilities and with many corporations having headquarters in various countries — the world is undergoing a seismic shift. Romanian laborers come home from work and Google the news. Hundreds of patients fly to Asian countries for the latest surgery techniques at economical prices. Nomads use cell phones to connect to the whole world. Cultures are changing. Capitalism has worn — in a big way. Which means, we could lose.

Seismic tremors go largely unfelt, but the waters are unsteady. There is a tsunami coming, as Bowles has said. More are recognizing that research and innovation are what will lead us to higher ground.
Building Blocks, Neighborhoods, Communities

The Center for Youth, Family, and Community Partnerships puts research into practice to create a stronger society.

They meet in Room 203, an abbreviated classroom on the second floor of Grimsley High School with a flags of the world poster on one wall, a Dry-Erase board on another and pictures of China cut out from magazines and Scotch-taped to the wooden door. Also, a sign saying “Have a nice day” written in five languages.

A small crew of ESOL (English for Speakers of Other Languages) students rolls in for the 2:38 period dressed in jeans, hoodies, backpacks, sweats. They lean across their desks and dally in French and spotty English until the tone sounds to begin the period.

Their teacher, Mrs. Henderson, herself a native of Romania, approaches the head of the class.

“Today your essential question is, ‘What is health literacy?’” she says, gesturing to the agenda written out on the board. A few items down are the words “Photovoice Project,” and after Mrs. Henderson introduces it, she turns the room over to Mandy Benson.

“How’s everybody doing today?” Mandy says. “I have to tell you, I went to this high school and it looks exactly the same.”

These days, Mandy is a UNCG grad student who works about 20 hours a week for the Center for Youth, Family, and Community Partnerships. The center is a big venture — tackling issues that affect children, families and communities in the hopes of making a more “just society.”

Since August, Mandy has worked on the health and safety aspects of a college program for young adults with developmental disabilities, conducted health literacy surveys at Moses Cone Hospital and taught classes showing parents how to care for sick children.

“I’m all about health literacy,” she says. She’s devoted much of her time recently to this, the Photovoice Project with the ESOL students at Grimsley. On paper, the project poses two questions: What are the challenges to health literacy for immigrant/ESOL high school students and their families? What are the major cultural influences on health decisions for immigrant adolescents and their families?

The answer, Mandy believes, will be found in pictures.

“We’ll give them disposable cameras to answer the question, ‘What is it like to be healthy as an immigrant?’ We don’t know what they’re going to come back with.”

Now Mandy addresses the class.

“What do you think it means to be healthy?” she asks. “You get two weeks to take pictures of anything you think affects you and your health. These are not pictures that are going to be shared with your principal or teachers. They are just for our research, so nobody is going to see them if you don’t want them to. Don’t be afraid.”

“What is the subject matter?” a 17-year-old boy from Israel wants to know.

“When people think of health they think it is just exercise and eating right,” she explains. “But it can be drug-related. It can be sexual … maybe someone you know has an STD.”

“It can be negative?” the boy wants to know.

“Oh yes. Depression, mental health; that’s part of this too. If you miss your country, if there’s something going on at home … you’d be surprised at how many things in life affect your health.”

On the second floor of a building near a traffic circle in downtown Greensboro, Dr. Terri Shelton leans across a conference table.

“I don’t know that everybody has always thought of UNCG as a research institution,” the center director says, “but I can see a real commitment here to raising the bar in terms of research activity.”

For her, research starts with questions. What are the barriers to effective substance abuse treatment? Why are youth of color disproportionately represented in prisons and foster care? How can open-air drug markets be disrupted? What are the risk factors associated with adolescent suicide? How can we help caregivers better support young children’s social and emotional development?
And, ideally, research leads to action. There’s action up here in the office suite of UnCG’s Center for Youth, Family, and Community Partnerships — staffers and grad students running the halls, open-door meetings and relentless phone work, the click and hum of electronic correspondence.

The center, founded in 1996, has recently completed 10 years of service to UNCG and the surrounding community. It has its hand in no less than 25 projects at the moment — lending support, partnering with other institutions and state departments, or in some cases, acting as the driving force behind the research that is more than just the compilation of information.

