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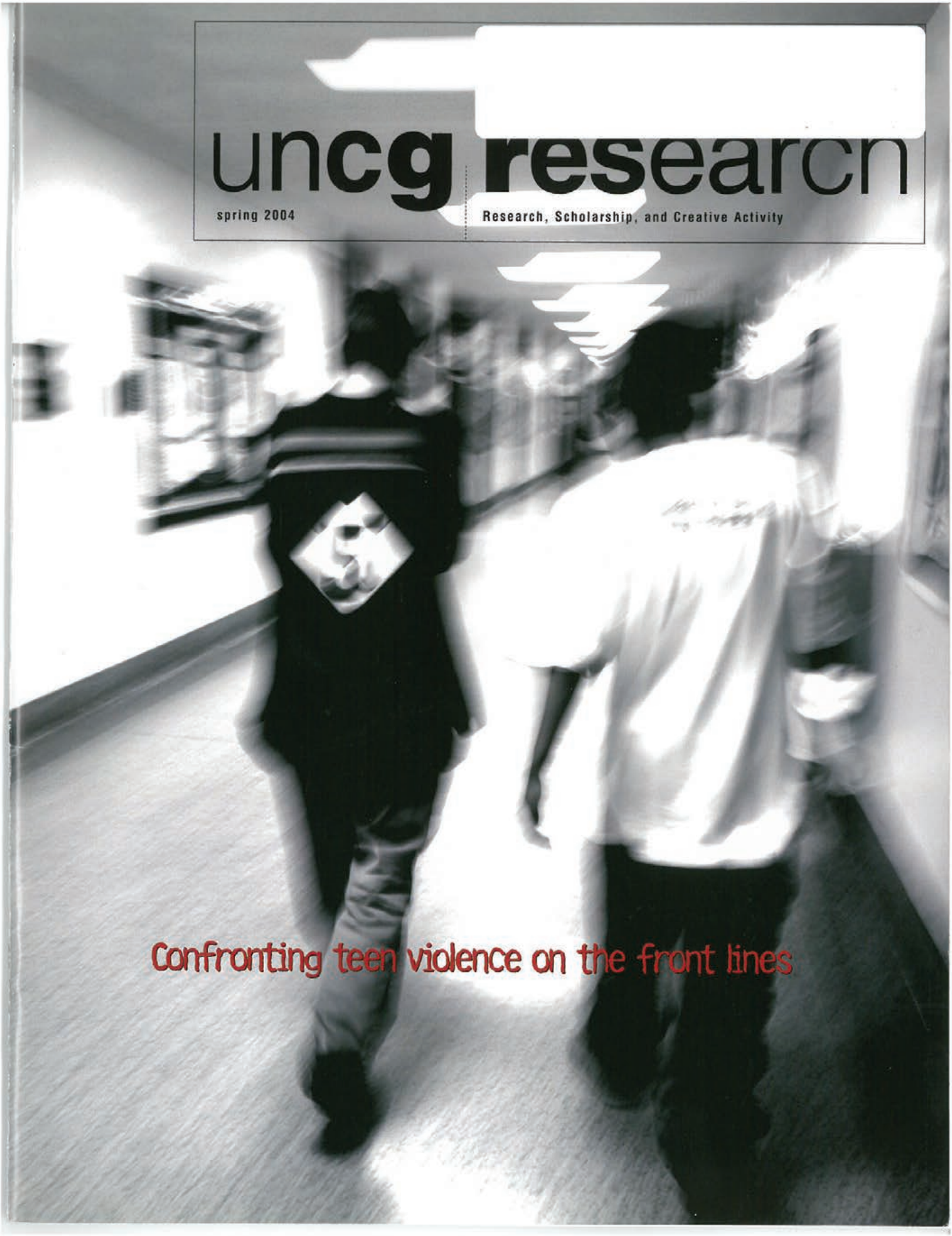
spring 2004

Research, Scholarship, and Creative Activity



Confronting teen violence on the front lines

uncg research

Spring 2004 Volume 2

UNCG Research is published by
The Office of Research
The University of North Carolina at Greensboro
PO Box 26170
Greensboro, NC 27402-6170
336.256.0426

2004 Award of Excellence, Other Magazines, CASE District III

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The University of North Carolina at Greensboro is a student-centered research university stimulating growth in the Triad and North Carolina, while providing leadership in education for a diverse community.

10,000 copies of this public document were printed at a cost of $10,639.00 or $.71 per copy.

Centers, sometimes referred to as institutes, are formally organized structures designed to promote interdisciplinary research. But that definition doesn't scratch the surface of their importance. The 15 centers at UNCG are critical to its research mission. By pulling together strengths and resources from a variety of areas, centers frequently are able to conduct research in ways more effective than individuals alone. The sum is greater than its parts, so to speak. Activities of several of UNCG centers are featured in this edition of UNCG Research.

The SERVE Center, formerly the Southeastern Regional Vision for Education Laboratory, started at UNCG in 1990 and has received more than $124 million in funding. Its mission is to improve student learning, primarily from kindergarten through high school, by expanding learning opportunities. It is a lead laboratory for these types of activities in the federal government's Regional Educational Laboratory System.

The Center for Youth, Family, and Community Partnerships (renamed and refocused from the Center for the Study of Social Issues in 2003), is a university-wide research center that has received more than $2 million in funding this academic year alone. It is dedicated to building the capacity of families, service providers, researchers, teachers and communities to promote the social, emotional, and cognitive well-being of children. The article on youth violence is illustrative of the type of work done in this center.

Among several centers involved in the TRIAD project are the Center for New North Carolinians and the Institute for Health, Science and Society. The Center for New North Carolinians, established in 2001, addresses a broad range of social, educational, and economic concerns of immigrants to North Carolina. The mission of the Institute for Health, Science and Society, revised this year, is to benefit the community through programs of research, education, and professional practice that address the health and health care needs of the community.

There are also several new centers on campus. The Women's Health and Wellness Center, formed in 2002, advances the understanding of the health and wellness of all women through collaborative research and educational programs. The Interdisciplinary Center for eLearning, organized this academic year, seeks to advance teaching and learning in kindergarten through graduate school using innovative computer-based technology. The mission of the Parliamentary Documents Center for Central Europe was redirected and its name was changed to The Center for Legislative Studies this spring. The focus of the center is to better understand and educate others about what makes legislatures successful. The Music Research Institute is in the final stages of formation. This novel center will promote research in music psychology and music education, pursuing a broad range of topics including neuromusical research, music-related hearing loss and musicians' health and wellness, among others.

As the interdisciplinary research activities at UNCG continue to increase, the role of centers in these activities will continue to expand, bringing with them more knowledge for the betterment of society.

— Dr. Rosemary Wander, Associate Provost for Research

For more information about the Office of Research, go to www.uncg.edu/research.

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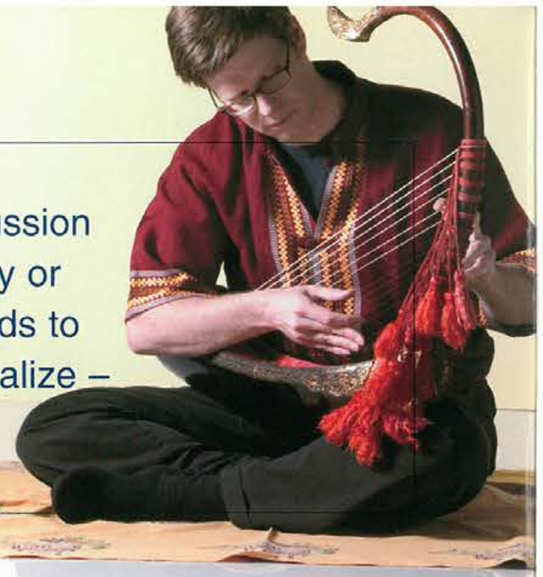
Music as a Political Tool



> "There is no public forum for discussion of what actually constitutes history or tradition, and the government tends to selectively highlight – and marginalize – according to its own present-day agenda." Gavin Douglas

The combination of music and politics in little-known Burma holds many questions for Gavin Douglas, assistant professor of music.

Since 1962, the southeast Asian country has been under a military dictatorship of one kind or another. With a deep-seated fear of other cultures combined with a need to open themselves up to foreign interests, the country's leaders have walked a fine line.

Government leaders have sought to bring national unity by emphasizing traditional customs and ideas. In the early 1990s, many universities closed to crack down on student-led protests. The government then opened one university of the arts in 1993 with a second campus opening in 2001.

"I have spent six to seven years trying to answer why these dictators invested all sorts of money into the arts," Douglas said. "What does the government think it's getting?"

He spent three months in Burma in 1998, returned for another 10 months in 1999 and returned again this past summer to interview musicians whose interpretation of "tradition" is somewhat different from the state's.

"There is no public forum for discussion of what actually constitutes history or tradition, and the government tends to selectively highlight – and marginalize – according to its own present-day agenda," Douglas said.

One of the government's projects is to standardize and notate the entire canon of traditional oral Burmese songs. The government has also started national music competitions, which are venues for the public display of all that happens in the universities.

"Music is abstract and they are trying to create something that is tangible. There's something more legitimate about music that's written down. But 99 percent of it gets lost. The improvisation gets lost. It's like jazz – if you write it down, you're missing the point."

He also has concerns that the music the government is emphasizing pays tribute to only one ethnic group within the country. While the Burman ethnic group makes up 65 percent of the country, there are reportedly 135 other ethnic minorities in Burma.

"This has made me ask a lot of questions globally – how governments put money into the arts when it doesn't serve everyone. It marginalizes this group of people and elevates that group of people.

"How are the arts around the world situated politically? It's not a black and white thing."

The Family Life Project: A Marriage Without Hostility

Dinner is already on the table when Mom and Dad begin arguing loudly in the kitchen. The children retreat to the bedroom and lurk in the doorway. What goes through their minds? And how do incidents such as this shape their lives now and in the future?

Few people would dispute that families play an important role in how children develop, but consensus might be harder to reach on the specifics of how children are impacted by marital conflict. Dr. Cheryl Buehler in the Human Development and Family Studies program is directing the Family Life Project, a five-year initiative that seeks to provide insight.

Supported by a $2 million grant from the National Institute of Mental Health, Buehler strives to elucidate both direct and indirect connections between marital conflict and children's development. Examples of direct influences include cognitive behaviors such as self-blame, fear, self-consciousness, a weak sense of self-esteem, and difficulty establishing and maintaining healthy relationships. Marital conflict can also impact children indirectly, as parents under stress are more likely to be pre-occupied and judgmental, and less consistent and attentive to children's needs.

Buehler and her research team are conducting the third of four yearly assessments of several hundred families in the Family Life Project, focusing on the transitional stage between childhood and teenage years. Yearly assessments, which began when each participating child was in sixth grade, consist of a questionnaire and in-home videotapes of parent-child and marital conversations.

The videotaped sessions are fastidiously analyzed using 60 scales, which include body movement, humor, anxiety and clarity of communication. Sessions are viewed repeatedly to assure that nuances of expression are not missed (a smile, for example, is not counted as a humor response unless it brightens the eyes). By following the participants through the crucial developmental years between sixth and ninth grades, the study will help the researchers identify patterns of change in adolescents, and might be useful in understanding adolescent depression.

nolanart

An Ounce of Prevention is Worth a Pound of Research

Growing up in a community of Russian-speaking immigrants in Buffalo, NY, Dr. Louise Ivanov became very aware of patterns of health care among immigrants from her parent's homeland in the former Soviet Union.

Now, as associate professor and Community Practice Department Chair in the School of Nursing, she researches patterns of health care behavior among female immigrants with an eye toward improving use of preventive and pre-natal services.

