



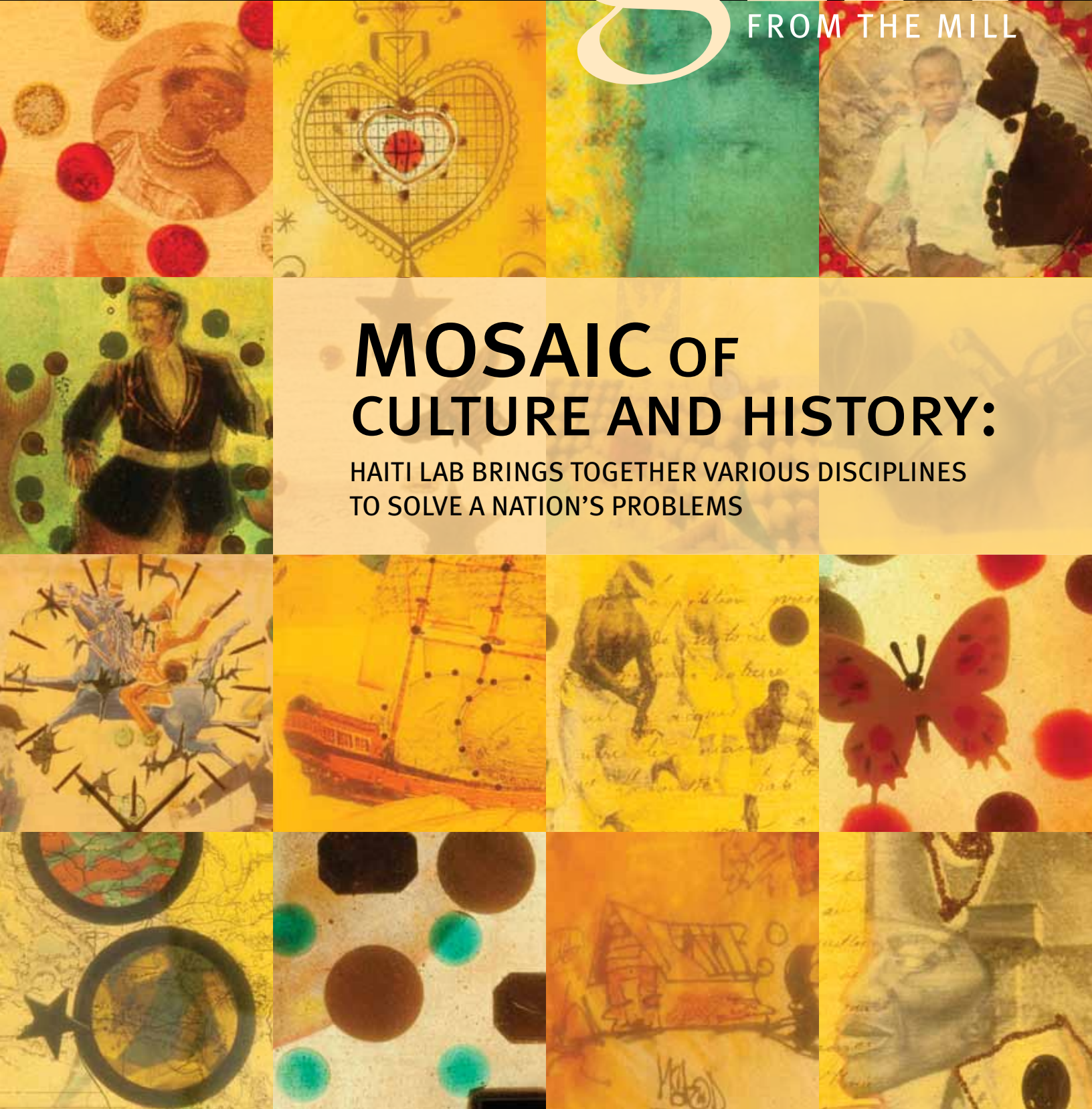
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FROM THE MILL

## MOSAIC OF CULTURE AND HISTORY:

HAITI LAB BRINGS TOGETHER VARIOUS DISCIPLINES  
TO SOLVE A NATION'S PROBLEMS



## GREETINGS

Welcome to another issue of *Gist from the Mill*. This publication demonstrates the diversity of social and behavioral science research conducted at Duke University.