“It’s definitely applied research,” Shelton says. “It’s not always your traditional line of research. We take evidence-based practice and put it to work. We’re asking, ‘What would that look like if we actually went on the ground and did it?’”

Their current work touches upon multiple issues including mental health and substance abuse treatment for youth, anti-gang research, studying the process of disrupting street drug markets, improving the safety of communities, and examining the factors that lead to the disproportionate representation of youth of color in foster care or juvenile justice. Other areas include North Carolina adoption and foster care, early-childhood mental health and readiness and the role of faith-based communities in neighborhood schools.

The list can be overwhelming. But when you look at the results, the impact is tremendous.

Take, for example, their work with Guilford County day care centers. The Smart Start funded program “Bringing Out the Best” zeroes in on children who have social and/or emotional development challenges. Because they can cause disruption to the classroom, these children are often at risk for losing their placement in day care centers.

The center, in partnership with the UNCG Psychology Clinic, helps these children develop new skills, offers training to their teachers and sometimes goes to a child’s home to ensure they have a supportive environment.

Last year, the project screened more than 250 children, trained approximately 450 day care staff in 75 different centers and delivered evidenced-based intervention to more than 50 children and their families.

As a result, 95 percent of the children were able to stay at their day care center. The center gets letters of thanks from parents who were able to keep their jobs. But the impact is even greater than that. By reaching out to these children, they are putting them on a positive trajectory for school.

The center uses not only research from other institutions but also from UNCG. One example is the Right Track Research Project, a longitudinal study that examines what happens as children grow older and begin to control their behavior and emotions. That project doesn’t create applications or interventions. That’s what the center does.

“We’re the greased sled from research to application,” Shelton says. Guilford Child Development, which runs Head Start and Early Head Start, is another community partner. The center provides a variety of training and technical assistance for its teachers based on research that’s known to work.

“How do I take the practical step to get it into the classroom?” asks Robin Britt, director of Guilford Child Development. “That’s what the university can figure out.”

Britt and center personnel, such as Associate Director Chris Payne, have worked together for a number of years. The projects have included: building a family resource center in the Madisonian neighborhood in High Point, brainstorming as part of the School Readiness Collaborative, helping his teachers get the certifications they need and serving as a site for a multi-site treatment outcome research study.

“You’ve got to have someone with vision who can see the needs of the community,” Britt said. “It’s a really remarkable partnership.”

A unique characteristic of the center is its commitment to working with parents, families and caregivers as equal partners. It’s the link between evidence-based practice and practice-based evidence. “Instead of doing it, you’re doing with,” she says. “Pay attention to who is using the services and make sure these voices are at the table at all levels. It’s the only way to get to quality services and to develop programs and policies that work.”

Associate Director Jen Kimbrough has been with the center for four years and has played a part in dozens of projects, though lately her focus is on health care.

“We’re trying to understand the links between the health and literacy needs of the community and address those needs so that people have equitable access to health,” she says. Her long-term goal is to help create a health-literate community so that people have access to knowledge and care that is appropriate, culturally competent and meaningful.

One of her current projects partners is with the local adult literacy agency, Reading Connections, and involves health literacy education and the distribution of a low-literacy book, “What to Do When Your Child Gets Sick,” in several languages including Spanish and Vietnamese for residents of Guilford County.

She relates a story of a class for young parents burdened by poverty, language barriers and lack of education.

“They were talking about how to take a child’s temperature. I said, ‘Who here has a thermometer?’ Only one person in the class had one. So we got them all thermometers. This may seem trivial, but that’s a big first step towards health literacy. Without basic tools and information about health, it is hard to communicate with health care providers. Teaching the book is a bigger project than it seems.”

The center’s mission has always been to encourage interdisciplinary research in the campus and the community, but as the center has grown, its focus has shifted as its procedures have been honed toward best practice.

When the center was founded it was known as the UNCG Center for Social Research, a name that was admittedly a placeholder until the organization became more focused.

“It sounded a bit too much like, ‘We come in and we study,’” Shelton says.

It was named the Center for the Study of Social Issues in 1998, and then as the mission grew to encompass greater input from the communities served, it took on its current title in 2004.