Her research has indicated that the health care behavior of women in the former Soviet Union shows similar patterns to that of recent immigrants to the U.S., while remaining significantly different from their American counterparts. Discrepancies between the former Soviet Union health care system and that of the U.S. account for many of these results. The former Soviet Union system, she says, has a minimal emphasis on preventive measures and a tendency to rely heavily on doctors as experts, placing responsibility for personal health care more solidly with doctors than with patients. Consequently, Ivanov has found that female immigrants tend to neglect preventive reproductive care and delay pre-natal care.

Her current research, funded by the Gamma Zeta chapter of Sigma Theta Tau, International, the honorary nursing society, is a descriptive study of how acculturation affects use of preventive health care services among Russian-speaking immigrant women.

Acculturation, measured by factors such as language skills, behavior, and identity with the American society, will be examined along with the health care behaviors of 90 immigrants in several North Carolina communities. Ivanov hopes her research will be used to educate women from the former Soviet Union, so that she can "help them take charge of their own health care and take advantage of the wide range of preventive services available." She also hopes to give health care providers information on how best to reach this population to promote timely use of health care services.

Keeping Voices Healthy

In her first five months at UNCG, Dr. Celia Hooper, a specialist in vocal arts medicine, has spearheaded the development of a new Applied Communicative Sciences Laboratory (ACSL) to investigate a variety of vocal problems.

The ACSL includes a Computerized Speech Lab (CSL), which digitally conducts measurements of voice and articulation, and a Digital Video Endoscopy/Stroboscopy System, which allows the researcher to capture moving images of the vocal folds via a small digital camera. Funding for the ACSL comes from the Department of Communication Sciences and Disorders in conjunction with the School of Health and Human Performance and the Office of Research.

Hooper, who is the Communication Sciences and Disorders (CSD) department head, is excited about these advances in technology at UNCG.

"It brings research projects to a higher level to have the best equipment," she remarked. "It also helps leverage outside funding."

The new technology has applications for a wide range of studies, including collaborations with Wake Forest University's Bowman Gray School of Medicine and other departments within UNCG. Hooper is enthusiastic about helping develop an Arts Wellness Program in cooperation with Dr. Don Hodges in the School of Music and Drs. Susan Phillips, Denise Tucker and Ginger Hinton in CSD, which will focus on prevention and treatment of vocal problems for singers and actors. Her emphasis is on keeping artists healthy, she says, so they can do their art longer.

Part of the Community

Two students study social networks in the Bahamas

> "The research experience "challenged our own ethnocentric views about life and health, increased our understanding of the multiple dimensions of HIV/AIDS prevention in international settings, and improved our ability to conduct cross-disciplinary research." Christina Hardy and Betria Stinson

An estimated 10.3 million youth worldwide are infected with HIV/AIDS. Experts increasingly acknowledge that social capital (the networks of social support, shared norms, and connections within a community) impacts behaviors that can lead to prevention or increased risk of the disease.

Graduate student Christina Hardy and undergraduate Betria Stinson, working under Dr. Sharon Morrison in the Public Health Education program of the School of Health and Human Performance, are investigating the relationship between social capital and HIV/AIDS with a pilot study in the rural Bahamas. The English-speaking Caribbean has a relatively high prevalence of the disease, and young adults in the Bahamas have the highest infection rates in the region.

During summer 2003, the student research assistants became participant-observers in the tiny, remote Red Bays community to assess family and community relationships. They attended church, joined in softball games, and lived with host families, integrating for two weeks into the fabric of life in the small community. They also observed and evaluated focus group sessions with study participants.

Christina, president of the Health Education Honor Society Eta Sigma Gamma, and Betria, a Society member, are now assisting Morrison with data analysis. Results will be used to leverage funding for further studies and to foster social networks that lead to reduced risk of HIV/AIDS.

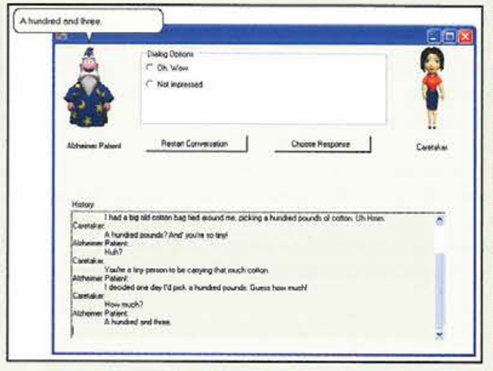
In November 2003 the students delivered a presentation at the Society for Public Health Education National Conference in San Francisco relating their experiences in the field. They remarked that the research experience "challenged our own ethnocentric views about life and health, increased our understanding of the multiple dimensions of HIV/AIDS prevention in international settings, and improved our ability to conduct cross-disciplinary research."

Virtual World Conversations Assist Real-Life Users

Thirty years ago, the idea of animated characters on a computer screen "talking to" users in conversations completely generated by Artificial Intelligence (AI) would have seemed like science fiction. Today, however, explosions in technology are promising to make AI increasingly available for numerous applications. This could revolutionize the way information is processed in many scientific arenas. Dr. Nancy Green in the Computer Science Division of the Department of Mathematical Sciences at UNCG is paving the way for this revolution with her research on AI and language production.

Gone are the days when computer science research simply involved writing programs. Green, with advanced degrees in linguistics as well as computer science, manipulates a complex network of data and software to generate a system known as Natural Language Processing (NLP), in which computers interpret information and produce language to convey it. Green is excited about the many applications of this technology. Technical information such as raw data or graphics (bar charts, for example) can be translated by NLP into narrative information readily accessible to scientists and laypersons alike, simplifying this arduous and time-consuming task for human experts. Calling this the domain "where computer science meets psychology," Green notes that part of her task as a researcher is to "figure out which kinds of graphics really help people understand material."

In her current research, funded by a prestigious National Science Foundation Faculty Career Development Award, Green is seeking to apply this technology to the field of clinical genetics. Her goal is to assist people in evaluating medical information so they can make educated choices. Using AI to translate complex cause-effect and probabilistic information, NLP can yield draft letters to clients, reducing the burden on genetics counselors.



Green is also investigating the use of AI as a tool to facilitate communication between Alzheimer's patients and their caregivers. Working with Dr. Boyd Davis at UNC Charlotte, she analyzes the types of linguistic interactions that lead to successful communication with Alzheimer's patients. This information is used to create "trial" conversations via animated computer figures simulating patient-caregiver interactions. These conversations can be manipulated by a caregiver, providing important training and feedback on relating to patients with Alzheimer's disease.

Research at its Best

Two professors who examine interrelationships in today's world received UNCG's highest research honor.

Dr. Christopher J. Ruhm, the Jefferson-Pilot Excellence Professor of Economics, and Dr. Christian Moraru, assistant professor and director of Graduate Studies in the English Department, are the 2003 Research Excellence Award winners.

Ruhm, known for his research in labor and health economics, is focusing on the impact of macroeconomic fluctuations on health trends. The New York Times on April 7, 2002, presented a summary of several of his groundbreaking studies positing the surprising notion that "short-lasting economic downturns are good for health."

Moraru specializes in literary theory and 20th century American literature with particular emphasis in narrative theory, postmodernism and globalization. In his recent work, Moraru investigates the effect of globalization on how readers define their self-identity and negotiate community affiliations. He is working on a book focusing on the idea of cosmopolis, or the whole world as a community, probing questions such as "How do we read in today's world where time and space are shrinking?"

The scholars' research is impressive in both quantity and quality. Ruhm's work has regularly been featured in the most prestigious economics journals including the American Economic Review. Moraru's book "Rewriting: Postmodern Narrative and Cultural Critique in the Age of Cloning" was printed in SUNY Press's Postmodern Culture Series (2001) and his essays have been published by numerous journals including Modern Fiction Studies. The professors have presented their work at many American and international universities, have coordinated and spoken at numerous conferences, and have been widely recognized by the media, by diverse granting agencies, and by top scholars in their fields.

DR. CHRISTIAN MORARU

DR. CHRISTOPHER J. RUHM

on their turf

Researchers glean information about detering violence while working on the front line.

STORY BY BRIAN CLAREY
PHOTOS BY CHRIS ENGLISH

THE MAIN BUILDING AT HIGH POINT CENTRAL HIGH SCHOOL IS A COLLEGIATE GOTHIC STRUCTURE with terrazzo floors, peaked wooden window frames and walls of faded tan brick. After its completion in 1927, some called it the grandest building in the state. In many ways, it's just like every other public high school in the nation: posters for upcoming drama club productions hang in the hallways; they serve fish sticks with pale green peas in the cafeteria; students whisper and giggle in groups. But there's a full-time police officer on duty here, referred to as a school resource officer, and there are chaperones in the cafeteria during lunch who are worried about much more than food fights.

"I had to break up a fight in the cafeteria my first day here," says Dr. Stephen Swartzlander, UNCG's envoy at Central.

Swartzlander is of medium height and build, with an offhand demeanor. He wears casual, comfortable clothes to better identify with the students, specifically with the kids he is charged to work with, which is anyone at the school whose life either has been or may be touched by the violence that exists in this environment.

"We get referrals from the principal, teachers," he says, "even from the police."

Violence has long been a problem in High Point, a city with a disproportionate number of violent crimes for its size. Ten percent of all crimes reported here involve violence. In 2002, you were more likely to be a victim of aggravated assault here than in Raleigh, a city of over a quarter million. Youth violence is a particular aspect of the problem in High Point.

But the community mobilized against it after the murder of High Point Central freshman Brian Cobb.

Brian Cobb was shot in the head during a botched robbery attempt on Brentwood Street near his home in the fall of 2000. It was a bad time for youth violence. In 1997 a high-schooler in Pearl, Miss., murdered his mother and then two students from his school. A year and a half before Cobb's fatal shooting, two students from Columbine High School in Littleton, Colo., went on a shooting rampage that killed several teachers and

"Violence is a multi-determined problem," he says, citing some of dozens of contributing factors: disenfranchisement, frustration, learned behavior, violent images in television and movies.

students. Six months after Cobb's death, another shooting occurred in Santana High School in Santee, Calif.

It was in this climate that the High Point Collaborative for the Prevention of Youth Violence formed, spearheaded by UNCG's Center for Youth, Family and Community Partnerships (formerly the Center for the Study of Social Issues), and co-chaired by then Police Chief Louis Quijas. The group included various high school faculty, members of the faith community, mental health professionals, juvenile justice representatives, UNCG faculty and graduate students, and families in the wraparound system of care model. It was a pre-emptive strike against a surging national tide of youth violence, a measure to ensure that High Point would not become another Littleton.

Stephen Schwartzlander walks a fine line in his work. Above, he earnestly talks to a student about going back to class. Below, after much conversation, he allows the student to make a phone call to work out a personal problem in return for a promise to return to his classroom. Sometimes compromise is the name of the game.

Dr. Jim Frabutt, associate director for the center, keeps an office in the cubicle farm of the McNutt building on the UNCG campus. A PhD is as common in here as a cell phone and Jim's 3 1/2 walled office is neither opulent nor spectacular; nevertheless it is the base of operations for the university's work with troubled kids.

"Its official title is the High Point Youth Violence Initiative," Frabutt says from a small conference table near his workspace. He's a young guy, in the dawn of his 30s, wearing a clean-pressed shirt, slacks and a pair of wire-framed spectacles that straddle the line between serious intellectual and university chic. He's always been interested in family dynamics, from his undergrad days at Notre Dame, where he studied parent-infant interaction, to his doctorate in human development and family studies at UNCG, but now he's able to do something when, for whatever reason, a family is unable to keep a kid from crossing the line.