Inside, you will read about Anirudh Krishna (Public Policy and Political Science), who discusses how anyone can become poor by examining issues at the individual and household level. The vagaries of illness, accidents, drought and other events can initiate a descent into poverty while other more fortunate events provide an opportunity to emerge from it. Jay Golden (Nicholas Institute), oversees the Duke Center for Sustainability and Commerce, which aims to reduce the environmental, economic and social footprint of corporations. Golden hopes to pull together and work with colleagues across campus to take on the key global technological and organizational challenges inherent in that mission.

Deborah Jenson and Laurent Dubois (Romance Languages) talk about their experiences in the "Haiti Lab," a humanities laboratory that combines research, education, and innovative ideas. In the lab, faculty, graduate students, and undergraduates collaborate to study Haitian culture, as well as to further the country's recovery from the January 2010 earthquake.

Rebecca Bach (Sociology), discusses abstinence-only vs. comprehensive sex education in public schools with a focus on North Carolina's most recent sex education law. This law, which passed in 2009 and went into effect in 2010, states that schools must provide comprehensive sex education. However, parents can choose to keep their children out of these classes. Bach plans to examine trends, both before and after 2010, in the number of students taking these classes and the proportion that are exempted by parental request.

SSRI welcomes new individuals and research groups. The Center for Population Health and Aging has moved into a closer working relationship with Duke Population Research Institute (DuPRI) and SSRI. Investigators in this group, including Anatoli Yashin, Eric Stallard and Ken Land, study health and aging at the intersection of biology and social science. Dan Ariely's research team is renovating space at SSRI. Thus, Ariely's signature sign-off, "irrationally yours," will soon be originating from Bay C of the Erwin Mill Building.

On January 1, Giovanni Zanalda joined SSRI as an assistant research professor. Zanalda's research area is at the intersection of economics, history and business. He uses the tools and materials of the historian to understand an important contemporary problem, economic crisis. Zanalda's approach and methods broadens those represented at SSRI and thus those on which we can advise students and faculty.

SSRI also announces new services and programs. Beginning in March, SSRI will provide access to a confidential data specialist. Paul Pooley has been hired half-time to provide these services. Pooley will help investigators draft and gain approval for requests of confidential data. Once these data are obtained, he will help ensure that investigators and their assistants comply with these protocols that protect human subjects.

Gwendolyn Wright (pictured) joined SSRI as its Administrative Director in mid-November and will oversee the new research development initiative at SSRI, designed to stimulate for interdisciplinary research in the social and behavioral sciences. Wright has evaluated all aspects of our operations and is working with our excellent existing staff to make SSRI effective in serving our




affiliates. She stands ready to assist persons on "all things SSRI".

Wright has also begun a new program called The Funder's Forum, starting February 2011. The Funder's Forum is a monthly, lunch-time information sessions on a variety of topics related to sponsored research, from preparing proposals to funding trends and opportunities. Former and current program officers from federal agencies will be the guest speakers. Chris Bachrach, former NIH Director and current Nannerl Keohane Distinguished Visiting Professor at Duke/UNC, was the first speaker.

SSRI has added a full-time research development specialist, Valorie Cook. Cook currently serves as an SSRI grants specialist and will be responsible for helping develop and support teams of investigators prepare grant applications in support of the SSRI research development initiative.

We are thrilled at the positive response we have received about *GIST* and plan to continue to report on the exciting social science research at Duke. SSRI is dedicated to interdisciplinarity, and we encourage you to let us know about a project, team, student or faculty member you think would be a good fit for our magazine. SSRI is also now publishing a monthly newsletter to keep you up-to-date between issues of *GIST*.