“The title is unwieldy,” she says. “It’s big. But it says what we work with, what we’re about and how we work, through these equal, respectful partnerships.”

Her role as director, she sees it, is to support the research mission at UNCG.

“A project has to be consistent with our mission,” she says. “But having been in that medical culture where you had to look at the bottom line, I’m aware of the finances.”

In 2006 the center put out nearly $5 million in proposals to county, state and federal agencies as well as grants from several foundations, securing 67 percent of them for just over $3 million.

The money funds more than 20 full-time staff positions, 15 gradu...
OVERVIEW OF CYCF INITIATIVES

HEALTH

Commonwealth Outreach Partnership Center (COPC)
Parent Information & Resource Center (PIC)
Community Level Assessments and Strategic Planning

DIVERSITY AND INCLUSION

Reducing the Overrepresentation of Youth of Color in Juvenile Justice and Other Service Systems
Eliminating Street Drug Markets Through

CHILD AND ADOLESCENT MENTAL HEALTH AND SUBSTANCE ABUSE

ADOPTION AND FOSTER CARE

NC Kids, statewide adoption and foster care recruitment program
Adopt@School

QUALITY ENHANCEMENT TRAINING AND TECHNICAL ASSISTANCE

Infant and Preschool Training on Evidence-Based Practices
Family-Centered Care/System of Care

To learn more about the center, its mission and its initiatives, visit www.ncempc.edu/csr.

PROGRAM EVALUATION AND STRATEGIC PLANNING

HOPE VI, improving housing conditions and options
Guilford County Substance Abuse Coalition (SCSC)

Early Childhood

Project Safe Neighborhoods
Collaborative Offender Reentry Enhancement (CORE)

Youth Violence and Community Safety

Supporting the Efforts of Family/Youth Information, Support and Advocacy Organizations
Working with North Carolina Families United/Powerful Youth Friends United, North Carolina Foster and Adoptive Parents Association, and SUCCESS (Guilford County)

Building Blocks, Neighborhoods, Communities

the medical system works, how to talk with their doctor and how to be healthier. How many of you have been to the doctor since you’ve been here? It’s different, isn’t it?

An 18-year-old student from Ghana says it is: “In Ghana you don’t get enough money,” she says. “And if you go to the doctor they don’t pay attention to you. Here, if they know you going to pay the money they take care of you.”

A 15-year-old student from Vietnam says his parents do not speak English and going to the doctor is difficult because they do not understand anything the doctor is telling them.

The students will get their cameras in the coming weeks. The group decides they will display some of the photos in an art show in April, and parents and friends will be invited to attend. The students will have a voice in the way the works are presented, and they will also choose as a group the small gift they will receive from the center, perhaps a Wal-Mart gift card, for their participation.

“I’ve always found, especially with adolescents, that you should show them you appreciate their help,” Mandy says later. “It’s just a little something to say. Thanks for helping us.”

“Those projects are all like children,” Shelton says. “You can’t ask me to choose my favorites. But the work we’ve done with addressing the overrepresentation of youth of color in the juvenile justice system is one that stands out.”

The project involves review of the literature and statistics on the scope of the problem and regular meetings with focus groups who all have a stake in the discussion, from caregivers of court-involved youth, juvenile court counselors, the faith community and even the boys and girls who are currently in juvenile offender programs.

“I cannot say we’ve successfully solved that issue, but when I look at the process, at who comes to the table — parents of youth in the justice system, kids who shared their experiences, committed professionals and community residents — that is an incredibly powerful platform. I think it is the only way we can get to the roots of the problem. The openness, the expertise — having big enough arms for people to get angry and still come back.”

The center has been funded to evaluate the process in Guilford County and around the state and to identify successful approaches that then can be taken to other communities.

Under Shelton’s direction, the center has rewritten its mission statement and vision to more fully incorporate the roles of parents, caregivers and community support. She helped usher in a new era with the name change and moved the offices off-campus to downtown Greensboro. She hopes in the next five years to add personnel, increase external financial support from $3 million to $5 million and make a subtle shift in emphasis on evaluation, workforce development, policy and advocacy.