"Violence is a multi-determined problem," he says, citing some of dozens of contributing factors: disenfranchisement, frustration, learned behavior, violent images in television and movies. The root causes of violence are, for now, somebody else's problem. Frabutt and his team are more concerned with deterring the violent impulse before it gets out of hand.

To this end he acts as the frontman for the group, raising interest, awareness and dollars in published papers, Power Point presentations, lectures, consultations and workshops in Greensboro and High Point, but also in such far-flung cities as Portland, Ore.; Tampa, Fla., and New Orleans. His day could include a morning meeting of the Guilford County Juvenile Crime Prevention Council and an evening address to a concerned citizens group in High Point, or he could be

"I don't treat violence," Schwartzlander says. "Violence is a part of a problem that takes so many identities."

called out-of-state to present a paper at a conference or symposium. In this platoon, he's high-ranking brass fighting the war on paper so his troops can make progress on the front lines. He also sees the broad expanse of the entire operation.

"We've got $600,000 worth of projects out there," he says, "and they need day-to-day attention." So he also must keep tabs on field workers placed by the initiative at other schools in the county like Smith, where students from 39 countries who speak more than 60 different languages try to work out their cultural differences. And of course, they've got a man at High Point Central.

Due to space limitations, Swartzlander's been jockeyed around the school, first making his office in the ninth grade building but eventually landing a tiny corner room in the guidance department. They've been doing construction in here — he's had leaks and dust coming from the ceiling — so right now a ladder leans against walls splotched with primer paint and a sleeping bag has been rolled and stuffed into a hole to keep out the draft. His title is "service coordinator" or "case manager" for the High Point Youth Violence Initiative, and he is actually employed by UNCG, but ultimately he works for the kids, identifying those at risk, meeting with them in his office, bringing their families and community members into the equation, looking for individual solutions to a disturbingly common problem.

"It's one of those jobs where there's not an adequate job description," he says. "There's a lot of freedom and a lot of flying by the seat of your pants.

"I don't treat violence," he continues. "Violence is a part of a problem that takes so many identities. It would be great to specifically target violence, but there's so many problems here: the attendance rate is dismal; there's scholastic failure, lots of discipline problems, some gang involvement, substance use and abuse… one of the students here just had a baby," he sighs. "There's just so many…."

Swartzlander is protective of his kids' privacy, speaking in vague anecdotes about his charges. He relates the story of a 14-year-old girl whose violence was directed at herself. She once sprained her own wrist while hitting a wall after a fight with her mother. He also remembers a teenage boy who, profile-wise, would not have been considered at-risk for violence but was in fact a member of a street gang. "Gangs are getting more prevalent in High Point," Swartzlander says, some of them local, but some "franchises of Blood/Crip kinds of groups."

And though he clearly cares about his kids, he harbors no illusions about their regard for him. "I want to trust them," he says cautiously, "but I can't completely. They lie to me; they use me. But I'm always on their side, even if they don't like what I have to say."

Some days Swartzlander will talk down a kid in a rage, others he'll mediate a specific disciplinary problem. He's been to court with his kids for moral support, been to visit them in jail, and even gone to their homes to speak with their par-

There are no dull days for Schwartzlander. Above left, he goes to the track to make sure one of his students made it to class. At center, he makes one of many phone calls, tracking down students who miss school. At right, he acts as an intermediary between student and teacher, asking what the student needs to do to pass her class.

ents, a step that sounds good in theory but can be difficult in practice.

"Some of the parents don't want me to come over," he says, "and most are a little suspicious. A lot of them have been called by the school over and over [about their children] and it's never good news." But Swartzlander stresses that he is not there to wag fingers, cast blame or even enlighten. He eschews the role of missionary.

Researchers at UNCG's Center for Youth, Family and Community Partnerships have determined that the best approach is what they call a "strength-based system of care," a holistic effort that involves not only the child and their family, but also community members like neighbors, teachers and sometimes law enforcement. But the emphasis here is not on the negative things happening around the child; instead, they focus on the positive things that these friendly faces can do to help.

"We recognize the family as an equal partner in this, as opposed to the medical model which views the family as sick, as a problem to fix," he says. "We really try to appreciate where people are coming from, all the different values, religious beliefs, cultural beliefs that they hold." And, he says, if he can build partnership and trust with a family, the information that he gets can be critical to turning the situation around.

He recalls a visit to a 17-year-old ninth-grader's home, a student who, after numerous violent infractions, was ordered by the court to attend school each day or face prison. The kid is so mixed up, Swartzlander says, "he's not sure which is better."

But Stephen went to the boy's house and made a connection with his mother, and before he left, the student showed him his room where he had hung on the wall a number of achievement certificates he earned in grade school. Swartzlander learned that this kid was once on the right track but got derailed somewhere along the line.

And in an action research project like this one, learning is the name of the game. Because even though Swartzlander and his colleagues on the front lines are there for the kids, they are also there to gather data. They keep a critical eye on the methods and results to see what works and what doesn't. Swartzlander says, "I tell the parents, 'We're here to serve, but we're also here to see if serving helps.'"

Some of the things they've learned in the two years that they have been gathering information have merely reaffirmed theories gleaned from previous research, like the web of peripheral problems associated with violence. Other items have shifted the nature of the entire project. "Initially we wanted to concentrate on the ninth grade," Swartzlander says, because they figured that at that age they could still make a difference. "But that's not how it's worked out. Some of these kids have been in ninth grade for three or four years. They're 17 or 18 years old." As ninth-graders, these kids are eligible for help.

Swartzlander has also learned to constantly redefine and re-examine the concept of success. "Success is relative," he says, and he brings up again the case of the 17-year-old who was ordered by the court to attend Central High. "For him right now, if I can keep him out of jail, that would be a success. A high school diploma and a job come after that."

Again, success takes on many forms. One student in the program expressed a desire to drop out, but through an interview they learned that he liked to work on cars. With the university, Central High, his parents and the strength of the community on his side, he was able to enroll in Guilford Technical Community College and eventually start his own business as a mechanic.

"This is applied research that's continually being refined," Jim Frabutt says. "It's not like lab work or research in a

"We recognize the family as an equal partner in this, as opposed to the medical model which views the family as sick, as a problem to fix," Schwartzlander says. "We really try to appreciate where people are coming from, all the different values, religious beliefs, cultural beliefs that they hold."

A plaque commemorating Brian Cobb's life acts as a visible reminder of the cost of violence.

vacuum. It's a little more messy."

Another part of his job is to collect all the information gathered in the field: qualitative data assessing family, school and neighborhood factors that contribute, either negatively or positively, to the presence of violence in a child's life.

Preliminary research included extensive interviews with court-adjudicated youths to determine what put them on the path towards violence and also what might lead them away from it. New information is constantly collected from places like High Point Central.

Frabutt and his staff pore over the research and sift it into working theses, which are then published in scholarly papers, posters and presentations. Already due out in 2004 are pieces titled *Family-Level Protective Factors Associated with Adolescent Aggression, A Qualitative Analysis of Caregiver Strain in Families of Court-Appointed Youth,* and *A System of Care Intervention for Court-Involved Youth: Adolescent Functioning Over Time,* to be presented to national audiences.

"The work we're doing here is significant even on a national level," he says. "We think everybody can learn something from the Triad."

The program also provides a useful training ground for UNCG students aspiring to work in the social services field. Frabutt rarely teaches in a classroom anymore, but whenever possible he involves undergraduates and graduate students studying psychology, sociology, counseling, public health and even economics. Here they have a rare opportunity to participate in all aspects of these large and ambitious projects, such as interviewing families, youth and teachers to collect evaluation data; attending community meetings; writing papers for publication and preparing reports for funding agencies.

"Centers doing community-based action research around child and family issues are fairly unique," he says. "There are not a whole lot of them across the country."

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Back at Central High, where a plaque and bulletin board in the hallway by the office commemorate the violent death of Brian Cobb, a noontime bell signals lunchtime. Students wearing backpacks and baggy jeans cross the covered concrete walkway to the cafeteria outbuilding. Swartzlander watches them stand in line for soft pretzels and burgers and considers if he actually makes a difference in their lives.

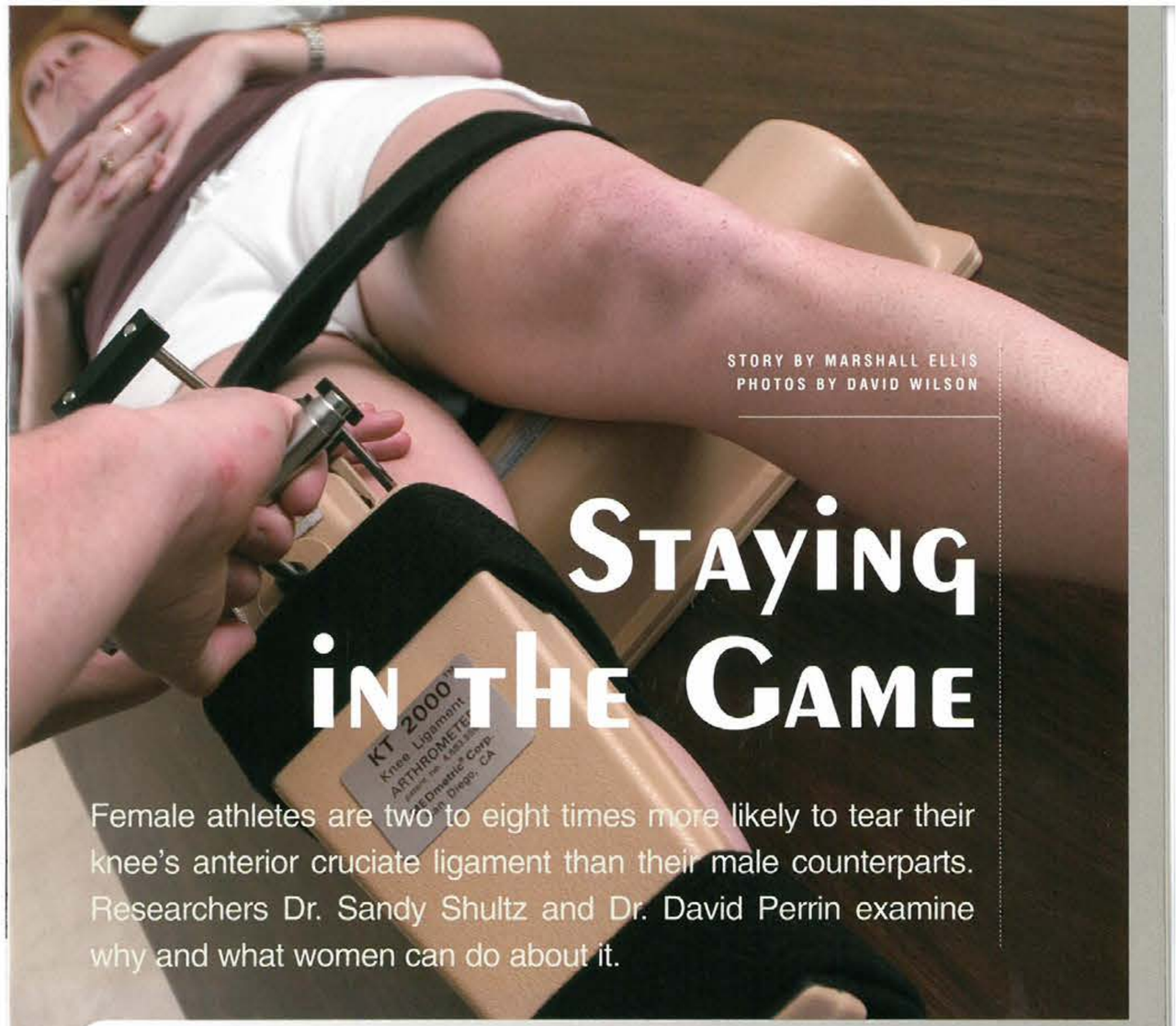
"Well, obviously it's a poor prognosis," he says. "Few people even want to work with these kids because their chances for success are so slim. But I know that, with our program, some of these kids at least have a shot." He pauses. "At least I know I'm making a positive impact."