To follow SSRI and its affiliates, be sure to get connected via social media: Facebook, Twitter, YouTube and more! 

Sincerely,

S. Philip Morgan  
Director



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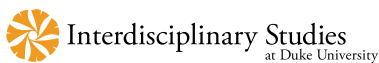
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## TREATING TEEN DEPRESSION IS A LONG HAUL

BY ANGELA SPIVEY

**WHILE ALMOST ALL** adolescents suffering from a major depressive episode recover with treatment, almost half of those recovered teens (46 percent) had a relapse in the next five years. These were the findings of John Curry, a Duke professor of psychology and psychiatry, and colleagues, published in *Archives of General Psychiatry* in November 2010.

Depression is relatively common among adolescents. At any one time, about 4 percent have major depression, which is characterized by depressed mood; loss of interest, disruptions in appetite, sleep, energy; poor concentration; worthlessness; and suicidal thoughts or behavior. Adolescents must have at least five of these symptoms for a length of time to be diagnosed with major depression.

Curry, who first became interested in adolescent depression during the 1980s, saw the disorder's effects in teens firsthand in his first job at Duke as a clinical psychologist. Working with the Durham county juvenile court program, he saw a fair amount


of depression among adolescents in trouble with the law. "We didn't know how to treat it at that point," he said. Not until the 1990s was it shown that adult anti-depressants didn't work well in adolescents, but that selective serotonin reuptake inhibitors (such as Prozac) did. A 2004 study in the *Journal of the American Medical Association*, which Curry co-authored, showed that the most effective short-term treatment for adolescents was a combination of cognitive behavioral therapy and Prozac.

Examining participants in that study over a longer period of time, the November 2010 publication from Curry and colleagues showed that longer-than-usual treatment may be needed to ward off relapse. Though half of the adolescents in this study relapsed, it took longer than in previous studies, Curry said. It may be because the teens were treated for an unusually long time -- a total of 36 weeks, with treatment visits happening every week for the first 12 weeks, then tapering off. "They were in care for a pretty long time,"

Curry said. "So it does look like continuing treatment longer, then tapering it down, is a good idea."

It's not realistic to keep teens in treatment for years after recovery, but some type of follow-up could help prevent relapse. "Adolescents who have recovered from depression should probably have occasional checkups or booster sessions," Curry said, even if it's just a few questions about depression symptoms at an annual physical.

This study revealed another surprising finding: girls were much more likely to have a relapse than boys. "It might be because of differences in the way the girls cope with stress," Curry said. We just don't know what it is. It's something that really needs to be followed up and studied more. These findings differ from those in adult women, who are more likely to get depressed than men, but no more likely to relapse once recovered.

While planning to study that question, Curry is also examining data from those same participants to find out whether successful treatment of depression affects likelihood of smoking cigarette or of developing a drug or alcohol problem. 



## GOOD QUESTION: AN EXPLORATION IN ETHICS WITH ERIKA WEINTHAL

## QUESTION:

After a regional conflict, the management of natural resources is often in disarray. How can conflict-torn communities best recover?

## ANSWER:

Environmental recovery includes such issues as reestablishing the water supply and its distribution. In the aftermath of a conflict, obtaining clean, plentiful water is a daily struggle for those left behind. Urban water supply and sanitation systems are often ill-equipped to accommodate a mass influx of refugees. And the risks of dying from exposure to infectious disease linger for years owing to the lack of access to clean water and proper sanitation. In war-ravaged countries, ranging from Sudan to Liberia to Afghanistan, however, the reestablishment of the water supply and its management has been vital for post-conflict peace-building and economic recovery.

Yet it turns out that with few exceptions (most notably, the Jordan-Israel Peace Treaty), water resources are rarely incorporated into peace agreements. Instead, the task of making sure that fresh water is not only available but can also be widely distributed is most often left to humanitarian organizations and international financial institutions. Peace-building activities tend to follow a now-traditional post-war script of reducing arms, disbanding the military, and eventually holding elections. As a result, political concerns have taken precedence over basic environmental and natural resource management.