But the methods employed by the center, she says, will remain largely the same: Use proven techniques and accumulated knowledge in conjunction with all interested parties to formulate best practices in care, training and policy.

And the questions, she says, will keep on coming.

What is the active ingredient in family-centered care?

Which practices will lead to better outcomes?

How do you turn research into action?

“There’s a lot of golden rule stuff in this center,” she says. “The whole concept of servant leadership is the effective piece that leads to better outcomes. Lead by serving. Support by listening. Nobody is dispensable. Everybody has strengths. The folks we work with in the community, I’m so proud of the work they do. And the graduate students, when I see the jobs and schools they pursue, I think, Great, somebody else who will carry on this work.”

The center’s unique structure and mission, she says, enable it to be responsive in ways that universities traditionally have not been able to do. And she says that, along with the university and the center itself, she is in it for the long haul.

“Every night I come home and say that the world is a better place,” she says. “Sometimes the successes are small. But sometimes they’re big.”

Photograph: Michael Schuermann

“Pictures speak volumes,” Beverley says. “You look at a picture and you connect with a child.”

Beck at Grimsley High School, a student asks the pertinent question — “Why are we doing this project?”

Mandy smiles.

“That’s a good question,” she replies. “We just want to see what we can do that would help people new to the United States understand how

Brenda Claretta Witherspoon, mayor of Greensboro, credits the center with her own experiences as an adoptive parent. It’s a program she’s devoted to, and she says it is an important part of Guilford County’s efforts to improve the lives of children and families.

“Beverley Smith is program director for ncKids, a project funded by the N.C. Department of Health and Human Services, Division of Social Services.

“We partner with all 100 counties in North Carolina to recruit foster and adoptive families. We are in essence an arm of the social services division at the state level,” she says.

“There are about 10,000 kids in foster care in North Carolina. Many of them will be reunited with their families, but about 700 right now are free for adoption and need families.”

One of the most successful adoption recruitment efforts is the Heart Gallery, an idea begun in New Mexico in 2001 that pairs portrait photographers, who donate their time, with the children in need of families. The resulting candid portraits are effective at matching children with willing families and in raising awareness of the need for foster and adoptive families.

Last year, the Heart Gallery kicked off at the Greensboro Public Library in November, which happens to be Adoption Awareness Month. The photos were made into 2x3’ posters and displayed around the state before being exhibited at the N.C. House of Representatives in May, Foster Care Awareness Month.

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A LEAKY ROOF AND A ROTTING FLOOR had made the Glenwood home of Lillie and James Marshall almost uninhabit-able. The bungalow where the couple had lived for decades, not far from the UNCG campus, was demolished in August.

Thanks to 20 interior architecture students in the university’s first Urban Studio course, the Marshalls have a new home at the same address, a home designed and built specifically for them. The six-credit course was made possible by a unique partnership between UNCG and the City of Greensboro, plus generous support from local businesses. “This is a real project to help people and learn at the same time, with direct benefit to the community,” student Amber Stipes said.

The students, led by assistant professor Robert Michel Charest, were selected for the course about a year ago and conducted research during the summer. In August they interviewed the Marshalls and made an intense push to finalize a design that balanced the homeowners’ wishes, the neighborhood’s character and the project’s $43,400 budget.

When construction began in early September, 909 Dillard Street was just a patch of raw dirt. Working from 1-6 p.m. weekdays, the students built wooden forms, cut and set rebar, and poured the concrete, one wheelbarrow at a time.

The Department of Social Work helped the Marshalls move out of their old house. They stayed with local relatives while a new home was built, but frequently stopped by. “I’ll tell you one thing,” Lillie Marshall said as she surveyed the busy job site in September, “they are a smart bunch of children. Some mother raised these young’uns the same way I raised my young’uns.”

They made forms for the walls by stacking hollow foam blocks that fit together like Lego blocks. Filled with concrete, the walls are well insulated, low maintenance and impervious to rot and termites. The use of these insulated concrete forms is one of the ways this project can be a model, said Charest, an architect, carpenter and licensed builder in the Province of Quebec, Canada.

The students framed floors, walls and ceilings; put on the roof; hung and finished gypsum wallboard; laid hardwood floors; installed trim; and built a wraparound deck. Licensed contractors did the wiring, plumbing and HVAC work.