Frabutt agrees. "We do things research has shown can work or will work," he says. "Our ultimate goal is to have these pilot programs take root, for the county or city to pick them up and build them into the budgets of the school." Yet another aspect of his job is to prove that the center's methods are necessary and effective, and should be integrated into the system.

One of the devices he uses is the story about Brian Cobb.

In 1999, before the High Point Collaborative for the Prevention of Youth Violence was formed, when the program was still in the discussion stage and before Brian Cobb was murdered, then-principal of Central Helen Lankford identified Cobb as a kid who lived under violent circumstances.

"Even before his death he was one of the kids they were talking about," Frabutt says. "He could have been helped."



STORY BY MARSHALL ELLIS
PHOTOS BY DAVID WILSON

STAYING IN THE GAME

Female athletes are two to eight times more likely to tear their knee's anterior cruciate ligament than their male counterparts. Researchers Dr. Sandy Shultz and Dr. David Perrin examine why and what women can do about it.

REGARDLESS OF THE SPORT, EVERY ATHLETE KNOWS that at game's end success will hang on some sort of measurement. Be it points scored, distance covered or time elapsed — the scoreboard, tape or clock will ultimately determine how well you played the game. And every athlete knows that if those numbers change in the right direction, then improved performance follows. But if you play a strenuous stop-and-go sport — basketball, soccer, football or gymnastics, for instance — there is an additional statistic that may determine not only how well you play the game, but perhaps whether you play it at all. Unlike most sports statistics, though, this one is best left unchanged.

It's a small calculation, roughly 3.5 cm by 1 cm, or about the size of a triple A battery. That's the distance covered by a fibrous band of tissue that connects the leg's long bones at the knee. Its proper name is the anterior cruciate ligament, or ACL. But to an athlete, it might just as well be called the awfully crucial ligament. Why? It allows you to jump, land, pivot, and change speed. Rupture an ACL, and, at best, you'll become part of the annual $2 billion ACL repair business. At worst, following surgery and months of rehabilitation, you'll need a new sport that doesn't require strong knees. And just to add serious insult to this serious injury: If you're a female athlete, your chances of an ACL tear are anywhere from two to eight times greater than a male's.

The knowledge that women are particularly susceptible to ACL injuries isn't particularly new. More than two decades of data from the NCAA and other sources have documented a painful pattern. What is new is an emerging understanding of that susceptibility. Knowing the cause can lead to prevention, and the road to prevention leads to the door of Dr. Sandra Shultz, assistant professor in Exercise and Sport Science in

UNCG's School of Health and Human Performance (HHP). Together with Dr. David Perrin, dean of the school, Shultz is searching for the factors that influence knee stability in women. It is not an easy search. The short answer is that a female's knees are inherently more unstable than a male's. The longer answer is that this increased instability is a Gordian knot of neuromuscular, biomechanical, anatomical and physiological factors. "If there were one silver bullet," says Shultz, "we'd have found it by now."

As graduate student Mary-Clare Morris steps off a platform onto a pressure plate, Tony Kulas gleans information about the individual movement of tendons in the knee.

Absent that silver bullet, reconstructive surgery remains the gold standard. Ten years ago, Shultz notes, rehabilitation could take a year, and most careers were over. Today, with advances in tendon grafts and other high-tech methods, rehab is significantly shorter, and some athletes are on their second, or even third, ACL repair. But even though surgery can repeatedly repair blown-out knees, Shultz cites a cascade effect of chronic knee instability and pain, decreased mobility, and an early onset of osteoarthritis. As Shultz says, "you can rehab only so many times before you need to find a better way."

Today, thanks to a combination of clinical data and a grant from the National Institutes of Health (NIH) to underwrite groundbreaking neuromuscular research in Shultz's lab, that better way is getting closer. The end game is to alert female athletes early to the realities of risk and the potential for prevention.

"We need to get people more in tune to preventive training that prepares them for the demands of their sport," Shultz says. "If we can understand the environment, then we can intervene."

It's a message that should resonate across the university community, from the competitive venues of intercollegiate athletics, to HHP's neuromechanics research program, to UNCG's Center for Women's Health and Wellness, where one goal is to employ collaborative studies like those by Shultz and Perrin to improve the health of all women, athletes or not.

HOW THINGS WORK

A quick anatomy lesson: Every knee comes equipped with four ligaments that tie the leg's long bones together. Two on either side provide lateral stability; the ACL runs beneath the knee cap, through a notch in the femur, or thigh bone, to the front of the tibia, or shin bone. Like a bungee cord holding cargo in place, it prevents excessive forward motion of the lower leg. The fourth ligament crosses

Dr. Sandy Shultz uses a variety of devices to learn more about the strategies that will prevent an ACL tear. Pictured above are a Reflex Testing Apparatus created by Shultz, a close up of sensors attached to the knee, another instrument called the KT 2000 Knee Arthrometer and a researcher taping sensors onto a volunteer.

against the ACL and checks backward motion. Because exaggerated forward leg movement below the knee is bad, the ACL is the gatekeeper of knee stability. Overload it, and you risk hearing the teeth-grinding "pop" that signals a rupture.

The good news here is the force it takes to tear an ACL is huge. The not-so-good news is that pretty much anybody can do it. This shortest of the knee's ligaments is usually undone by the simple rotational forces produced by planting and cutting, sudden pivots and decelerations, and straight leg landings. All of these actions, of course, are the bread and butter of sports such as soccer, skiing, football, gymnastics and basketball, which means that every leap, landing and change in direction is a rupture in waiting.

But if women are playing the same games as men, and if, as Shultz notes, modern training techniques have produced stronger, fitter female athletes, why do they continue to face such disparate odds when courting injury, and what can be changed?

HOW THINGS WORK, THE SEQUEL

Shultz and Perrin have been at this since 1996, when they began collaborating at the University of Virginia. Today, Shultz says, "we can find some underlying causes." Much of the puzzle appears to be driven by intrinsic differences in anatomy, musculature and hormonal profiles. Freud, it seems, got it right when he wrote that "anatomy is destiny."

Wider hips in women, for instance, change bone alignment angles, increasing pressure down the femur and onto the ACL, increasing its susceptibility to rotational stress. So the same force that strains a man's ACL might rupture a woman's. There is also evidence that women's ACLs are smaller and less robust, again meaning that equivalent forces will have unequal impacts. And some evidence shows that the notch enclosing the ACL at the end of the femur is smaller in women, increasing the chances for pinching – and tearing – the ACL.

There are also important differences in the musculature surrounding and supporting the knee. It's no surprise that women have less muscle strength in proportion to bone size.

Blame it on DNA. What is surprising, notes Shultz, is that "we also see differences in muscle activation between men and women." In laboratory tests comparing neuromuscular responses to knee stress, Shultz has shown that women's quadriceps tend to respond faster than men's. This pulls the shin forward, stretching and increasing pressure on the ACL. Her research has also revealed that the hamstrings, which operate from the back of the leg and play a key role in joint support, may be weaker or slower to respond in women. "Muscles that respond more slowly," Shultz points out, "have to work harder to stabilize the joint." The result: The load is transferred to the ACL.

Another intrinsic factor, "the one that's taking most of our time," says Shultz, is that differences in muscle and ligament flexibility appear to be strongly affected by sex hormones. Differences in joint laxity can vary as much as 5 mm over a menstrual cycle, and in the confined space of the human knee, that's a big change. Subject that knee to a shock that already loose muscles can't absorb, and the load will again fall to the ACL.

THE BETTER WAY

If you're going to beat the intrinsic odds, then you must think externally. "This is a strength issue," says Shultz, and training strategies that emphasize muscular strength, balance and good old-fashioned athletic anticipation, "are the key." Above all, these programs must specifically address the realities of the female athlete's physiology. "Our aim is not to make a female athlete perform like a male athlete." Rather, she notes, women athletes must develop what she calls "stabilization strategies" that lessen the risks on the field. Simply put: Women may need to learn to run, jump, land and pivot differently.

Is it working? Shultz says yes. "Ten or 15 years ago, a young female athlete might not have known about the ACL." Today, an increasing number of young athletes will tell you "I know not to tear it," and preventive training programs aimed at young women are an emerging phenomenon. It's certainly working at UNCG, where, thanks to faculty like Shultz and Perrin, significant new funding from the NIH is in the offing, and the athletic training staff is knowledgeable and up-to-date.

Will the intricate knot of knee injuries be soon untied? Probably not, says Perrin. ACL injury rates among women are still high, and he thinks that "there will be many more tenured faculty before we have all the answers." But progress – important progress – is happening, and answers are being found. And perhaps, because of that, a few more surgical scalpels will soon go unneeded by female athletes.

Healing Health Disparities

STORY BY VAL NIEMAN
PHOTOS BY DAVID WILSON

Investigators are combining their expertise to meet the needs of people at the fringes of health care

Dr. Sharon Morrison listens when women talk.

Immigrant women gather around the table, and she hears their stories about new lives in the United States, where traditions from Africa or Latin America encounter the ways of the 21st century over a threat common to both worlds: HIV.

Morrison is one of a dozen UNCG investigators who are looking into how people's health may be affected because they are minorities, immigrants, low-income or female through the Teamwork in Research and Intervention to Alleviate Disparities (TRIAD) Project for Health Disparities. With more than 14 projects planned for the next three years, investigators are combining their vast experiences into a cohesive project to meet the needs of those at the fringes of health care. By working together, researchers not only can address more problems, but they can address them more comprehensively.

"HIV is a tough issue to start with but others are, too," Morrison said. "Prior beliefs before coming to us, coupled with the role women play in different cultures, will factor into this." An assistant professor of Public Health Education, she studies women's social networking. "In the social and cultural context of women now that they are here – are they isolated or do they share information? Whom do they trust?" she asks.

"Things like using condoms – how does that factor into the issue? How do you ask or (do) you ask? We have tried and true ways of operating to inform people (about HIV prevention). However, in the context of a refugee woman who is coming from a stricter religious setup, what does that mean? Who makes the decision? Is it discussed?"

The TRIAD project is funded by a $1.06 million grant from the National Center for Minority Health and Health Disparities of the National Institutes for Health. Dr. Debra C. Wallace, principal investigator and director of research in the School of Nursing, said the project's focus on research, outreach and training "played to the strengths of UNCG to address health issues in specific populations."

The TRIAD project will learn from a changing community and provide information to help address its needs. "In the North Carolina Piedmont, we have issues of heart disease, strokes, high blood pressure and diabetes. We have some of the fastest-growing populations of minorities, and we are one of the most racially and ethnically diverse areas of the country," Wallace said. Poverty affects 12 percent of the population in the 11-county study area. Guilford County alone has seen a 453 percent increase in Hispanic residents over the last five years. Investigators are moving out into the community to learn what people eat, how they exercise, how they socialize – and how everyday activities affect their health.

"For three years, we will be working to improve the health of the community and move toward a larger project which will include more departments at UNCG, at North Carolina A&T and our community partners, if successful," she said.