The challenge then is in determining how to insert environmental recovery into the post-war peace-building mission. For war-torn communities, the management of the water supply and its distribution cannot wait for political or economic stability because that stability is dependent upon this vital resource.

But the reality of improving water supply and infrastructure in post-conflict settings is extremely complicated; even the




best intended humanitarian efforts may end up undermining economic recovery in the absence of coordination with the local population.

For example, consider Afghanistan in the years after the Soviet-Afghanistan war. During the war Soviet troops destroyed much of Afghanistan's traditional, community-based irrigation systems (the *karez*) as a means to decimate the economy. By the turn of the century, the management of the water supply was in disarray, water experts had fled or been killed, and data regarding the quality of water resources was missing. Humanitarian efforts to provide an emergency water supply through deep well drilling undercut the *karez* system further, making the situation even worse.

Thus, for water management to effectively play a role in the rebuilding of states at war's end, political efforts must be matched by efforts both to fully understand

prior ways that water has been distributed and to incorporate the public in decisions regarding natural resources.

In the end, environmental recovery is a significant part of any post-war peace-building effort. Issues such as water management can serve as a platform for cooperation and the consolidation of peace by helping to build confidence and restore trust among previously warring parties.

I don't study environmental resources just from the standpoint of pure preservation and conservation. Everything I do is embedded within a social and political context. I can't study the environment in isolation from the political economy in which decisions are made about its use. 

From the "Good Question: An Exploration in Ethics" series presented by the Kenan Institute for Ethics. Read more about Weinthal and other Duke faculty doing ethics-related work at <http://kenan.ethics.duke.edu/good-question>



## REVIVING THE INTEREST IN MATH AND SCIENCE

BY MICHELE LYNN

**U.S. STUDENTS** lag behind their peers throughout the world in science and math, placing the country at a disadvantage on a range of important issues including energy, security and scientific research. Civic leaders, including the president, have pointed to the challenge the U.S. faces in reviving the interest and abilities of its students in math and science. Duke faculty members Nancy Shaw and Susan Rodger are committed to addressing this critical issue.

Rodger, Professor of the Practice in Duke's Department of Computer Science, is particularly interested in attracting more women to computer science. To that end, in 2005 she created the Duke Emerging Scholars in Computer Science (DES-CS), a program initially funded by the National Science Foundation. Rodger invites incoming first-year students to apply for the program, designed for those with little or no computer programming experience.

"Students can try computer science with a group of other people who are also trying it for the first time," she said. "Doing this program, students meet other people with whom they can feel comfortable going through the major. They also get to know the undergraduate peer leaders who serve as mentors to them."

Rodger also teaches a computer class for non-majors that incorporates "Alice," a program that allows users to easily create an animated 3D virtual environment. "That class is often 50 percent women who end up really enjoying computer science," she said. "But the problem is that students in the class are often juniors and seniors who have already decided on a major that isn't computer science."

So, Rodger decided to expand her reach to K-12. With a grant from the National Science Foundation and IBM, she and colleagues developed a program to teach teachers from middle schools, and some high schools, to program in Alice and discover how they could incorporate it into their various subject areas.

"I wanted to focus on middle school because I think that's the crucial point," Rodger said. "We ran a three-week workshop in 2008, the first summer of this program. I have run workshops for teachers every summer since. What is interesting is that we get teachers in all different disciplines—math, sciences, English, art, music, media, business—and they all see different ways in how they can use Alice with their students."

Like Rodger, Nancy Shaw thinks that the middle- and high school years are the critical times to introduce students to the world of science and math. Shaw—the director of North Carolina's "Project Lead the Way" at Duke's Pratt School of Engineering—is concerned about the decreasing number of students interested in STEM (Science, Technology, Engineering and Math) education.