The century-old oak mantle from the original house was painstakingly refinished and given a place of honor. The UNCG Grounds Division, where James Marshall once worked, helped landscape the yard.

The Marshalls moved home in early April.

For more information, including more pictures, visit the Urban Studio blog at iarcurbanstudio.blogspot.com. Plans are already under way for the next Urban Studio in fall 2008.
“As a student, I can think of few things that rival not only being able to see your design come to life before your eyes, but to also be a part of the amazing team of individuals making it all happen.”
— Jennifer Tate, student

“You can design something in the studio, but if it can’t be built, it’s no good. This will let us know what our limitations are.” — Robert Michel Charest, the assistant professor who led the course, as told to the News & Record of Greensboro

I start from the observation that we live in a world with problems: inequality, suffering, violence, war, racism, sexism, homophobia, environmental destruction. I ask, What is it that education should be doing to develop a generation of people who can deal with these issues? And will our children have the capacity and concern to address these tremendous human problems?” Dr. Svi Shapiro

The “game” is all about learning to be manipulative, even cheat, he says. And the playing field isn’t even, due to a huge social class gap. “Generally students who come from more affluent backgrounds know how to play the game. Their cultural capital is received from the home environment. Schools are set up to perpetuate the advantages of kids from affluent families and the disadvantages of kids from low-income backgrounds.”

So how can the system adapt to provide a more positive educational experience for America’s children? Shapiro says we should teach kids to think creatively, democratically, fairly — and critically, questioning everything. 

“You can see the results of this failure all around you in all kinds of ways. We teach kids to be obedient drones. The idea of more critical thinking and freedom scares some people, probably because they fear losing control of students. But education has to be a place that deals with the critical and enhances the creativity of children along the way.”

The scope of the journal has changed as well. now, less emphasis is given to the likes of oscar Wilde and joseph Conrad. “They don’t need us any more,” Langenfeld said. “We have much more emphasis on women writers.”

The journal also prints a large number of book reviews about other authors of that period. “It’s a way to bring in other scholars and draw in a larger readership,” he said. 

The ElT Press, founded in 1988, continues the mission of the journal with its 1880-1920 British Author Series. “One of the reasons the press is here is scholarly books don’t sell,” he said. “We fill a very small niche.” Typically, the press prints 500 books. In some instances, they sell out. But Langenfeld considers it a success if he sells 200-300 copies.

It’s all about expanding scholarship. “It’s pretty much a one-man show,” he said. “I have one graduate assistant. No salaries. We make enough for the printing of the books.” Funding for the journal comes out of subscriptions, and at times Langenfeld has been known to take money out of his own pocket to keep the journal going.

But it’s worth it to keep it the way his old professor wanted it.

“In his view, if an academic journal is owned by the university, it would be the first thing to go when a funding crunch hits. It’s better to keep it in the family, keep it private.”

Sarah A. Martin, artist’s statement, “You Are What You Love.”

I am looking to my childhood friends, old Sunday-school rooms, the new generations of J.O.Y. seekers to make sure I’m not missing the point. Some of my old friends are also struggling with balancing priorities, secret desires, misplaced maternal instincts (pets) and hoping more than anything to find a place to put their love. Sarah Martin is assistant professor of art and teaches photography.
**Retheorizing Religion in Nepal**
By Gregory Price Grieve
Palgrave MacMillan (172 pp.)

“HERE IS ONE OF THE FIRST MANDALAS I PAINTED.”
Dr. Greg Grieve points to a mandala on the wall, and to the forms, the colors, the patterns he has painted using tempera pigments on cloth. Mandalas are an integral part of Hindu and Buddhist practice. Whether created from colored sand or paint, they represent the whole of the world, with a central dome surrounded by lotuses inside palace walls with the land and sky beyond.

Grieve, an assistant professor of religion, makes use of mandalas in his new book, “Retheorizing Religion in Nepal.” In fact, the work is created as a mandala, each chapter an integral part of the whole.