These partnerships are a vital part of the TRIAD project. To meet specific needs in the community, TRIAD offers funds to bridge gaps in care. "At Moses ▸

Dr. Sharon Morrison (in white) leads a planning session with graduate student program coordinators Jerono Phyllis Rotich, Pelangie Quenum and LaChanda Carter.

Cho chiwengi pano nchakutose

(Whatever happens here, happens to us all)

Tonga Proverbs from Malawi,
David K. Mphande

All persons are caught in an inescapable network of mutuality, tied in a single garment of destiny: Whatever affects one directly affects all indirectly.

~ the Rev. Martin Luther King Jr.

The Making of a Man

Learning about why people make life choices is the first step to understanding how to educate them to make better ones. Across campus, two professors are teaming up to see how perceptions of masculinity among African-American college men may affect their risk of exposure to HIV.

Dr. Willie Baber, professor of anthropology, and Dr. Robert Aronson of public health have teamed up "to look at masculinity really as a factor in a whole lot of areas of health disparities – not only HIV risk behavior. Our main focus all along has been on masculinity, which is involved in any number of health factors – hypertension, diabetes, heart attacks – a whole litany of health care problems facing men and specifically African-American men," Baber said.

He explained that African-American men are often perceived in stereotyped ways by others. "We are trying to explore the fact that a man is the sum total of what he does, well beyond provider or aggressor or more simplified notions. Then we begin exploration of how men think of themselves and how that might be linked to health disparities. HIV risk behavior is one of those," Baber said.

Flyers were put up around the UNCG campus, recruiting volunteers. Thirty African-American college men over age 18 will take part in the data collection.

"Basically we start with their opinions about what it means to be a man. What are some important qualities of men, important behaviors that are part of being a man? We ask them if there are different kinds of men and what are they? What does a successful man look like, or a good man?" Baber said. "Then we just ask them about their experiences on campus in relationship to being a man – their perceptions of manhood in terms of their actual experiences."

This initial level of interviews, focused on masculinity and masculine expression, will be followed by a second level, using established instruments and measures to assess risk behavior. Participants will be asked for their knowledge of HIV. Finally, a focus group will be selected from the 30 subjects, and this group will talk in hypothetical terms about sexual expression.

Baber said the study may provide critical insight into the hows and whys of the HIV/AIDS pandemic. "They represent 12 percent of the population, but African-American men and women make up 37 percent of all AIDS cases," he noted. "Unmarried African-American males ages 25-35 are at high risk. That's why we are looking at them."

Baber noted that among the stereotypes associated with HIV risk is the idea: "'I'm not one of them; I'm not at risk. My partner's not one of them; I'm not at risk.' If you are African-American in particular, you are at risk if you think that."

Baber said that the TRIAD study should offer some immediate insight for interventions such as training and prevention education. "But we are also hoping that once we publish the results, we would be in a better position to expand the project, dealing with different contexts of men. It's important to obtain sufficient funding to do that kind of research, and we hope this will allow us to succeed in obtaining much better funding," he said.

Cone, they needed money to purchase scales to measure body weight. It's extremely important for management of heart failure patients. At HealthServe, we provided glucometers and testing supplies for Hispanic diabetic patients – the pharmacist and medical director decides who gets them and evaluates whether the assistance has been useful to the patients," Wallace said. "This is truly a partnership. We ask them what kind of issues they are seeing in these populations, and we plan services with them."

In planning services, researchers bring to the table a wealth of experiences in their areas of study and new ideas and techniques to measure and improve health. But community partnerships demand more than just money or expertise. Listening to what people say, understanding what experience has taught them – that comes from taking part in their lives.

"Everybody who is involved in the grant must go to community meetings at least two times a year. (They go to) schools, churches, Alcoholics Anonymous meetings, or Scout troops to discuss something related to their areas of interest, to be visible and ask people what they think are the issues and how we can assist them," Wallace said.

"We are hoping that by the community partnerships, by being available in the community and by offering an interdisciplinary approach, we can reach out to the community in different ways," Wallace said. "We expect that many things will result from this effort, including larger grants and projects to address additional issues."

Morrison said the interdisciplinary focus helps researchers as well. "Within schools we know each other, but now we look across campus, across departments – people with expertise and similar interests from genomics, nursing, exercise, public health, anthropology – such a diverse group," she said. "People will benefit from our findings. This is a comprehensive approach, to move forward from Guilford County to address larger issues in the state."

By the time this pilot project concludes, Morrison aims to identify factors that help or inhibit immigrant women from coming forward for HIV/AIDS testing and counseling, or that may affect participation in preventive behaviors. "Ultimately we want some improved outcomes – not to solve problems, but begin to address them the best way we can," she said. "And more than anything else give credit to the women. They know best about their health; they have a voice and bring important information and learning to us."

Morrison has come to know these women through informal gatherings sponsored by the African Services Coalition and the Center for New North Carolinians. This has prepared her for ▶

A Precautionary Tale

Helping people live longer – and better – lives. That's what Dr. Patricia Crane, assistant professor in the School of Nursing, hopes to foster through her work with older African-American women. She is studying their daily activity and whether awareness can help them toward a heart-healthy lifestyle.

"Heart disease is the number one killer of women – greater than the next 14 causes of death combined – and when we look at the statistics on heart disease, African-American women carry the burden. They have more hypertension, more obesity and more strokes when compared to white women," she said.

Americans are living longer, and women are encountering heart disease in their later years. "Women are having their first heart attack around 70," Crane said. "We need to know more to help women halt the progression of heart disease if they have it, or prevent heart disease if they don't, so that they can live better lives."

Crane will gather a study group of 56 women through community resources such as churches and organizations. The women, all age 65 or older, will be placed into two groups in a randomized clinical trial.

Both the control and experimental groups will receive information about the importance of physical activity, and both groups will keep audio journals. Using tape recorders provided through the program, the women will report on each day's activities.

"The audio journal takes away barriers such as reading or sight. They push a button and say, 'I vacuumed the house,' or 'I went outside and gardened for an hour,'" Crane said.

The experimental group members also will wear step pedometers. "We are wondering if awareness of recording the steps has an effect on how much activity you participate in, if they have more activity than the other group," Crane said. She and her graduate assistant will calculate the number of kilocalories each woman and each group expended, using a standard energy expenditure scale that "breaks down minute activities, sports, leisure, walking, gardening," she explained. "What we will do is listen to their reports, and from that calculate how many kilocalories they expended, and compare that amount with the pedometer and see if there is a difference."

The study, which is projected to last six months, will also look at cardiac risk factors, tracking the women's cholesterol levels and body mass indices.

Crane's earlier research likewise focused on women and heart disease – one study looking at older women with heart disease, another at women who previously had heart attacks or congestive heart failure, and another at African-American women ages 25-75 in terms of physical activity and cardiac risk.

"These women are incredible. In my first study, when I contacted them and told them who I was and what I was interested in doing, these women would just allow me to come into their homes," Crane said, her voice warm with gratitude. "In this day and age, with all of the violence – for these women to give their time, energy and effort to help other women is just amazing. I want to do things to improve their lives, to help them live the rest of their lives to the fullest."

The TRIAD program includes another study of fitness and heart health. Dr. Laurie Wideman, an assistant professor of exercise and sports science, is working with colleague Dr. Paul Davis at UNCG and cooperators at North Carolina A&T to study the effects of two different kinds of exercise – a traditional program with time on the treadmill, and one that incorporates physical activity into a person's daily routine. Lifestyle activity modification, as it's called, asks participants to walk more, climb stairs, just move around.

"The goal is for both groups to accumulate approximately the same amount of exercise time during the day," she explained. Lifestyle participants will wear pedometers, while traditional exercisers will be monitored by trainers.

The research will study effects of exercise on traditional risk factors – blood pressure, insulin levels and blood lipids. But it will also delve into some new and nontraditional ways of tracking risk: C-reactive proteins and PAI-1 (plasminogen activator inhibitor). Levels of PAI-1, which contributes to blood clot formation, appear to be affected by activity levels. A C-reactive protein, which is produced by the liver and fat cells, contributes to inflammation and vascular disease.

Crane noted that the studies will help design interventions to help African-American women be more physically active. "That's so important. Increasing activity is probably the one prescriptive thing we can do that impacts blood pressure, stress, weight, and that can help people who are diabetic control their blood sugar," she said. "If we can figure out how to help them be more active, we've made a contribution to the health of our society."

Nourishing Education

Jen Kimbrough, associate director for UNCG's Center for Youth, Family and Community Partnerships, conducts her work in the schools – where she believes preventive public health measures should begin. "Obesity in particular is a tremendous problem in the U.S. and is now reaching epidemic proportions in children, disproportionately affecting African-American children," she said.

Her nutrition outreach project will focus on two elementary schools where students are predominantly African-American and low-income. "We are targeting students through the classroom with constant positive nutrition messages integrated into the daily curriculum. For example, math, science, and language arts lessons will include nutrition content," Kimbrough said. "We are trying to change the perceptions of how to eat healthfully and at the same time encouraging positive eating behaviors."

This project grows out of an assessment completed in the 2001-02 school year in nine Guilford County Schools. Kimbrough and fellow researchers found a high level of obesity among students and a lack of preventive procedures around student nutrition. Foods with a low nutrient density were available in the cafeteria daily, and students controlled their own food choices – resulting in many students making poor decisions. "Because obesity is a relatively new problem in children, there was not a lot in the school environment in terms of policies to support healthful eating and activity," she said.

As part of TRIAD, Kimbrough is working with Washington Elementary and Hampton Academy, eastern Greensboro schools with similar student demographics. In the first part of the project, students are being asked about "current eating habits, activity levels, foods available in the home, and what they choose for snacks," Kimbrough said. Another survey will look at what nutritional messages classroom teachers deliver to the students and what kinds of resources the teachers would like to have to enhance their current nutrition lessons.

With that information, lesson plans and materials integrating positive nutrition messages will be developed and introduced to Washington Elementary teachers in August 2004. In January 2005, the students and teachers will be re-surveyed to see if the new materials had any impact. Hampton Academy will serve as a comparison group. Students and teachers will be surveyed, but information and materials will be provided there only at the conclusion of the study.

"The approach we are taking is to try to work with school academic priorities as opposed to changing what they are doing – integrating health into the daily classroom routine without making an imposition – not taking away from time spent on math or reading," Kimbrough said.