"For some reason, many students aren't very interested in science and math," Shaw said. "They are frightened of it or don't think it's cool. So Project Lead the Way (PLTW) provides classes, in schools throughout North Carolina, which are interesting, hands-on and



(above) Snapshot of an interactive math Alice world designed for 5th grade students to practice rounding numbers; (left) Rodger helping two students who are working together in one of the DES-CS courses.

project-based." Shaw said that students quickly get interested in completing the projects, so they become motivated to learn the science and math that will enable them to do so. "Students love these courses because they are able to work in teams," Shaw said. "And any time you give students something to do with their hands, they are automatically more interested."

PLTW began at Duke in 2003 along with four other schools in North Carolina. Now there are nearly 70 schools throughout the state offering PLTW's real-world, problem-solving curriculum. More than 1,000 students are benefiting from the wide range of classes—including offerings such as Introduction to Engineering Design, Aerospace Engineering and Computer Integrated Manufacturing—taught by specially selected teachers who are trained during an intensive, two-week boot camp at Duke.

Shaw—who was one of five women among the 200 electrical engineering majors in her graduating class—considers it critical that both more women and men pursue careers in the sciences. "One of my concerns is that, as our nation ages, we have fewer American students who can lead in the areas of technology and science," she said. "I want to see our U.S. students continue to meet the challenges of the country and the world." 


## CCFP HELPS PROVIDE ACCURATE PICTURE OF SUBSTANCE ABUSE

BY JOEL ROSCH

**THE SUBSTANCE** Abuse/Mental Health Committee of the Partnership for a Healthy Durham invited the Center for Child and Family Policy (CCFP) at Duke University to help develop a more accurate snapshot of the substance abuse problem in Durham. Funding for the project was provided by the Durham Center, which manages a range of organizations that provide mental health, developmental disability and substance abuse services in Durham County. Elizabeth Gifford, Kelly Evans, Joel Rosch, and Audrey Foster—all CCFP researchers—produced the report, entitled *Substance Use and Abuse in Durham County*. The report used the Substance Abuse Surveillance Network model developed by the National Institute of Drug Abuse Community Epidemiology Work Group (NIDA-CEWG).

Substance abuse impacts many aspects of society, including but not limited to health care, crime rates, unemployment, education, and family life. While agencies and individuals in Durham are making real strides in addressing issues related to substance abuse, the Partnership for a Healthy Durham recognized that looking at each problem caused by substance abuse in isolation

often did not capture the information needed to shape effective local strategies. The Partnership hoped that the CCFP could help it make better use of the information already being gathered by public agencies. University scholars are in a better position to aggregate information from multiple sources, and then analyze that data, exposing patterns and trends that agencies might not see looking only at their own data.

Communities and agencies around the country have found that, over time, the Surveillance Network model can produce valuable information that helps improve coordination between education, prevention, treatment, law enforcement and other community groups working to reduce substance abuse. Having this information will help Durham select the best evidence-based practices for the specific substance abuse related problems facing Durham County. This report will help the Partnership for a Healthy Durham improve the way it uses its resources to deal with substance abuse, especially as it works to improve services for traditionally underserved populations. 









# MOSAIC OF CULTURE & HISTORY:

Haiti Lab brings together various disciplines to solve a nation's problems

BY WHITNEY L.J. HOWELL



**INSIDE BAY 4** of the Smith Warehouse, a converted tobacco facility just beyond East Campus, sits a first for the Franklin Humanities Institute. The open-office design, warm-toned wood, and cascades

Dubois, one of Haiti Lab's co-directors and a history and romance studies professor. "It's important for different groups to teach each other about Haiti and how to contribute to the country's situation. There are huge medical needs and even larger geopolitical issues. The lab provides a place to discuss these issues and potential, multi-faceted approaches to the problems."

of natural light create an enticing atmosphere, but the true beauty of the space is its purpose.

This is the location of the Haiti Lab—a humanities laboratory that combines research, education, innovative ideas, faculty, graduate students, and undergraduates to bolster the study of Haitian culture, as well as further the country's recovery from the January 2010 earthquake.