He had studied religious spaces in different parts of the world, he says, “I arrived in Nepal in 1990 during the middle of a revolution, the restoration of Multi-Party Democracy.” Perhaps not the best time to arrive. But it did offer a chance to see how political groups can manipulate and alter religions — and vice versa. “It made me reconsider how I thought about religion and sacred spaces.”

In his new book, “Retheorizing Religion in Nepal,” he soon plans to trace the manner in which Asian mandalas have been translated into American society. But can a short amount of footage allow students and faculty to communicate and share data.

“This is where the ruts come in. Female rats mate sexually at five weeks, go into estrus (heat) every four or five days, and lose the ability to reproduce at a year. Rats live about two years. That brief lifespan allows researchers to quickly gather data about our furry, fellow mammals. Brown will track body fat, location, estrogen levels and leptin levels in both male and female rats. Some of the rats will eat a high-fat diet; some will not. Some will be given leptin to test their sensitivity to its anorectic effects; some will not.

Brown discovered her knack for working with animals in graduate school. When she held her first lab rat at the University of Maryland, it was love at first touch. Visit her office, and she’ll show off her rodent pictures the way some people show off photos of nieces and nephews. It was love at first touch. Visit her office, and she’ll show off her rodent pictures the way some people show off photos of nieces and nephews. It was love at first touch. Visit her office, and she’ll show off her rodent pictures the way some people show off photos of nieces and nephews.

Looking “beyond the mirror” to improve dance technique

**A WHITE LAB COAT HANGS ON A HOOK in Dr. Lynda Brown’s third-floor office in the Stone Building. The coat, long unused, reminds the new faculty member in the nutrition department why she’s spent weeks and months applying for grants, ordering equipment and setting up her lab. Soon that quiet lab, just a few doors down the hall, will be alive with activity, and she will be able to resume the research she’s pursued since earning her doctorate from the University of Maryland in 2003. Brown will be using rats to explore how the hormones estrogen and leptin influence appetite, weight gain and fat distribution, work that promises to shed light on those same processes in humans. Estrogen, of course, is well-known as the primary female sex hormone. Brown and her colleagues discovered that estrogen also increases the brain’s sensitivity to the hormone leptin, which is released by fat cells. Leptin levels mirror body fat levels, and they act in the brain to curb appetite. Thus, as our bodies add fat, we should feel less hungry.

When we are overweight, however, we often develop leptin resistance, and leptin no longer suppresses appetite. Women’s brains rely on leptin as a signal more than men’s brains. The male brain tends to depend more on insulin, the blood-sugar regulator, to signal when to put down the knife and fork.

Estrogen also seems to act in the brain to influence where women store fat. Body fat can be stored just below the skin, known as subcutaneous fat, or beneath the abdominal muscles, where it’s called visceral fat. Subcutaneous fat, the source of the “pear” body type, is less dangerous than visceral fat, which surrounds the vital organs in the abdomen. Most young women carry subcutaneous fat around their hips and thighs.

Visceral fat has been linked to heart disease and diabetes, not to mention the dreaded beer belly (the “apple” body type). Fat shifts to the visceral depot after menopause, which could help researchers understand why postmenopausal women, like men in general, are more susceptible to the metabolic syndrome than younger women. The metabolic syndrome is a group of disorders that includes obesity and insulin resistance and increases risk for heart disease.

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Brown discovered her knack for working with animals in graduate school. When she held her first lab rat at the University of Maryland, it was love at first touch. Visit her office, and she’ll show off her rodent pictures the way some people show off photos of nieces and nephews. Her affinity for working with animals has shaped her obesity research, research she pursued for three years of post-doctoral work at the University of Cincinnati’s Genome research Institute with renowned researcher Steve Woods. Soon she’ll be hard at work at that research again. Soon she’ll need that lab coat.

After menopause, women seem to lose protection from heart disease. The first thing I want to do is to understand why that happens. Then we’ll figure out how to fight it.” Dr. Lynda Brown
The Beverly Cooper Moore and Irene Mitchell Moore Humanities and Research Administration Building

This new addition to campus provides space for five academic departments. Additionally, the Office of Research and Public/Private Sector Partnerships, Office of Technology Transfer, Office of Research Compliance, and Office of Contracts and Grants are located here.