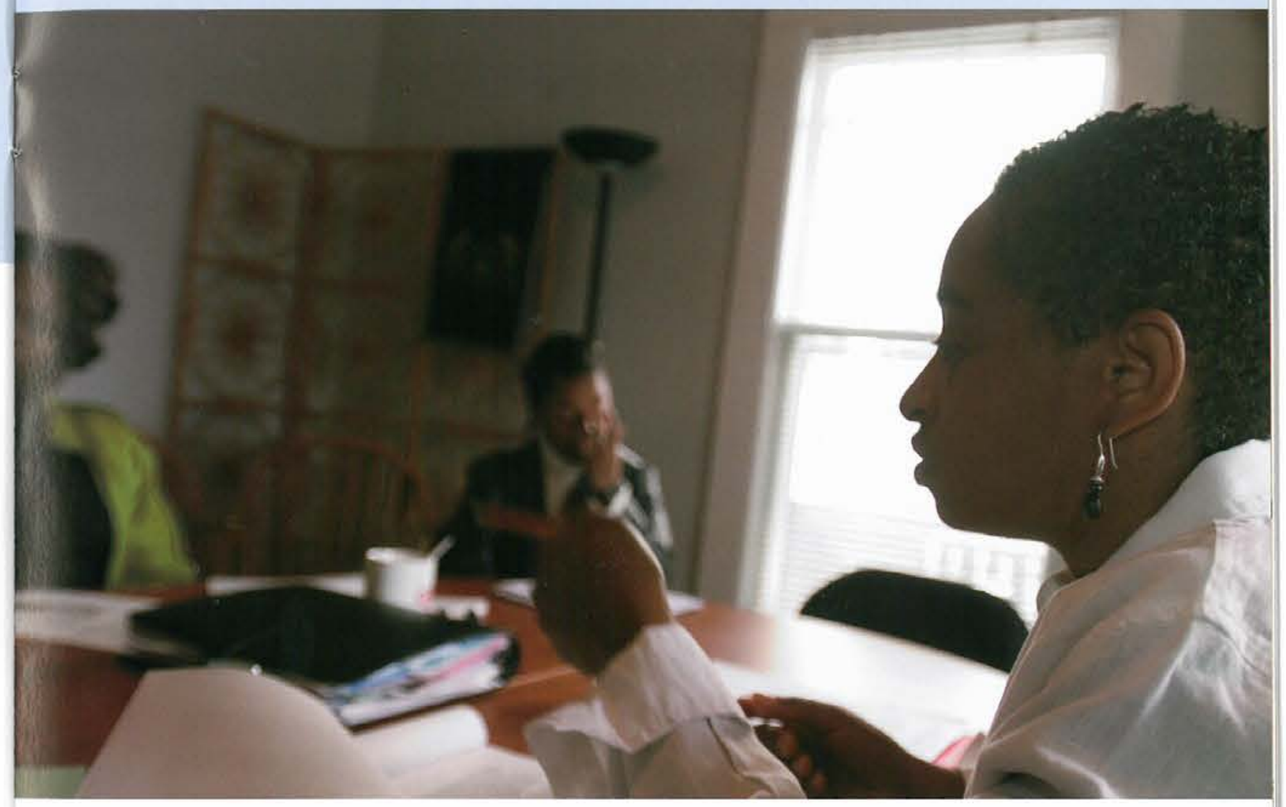
But the students won't be asked to change their eating habits all on their own. The project includes a component directed at cafeteria workers, as well as educational materials for parents. "We will be talking with cafeteria workers about product placement on the food line and how to encourage students to make healthy choices," she said. While this effort will be less intense, Kimbrough said it's important for the cafeteria workers to be involved.

"The cafeteria is essentially the front line in the obesity battle in the schools," she said. "The cafeteria workers and teachers who supervise students in the food line have a great deal of power to influence student food choices. We want to ensure that students are supported and encouraged to make good choices on a daily basis."

TRIAD

TEAMWORK IN RESEARCH AND INTERVENTION TO ALLEVIATE DISPARITIES

Project for Health Disparities



TRIAD is not the first project that has brought Dr. Sharon Morrison into the world of the newly emigrated. She has worked with the library system on health literacy among these women. She is an advisory board member of the Immigrant Health Access Project, affiliated with the Center for New North Carolinians. "They are aware of who I am. I have attended functions, I sit on some of the same boards – part of it is being visible in the community. I have to be more than Dr. Sharon Morrison from UNCG. I have to be known in the community – I have to be eating out of the same pot, so to speak."

the study, in which she will talk with volunteers "wherever they feel comfortable."

"Language is really one part of it, a part that could be a factor in not accessing testing and information, but religion and culture issues as well as the reality that people are living and acculturating in the U.S. – we are trying to understand these factors prior to going out and intervening," she said. "This is a large area of disparity and we want to effectively address it … come up with the best information so we are armed and not addressing it inappropriately."

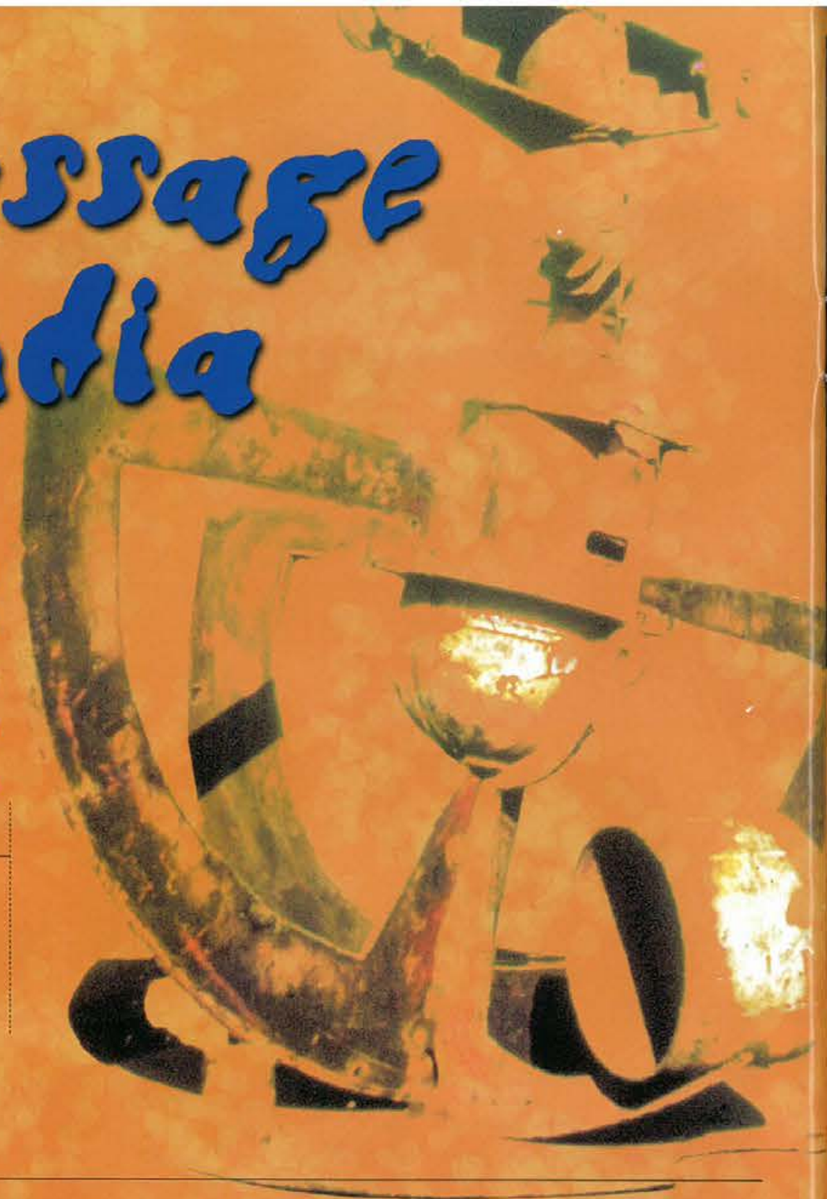
According to 2000 figures from the Centers for Disease Control, black and Hispanic women accounted for roughly 80 percent of AIDS cases diagnosed in women in this country. AIDS is the third leading cause of death for women of African descent, 25-44 years of age. But it's difficult to tease apart the incidence of HIV and AIDS among recent immigrants as compared with longer-term residents or U.S.-born minorities. Guilford County now has a Hispanic immigrant population of about 15,900 (U.S. Census, 2000) and an African population estimated at 10,000 (African Services Coalition). The HIV infection rate for the county was 20/100,000 compared with a national rate of 14/100,000, according to the CDC.

"It's fascinating working with immigrant and refugee populations," Morrison said. "It adds a whole different cultural personality, not just to the community, but also to the research. You try to be reasonably creative in research in ways that you can get the information or data that you are trying to get, but be respectful of the expertise that the participants and the community have."

A Passage to India

Sculptor Andy Dunnill fulfilled a vision of creating amid deconstruction when he traveled across the world to India's ship breaking yards.

STORY BY BETH ENGLISH,
UNCG RESEARCH EDITOR
PHOTOS PROVIDED
BY ANDY DUNNILL



The people working in the ship breaking yard thought Andy Dunnill a bit odd.

As they labored to dismantle ships that had seen better days, British-born Dunnill walked among the scraps of metal, selecting pieces that would eventually find their way into 13 sculptures crafted during his six-week research leave in India.

"I was trying to construct in an area of deconstruction," he said.

As the noise and vibration of cutting and welding torches reverberated along the area, the friendly and curious people generously offered their time to help.

"They saw someone who wanted to do something and thought it was fun," he said.

The dream of working amid the detritus of what had once been proud ocean-going vessels started with a long-term fascination with ships. In fact, Dunnill, associate professor of art and foundry manager, envisioned the place before he even knew of its existence.

"I started drawing it in 1997," he said, noting that later that same year, a friend showed him a picture of the ship breaking yards. "So I had to go see what the reality looked like."

India's ship breaking yards, which are concentrated in a 10 mile long water cove off the Arabian Sea, are labor-intensive, with all work done manually. All day long, the ground shakes with the vibrations of metal falling to the ground.

Traveling to India was an exercise in creativity on several levels. As a first step, Dunnill went on-line to look for brokers of used ships in America. He found Global Marketing Systems and discovered the director, Dr. Anil Sharma, was a former business professor. Dunnill wrote to him, making his case that good teaching comes from doing. Would he be willing to make introductions for him?

Luckily, the director agreed and he and his brother, Komel, were willing to help Dunnill get a visa to travel to Bhavnagar. Even with such help, he still had to get permission from the Indian government. The cost of their agreement was a sculpture to be placed outside the Gujarat Maritime Building in Alang.

In the winter of 2001, Dunnill made the trek overseas. Even now, he recalls his first impressions of dirt roads, mangy dogs and a chaos of bicycles and rickshaws.

"I knew I was in a very different place," he said.

Hosted by Subodh Choudhary (a ship breaking yard owner), Dunnill began his work amid "the wave of destruction and organized chaos."

The pieces he crafted during his stay are varied. One looks like two interlocked dancers. Another, like a curved top or anchor.

"I like to think on my feet," he said. "Sometimes I'm amazed that I managed to pull anything off at all."

Subodh Choudhary's yard was dismantling the last vestiges of a ship, which limited the types of materials available to Dunnill. Also, he had to rely on the good will of the men to move and position the large chunks of steel with cranes and limited time and equipment. "They were very patient with me," he said.

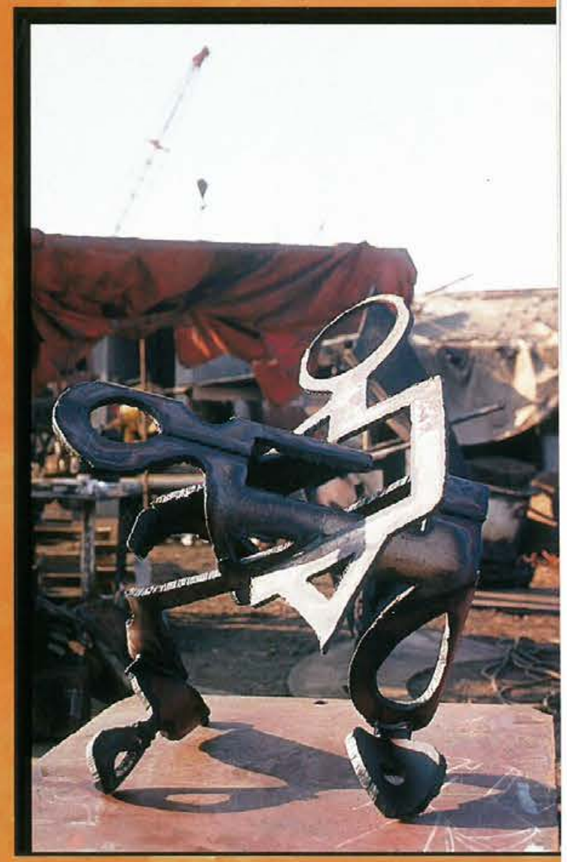
They were sociable too. Dunnill recalls sitting around the lathe shop with the men one evening and being challenged to help one aspiring artist learn to draw hands and feet. He did quick sketches of them in his abstract style and then handed them over for the men to see.

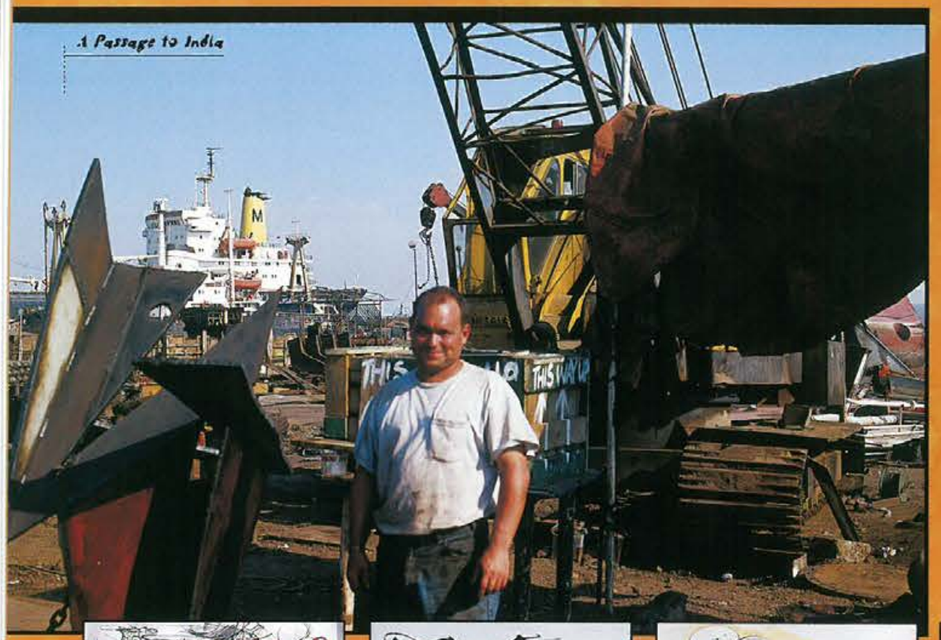
"They would hand it back and say – this is terrible," Dunnill said with a small chuckle.

While realistic anatomical representations may not be his forte, drawing goes to the core of what is important to Dunnill.

"I'm drawing all the time. You can do that anywhere, anytime. It's like breathing to me. A visual diary. It's a great way to document thoughts, feelings, observations. It's my most direct form of expression."

Sometimes his drawings are the springboards for sculpture. Other times, he responds to the material itself or begins with an idea based on





the forms of the raw materials.

As a sculptor, he selects materials and forms that speak to him in certain ways. It could be steel, bronze, aluminum, iron, concrete or other found objects. "Sculpture dictates what it's going to be," he said. "If I could talk about it, I wouldn't make it."

Surrounding himself with components, he rolls them around until they tell him where they fit together. "I know what I want it to feel like," he said. "It's three-dimensional poetry in space."

Since his return from India, Dunnill has pressed forward with his art. This past fall, his sculpture "Nocturne" was selected as part of an annual Artscape Sculpture Exhibition sponsored by the City of Baltimore. The finished piece, weighing roughly four tons, is a study in curved steel ending at a telescope-like point.

This winter, he installed a solo drawing show titled "Andrew Dunnill: Forty Drawings, Three Continents" in the Usdan Gallery at Bennington College in Vermont.

In the past, he has had exhibitions at the Sculpture Center in New York and large-scale outdoor works at Roosevelt Island and Long Island University, NY. He also has exhibited at the Navy Pier in Chicago, Socrates Sculpture Park, NY, St. Paul's Western Sculpture Park, MN, and Franconia Sculpture Park, MN, where he was a resident artist in 1997.

At the moment, he is working to assemble a show of sculpture and drawings for the Art Gallery at the University of Maryland next February.

But the memories of India – the noise, the smell, the orchestrated chaos, the gentleness of the people – stay with him. "It was an intense experience."

HERE TO SERVE

SERVE, an education think tank at UNCG, makes education better across the Southeast. Its latest project challenges high school seniors to stretch.

STORY BY SUSAN DICKERSON
PHOTOS BY CHRIS ENGLISH AND BERT VANDERVEEN '93, '97 MA

Michael Hayes, a senior at Southwest Randolph High School, developed the Speaker Keeper 2004 to go along with his crime prevention project. The product sets off an alarm when a speaker is stolen from a car. "I thought it was a pretty clever idea," he said.

Imagine being a freshman at Virginia Military Institute and walking in with a portfolio professional enough to land a job as a research assistant. Imagine being a high school senior conducting a project on architecture and having several architectural firms sending representatives to hear your presentation. Imagine spending your spring break on a sailing vessel because it's part of your research project.

These are just a few examples of how the Senior Project program has shaped high school graduates' lives.

And that's exactly what the SERVE Center for Continuous Improvement at UNCG has in mind.

One arm of the SERVE Center is the federally funded regional education lab called SERVE. Based at UNCG, the lab serves Alabama, Florida, Georgia, Mississippi, North Carolina and South Carolina. It receives federal grant money — to the tune of more than $124 million since its 1990 inception — and employs about 100 individuals across the Southeast.

Those employees are busy with a variety of initiatives, including reading instruction, teacher recruitment and retention, homeless education, early childhood transi-

Jeanna Hall, right, trained a baby Nile monitor to use a leash and a litter box and gave presentations at various science classes. Below, Susan Patterson studied stained glass "because of its beauty and aesthetic quality." She created three stained glass stepping stones, sold them and donated the proceeds to the Alzheimer's fund at Cross Roads Retirement Center in memory of her grandmother. Both are students at Southwest Randolph High School.

tions and teacher evaluation.

SERVE's federal money also helps pay for research and policy analysts in each of the region's state capitals. "They work with chief state school officers, and their work is to inform state policy makers through research," said Dr. John R. Sanders, SERVE executive director.

For example, if a state is looking at reducing class size, the SERVE analyst will research that policy change, he said. "So the state officers would know whether that policy was based on research."

But one of SERVE's longest-running initiatives to date is Senior Project. The capstone project gives twelfth-graders a chance to demonstrate what they know and what they can do as they prepare to graduate. Students must complete four components: a research paper on a topic of the student's choice, a related product or activity, a portfolio, and a presentation before a community review panel. Most schools provide faculty mentors to supervise the students' progress, which is documented in the portfolios, and SERVE supports schools that want to launch the program with information, research, support, workshops and certification.

As the need for raising high school standards became apparent in the early 1990s, SERVE collaborated with Far West Edge, the originators of the Senior Project concept, and provided research to enhance it. In 2003 UNCG and SERVE Inc., the marketing arm of SERVE Center, purchased Senior Project intellectual properties outright. All proceeds from SERVE Inc. return to the university.

"The program is definitely expanding," said Dr. Paula Egelson, director of Reading and School Improvement for SERVE. "Two years ago, half of the high schools in North Carolina either had Senior Project or were planning to implement it."

For Carol Query, 27-year teacher and chairwoman of the English department at Laney High School in Wilmington, Senior Project means students are more excited about learning. "They become more animated about information they're finding," she said.

In addition to research, students also must interview someone within their community who is not a family member. Seniors also must have a "product," a spin-off from the research, Query said.

For example, one student at Query's school researched the effects of domestic abuse on elementary students. "As her product, she went to the domestic violence shelter and volunteered to work with children while their parents went to counseling," Query said.

Another student researched the brain development of young children. For her product, she devised a babysitting guide with activities that stimulated the brain.

Query's school is working on its Senior Project certification through SERVE. Senior Project certification is a way to ensure that a Senior Project program is being faithfully implemented and that students are producing quality work. "We've met 18 out of 20 items," she said. "We're hoping for a seal on their diploma to show the we're a Senior Project-certified school."

One result of Senior Project is money for college. "I have had students go to school interviews and walk away with scholarship money after showing them their Senior Project portfolios," Query said.

In Mooresville, Superintendent Dr. Bruce Boyles sees students coming away with knowledge applicable in the real world. "They're getting a notion for research and what that research might mean."

Students learn public speaking, time management and confidence. "I have a project to present to the county commissioners tomorrow and that's the kind of thing they're doing."

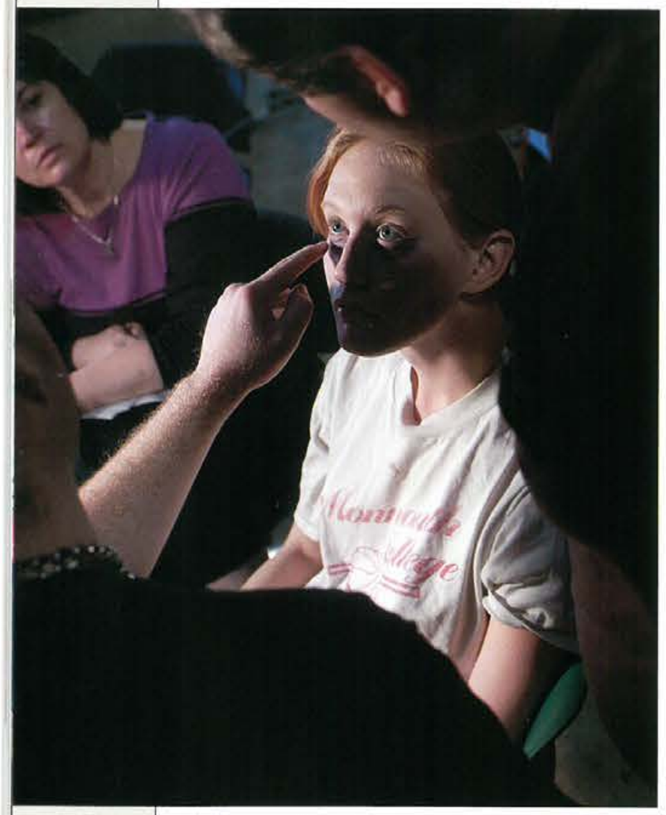
In Columbus, Buck Preston, chairman of Polk County High School's English department, said his school was one of the first to try to start Senior Project.

"It was a miserable failure (at the time)," he said. Later, with SERVE's help, support and networking, things began moving off the ground, and the school has had the program in place for 10 years. "SERVE did us a huge favor with networking. SERVE was able to focus the people who were trying to start the pilot (programs) so they could get together and compare notes."

What started as a summer networking session has now morphed into an annual summer Senior Project institute. "The more experience we had under our belt, the less we needed to learn

From Fact to Fiction: Screenplay Explores Healthy Beliefs

> "When you start mixing students up like that, you create networks that are a whole lot better for production."
> Dr. Emily Edwards



Dr. Emily Edwards' projects are as varied as her professions – filmmaker, writer, academic and former television reporter – but they are linked in a complex tapestry.

Her last film, "Dead Write," a neo-noir mystery, explored the tragic world of a deceased mystery writer. It was inspired by a friendly, but fiercely private neighbor who suffered from a hoarding disorder.

Her new film about four women searching for a famous root doctor stemmed from her work on a documentary about alternative healing.

Edwards, an associate professor of broadcasting and cinema, wrote the screenplay for "The Root Doctor" after completing "Wondrous Healing," a documentary that explores the integration of alternative and standard healing techniques.

Intrigued, Edwards interviewed patients cured physically or emotionally by root doctors. She researched healing methods from African and Native American traditions, voodoo rituals and European practices. She discovered healers who used herbs and ritual, even the Bible, for their cures.

Edwards also studied famous North Carolinian root doctors including James Spurgeon Jordan of Murfreesboro. Jordan owned a baseball team and logging company, but he also practiced healing, carried a mojo bag and consulted a crystal ball.

Edwards' screenplay for "The Root Doctor" won the best faculty screenwriting competition award of excellence last year from the International Broadcast Education Association.

She plans to direct the film in March and offer it on DVD this fall.

Michael Corbett, director of the film and technology program at Piedmont Community College in Yanceyville, will join Edwards on the project. The two collaborated on "Dead Write" last year. Corbett was the film's cinematographer.

"The Root Doctor" follows four women as they seek a noted healer. Ultimately, it confronts people's beliefs, though Edwards also described it as a "buddy, road trip kind of film."

Students from Guilford Technical Community College plan to record the movie soundtrack. Piedmont Community College students will hang lights, manage the wardrobe and make-up, and tend to other technical tasks.

UNCG students plan to record behind-the-scenes footage for the DVD. Another student is making a music video. Students from the theater program conducted the auditions.

"When you start mixing students up like that, you create networks that are a whole lot better for production," she said. Edwards should know. For her, each project, like each job, builds upon the fabric of another.

A Melding of Mind and Music

Drs. Kelly Burke and Scott Rawls play musical instruments that fall in the middle of the orchestra in terms of tone and range—even seating arrangement.

Last year, the two collaborated on a CD that featured music by 20th century composers who were overshadowed by more renowned artists.

For these reasons, Burke and Rawls dubbed themselves Middle Voices.

The pair shares a passion for chamber music, a similar work ethic and familiar ideas about research. Their styles blend as richly as their instruments: Burke on clarinet, Rawls on viola.

"One year we decided that we were going to share a recital and started digging for music and came up with a whole bunch of interesting things," said Burke, a clarinet professor in the School of Music. "Not to be so corny, but it felt like he was my musical soul mate."

Rawls agreed: Such melding of the mind and music is rare.

"It boils down to when musicians meet people and discover that there is whatever — it is a common approach, an intensity for chamber music — but just find that there is a comfort on stage together, there's an easy communication," said Rawls, an associate professor in the School of Music.

They released their first CD, "Middle Voices: Chamber Music for Clarinet and Viola Notes," last March. It contains little-known pieces by composers Rebecca Clark, a viola player born in 1886, and Charles Loeffler, a violinist born in 1861.

Because Rawls says they are not "mere museum keepers," it also covers work by contemporary artists: Dennis Riley, Craig Walsh and J. Mark Scearce.

"We love Mozart, Bach, Beethoven," Rawls said. "But again… we want to help our art form continue to evolve."

Burke and Rawls continue to perform on and off campus as Middle Voices. Pianist Andrew Harley, has joined them. Middle Voices expects to record a second disc by the summer of 2005.

Performing serves as critical research for Burke and Rawls. They describe it as a process of discovery similar to a scientist who toils in the lab over boiling beakers and test tubes.

"For performing artists, like those in the lab… they are demonstrating to our students on campus what they are aspiring to do," Rawls said.

Said Burke: "For the performing musician, recordings represent the culminating event in our field of expertise much like the publication of a researcher."

Full Circle

It is frustrating not to know things,

To have no word for purple or fox,

That Florida and France are different places,

And walking in the rain stops being fun.

The sea is sometimes not always the ocean.

Salt and sugar have fooled others.

No matter how many times you ask him,

The cat will never read you a book.

Stuart Dischell,
from *"Dig Safe"* (Penguin, 2003)

Associate professor Stuart Dischell teaches poetry writing and contemporary poetry. In addition to three published collections of poetry, his work has appeared in a variety of journals, including Agni, Ploughshares, Antioch Review, New Republic and Slate, and his poems have been widely anthologized. He also has received awards from the National Poetry Series, the National Endowment for the Arts and the North Carolina Arts Council.

Caldwell's Challenge: Resurrecting an Intellectual

Friedrich A. Hayek (1899-1992) has been recognized as one of the 20th century's most profound thinkers, yet, until recently, his name was relatively unknown to many scholars and intellectuals. A Nobel Prize-winning economist, his work spans disciplines and decades, piquing the interest of many and alienating others with his ideas. His criticism of socialism and his many insights into how a market economy functions, controversial when he first enunciated them, are now considered by economists to be fundamental contributions.

Dr. Bruce Caldwell, Joe Rosenthal Excellence Professor in the Department of Economics, has dedicated much of his recent career to resurrecting the philosophies of this seminal thinker. His new book, "Hayek's Challenge: An Intellectual Biography of F.A. Hayek" (2004, University of Chicago Press), could also aptly be titled "Caldwell's Challenge." Delving into the great breadth and depth of Hayek's work is no easy task, as his research and voluminous writing traverse the fields of economics, psychology, political philosophy, the history of ideas, and social-science methodology. An additional challenge lies in Hayek's Austrian philosophy which lies far from the realm of modern-day mainstream economics. To complicate matters even further, Hayek's work contains apparent contradictions with which any comprehensive intellectual biography must contend.

Israel M. Kirzner calls Caldwell's scholarship "impeccable, and in fact extraordinary." Author Roger Garrison describes "Hayek's Challenge" as "a dramatic success," noting that "because of his own specialization in methodology and his willingness to delve into fields well outside his own, Caldwell is uniquely qualified to undertake the challenge" of evaluating or even summarizing Hayek's work.

Meaning in the Shadows

The beauty of sign language attracted Rachel Briley to its study. Its iconographic nature led her to unite the visual language with stage performance.

"It's so perfect for the theater," said Briley, the artistic director of the N.C. Theater for Young People and director of the Masters of Fine Arts program in theater for youth. "The icons are sometimes so vivid. To me there was a natural connection."

Briley, whose teaching career includes a stint at Galludet University for the Deaf in Washington, D.C., thought: "There's got to be a way to make this happen on stage."

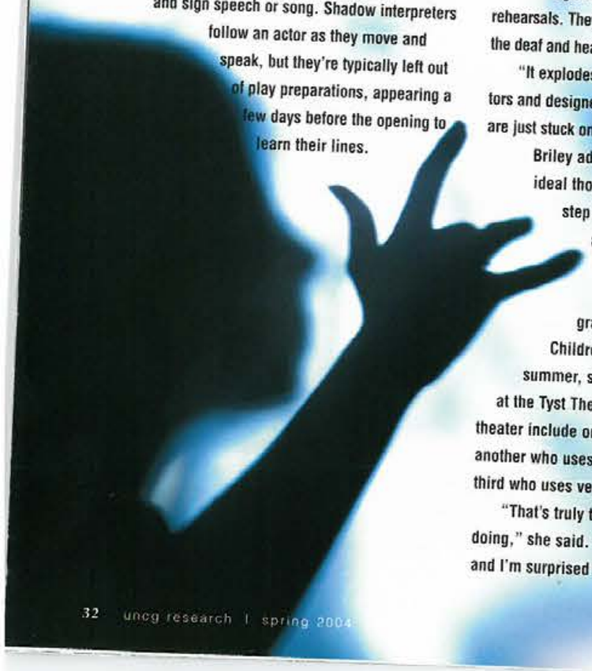
Last year, she did. "Mufaro's Beautiful Daughters" featured six "shadow signers," one for each actor, who used American Sign Language to communicate the actors' lines. Three of the signers were deaf. All were students in the interpreter-training program at UNCG.

The production toured schools in North Carolina, Virginia and South Carolina. A matinee at Taylor Theatre drew an unusually packed house.

"We had people standing in the aisles," she said. "That to me demonstrated the need for more of this work in the community."

Different ways exist to make visual performance accessible to deaf audiences. As far as Briley is concerned, some are better than others.

Stadium interpreters stand to the side of a stage and sign speech or song. Shadow interpreters follow an actor as they move and speak, but they're typically left out of play preparations, appearing a few days before the opening to learn their lines.



Shadow signers, on the other hand, attend rehearsals. They're as involved as the actors, putting the deaf and hearing on equal footing.

"It explodes the whole paradigm of actors, directors and designers create theater (while) interpreters are just stuck on," she said.

Briley admits that shadow signing is not ideal though. The next level takes theater a step closer to equal access for the deaf and hearing.

She has received a fellowship to attend an exchange program offered by the International Children's Theater Organization. This summer, she will study groundbreaking work at the Tyst Theater in Sweden. Directors at the theater include one who uses only sign language, another who uses signs and spoken word and a third who uses very little language at all.

"That's truly the kind of theater we need to be doing," she said. "The field is so ripe for this work and I'm surprised there's not more of it going on."

Big Dreams Set the Stage for 'Little Women'

Opera director David Holley thinks big.

A traditional opera production is OK. But for Holley a show that spans seven academic departments, attracts local Girl Scouts and arts students, and draws a world-renowned composer and librettist is better.

"I kind of like to do big things," Holley said. "I'm a glutton."

"Little Women" – staged in late November – capped a two-month celebration of the book and its author, Louisa May Alcott.

Holley called the ambitious artistic effort a "cross-disciplinary community outreach project," a title almost as complicated as the task of coordinating the series of lectures, discussions, classes and performances.

Between October and November, English Professor Dr. Hephzibah Roskelly led lectures on Alcott's life and family, her other works and the competing film adaptations of "Little Women." Students and faculty from the Honors College dramatized a part of the book. The Division of Continual Learning offered a "behind-the-scenes" class.

Dr. Marsha Paludan of the theater department stage directed the opera.

"Right from the very first meeting there was such electricity," Holley said. "It kind of snowballed from there."

Attending the various events while still preparing for the production left Holley's students – not to mention him – exhausted. But he said the benefit was clear. "The students that sang the roles probably learned more about the source material and their characters," he said. "Their performance had so much more depth than it normally would."

Further setting the production apart from a typical show was the presence of Mark Adamo, who wrote the score for the critically acclaimed "Little Women" opera. Adamo traveled to Greensboro a week before the opening and worked with the cast for two nights.

Holley said he was amazed that Adamo accepted his invitation.

"I kind of dreamed and went for the stars," he said.

Married couple Dennis LaJeunesse and Amy Adamson share more than a home – they share a passion for biology. And both depend on that faithful biology standby – the fruit fly – to advance their research.

Although fruit flies and humans are strikingly different, LaJeunesse said the genes are similar on a molecular level.

"They are a good model to understand human disease," he said. Specifically, he is studying Neurofibromatosis type 2, an inherited disease that manifests itself as a slow growing benign tumor in the brain.

By using fruit flies as a gene hunting tool, LaJeunesse has found a genetic modifier of NF2 called Scribbler that also appears to regulate cell growth. "We want to know what goes wrong with people missing this gene."

Adamson, too, is looking to unlock the mysteries of disease at the cellular level. She is studying the interaction between viral and human cellular proteins. In particular, she is looking at the Epstein-Barr virus, which causes mononucleosis and is associated with several types of cancer.

"I want to see the consequences of viral protein and cellular protein interactions," she said.

Funded by two National Institutes of Health grants, she has expressed the Epstein-Barr BZLF1 gene in fruit flies and has identified an interesting interacting gene – the Pax5 gene.

The Pax5 gene is responsible for B cell development and maturity which is needed for a healthy immune system. The interaction between Pax5 and Epstein-Barr BZLF1 protein seems to inhibit B cell maturation, she said.

While both she and Dennis foresee applications of their research in the understanding of disease, neither suspected that their research would lead them down that path.

"You have no idea what experiments are going to show you," he said. "It's a whole universe of discovery."

> "You have no idea what experiments are going to show you. It's a whole universe of discovery."
>
> Dennis LaJeunesse