"Haiti poses a difficult challenge," said Laurent

First conceived in early 2010, the Haiti Lab is a three-year endeavor that includes faculty and students from Trinity College, the Duke Global Health Institute (DGHI), the Center for International Studies, and the Center for Latin American and Caribbean Studies. The Duke Endowment gives the lab additional support. At the end of three years, the group will disband, but Dubois anticipates the partnerships borne out of collaborations will continue.

(above left) Group discussion on how to lay out the photographs and images and choose what should go into the various blocks.; (above right) Reception following the Duval-Carrié talk.

(THIS PAGE) ZACK GREEN; (OPPOSITE PAGE) SQUARES PHOTOGRAPHED BY DUKE PHOTOGRAPHY



Already, under Dubois's leadership and that of French and romance studies professor Deborah Jenson, 27 undergraduates from various schools within the University participated in Haiti-focused artistic, governmental, and health projects last semester.

Although the lab's activities vary widely, both Dubois and Jenson see it as a way to bring Haiti's history and its complicated present to broader audience attention. The goal is to ignite an interest among undergraduates and motivate them to embark on their own investigations, Jenson said.

"The Haiti Lab gets students involved in making personal contributions to research projects between schools," she said. "Instead of just teaching the students what we know, we want students to be driven to educate themselves and be engaged with a broader world."

Dubois and Jenson are well positioned to spark student curiosity. Both professors have focused substantial portions of their careers on Haiti. As an anthropological historian, Dubois has a keen interest in

**"The Haiti Lab gets students involved in making personal contributions to research projects between schools. Instead of just teaching the students what we know, we want students to be driven to educate themselves and be engaged with a broader world."**

—DEBORAH JENSON

the history of the African slave trade and revolution in the French-controlled areas of the Caribbean. Jenson's connection to Haiti grew out of a single, previously untranslated Creole-language poem. As she translated the lines, she became fascinated with the language that sprang from the need for African slaves, traders, and colonists who spoke different tongues to communicate.

So far, the Haiti Lab has received national attention for a significant discovery made by Julia Gaffield, a Ph.D. candidate in history involved with the lab. While conducting research at the British National Archives for her dissertation on 19th-Century Haiti and international politics, Gaffield discovered what is believed to be the only government-printed copy of the Haitian Declaration of Independence.

Two main projects, however, are where students work to fulfill the lab's mission. Together with DGH assistant professor and executive director of Family Health Ministries Kathy Walmer, Jenson leads a two-year study into how post-traumatic stress disorder (PTSD) manifests itself in Haiti and how to best treat those symptoms. According to Jenson, Haiti's culture, social

structure, and religious practices—including voodoo—make the Western constructs used to address PTSD ineffective.

This work is particularly vital as public concern for Haiti's earthquake victims has waned over the past year, Walmer said.

"The PTSD research helps keep Haiti in the forefront of people's thoughts, so the victims receive some benefit," she said. "But students also gain because many have never before been exposed to such a different culture with such a high level of need."

For senior Kendra Hinton, being the principal investigator of the PTSD project and surveying the victims about their experiences and needs was a natural extension of her French and psychology major.

"Working with this group in Haiti was a quite powerful experience," she said, recounting the horror-filled expression on one woman's face as she described living through the earthquake. "The conversations I had really opened my eyes about how the way we conduct research in the United States, and the criteria we use, may not function with other cultures."

Students make positive contributions to Haiti by meeting some of the country's health needs, but the lab also exposes them to Haiti's culture and rich artistic



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Julia Gaffield, Duke University graduate student, discovered what is believed to be the only known printed copy of Haiti's Declaration of Independence.





history. Last fall, Miami-based Haitian artist Edouard Duval-Carrié, well known for mural art that combines influences from Haiti’s African heritage, classical mythology, and contemporary events, came to campus twice to guide students in producing a similar mosaic for public display in Bay 4.

Students and faculty individually designed 35 squares from poured resin that depict vignettes of Haiti’s history and lore, including representations of religious iconography, earthquake graffiti, or events during the slave trade era. Each five-layered square takes up to two weeks to complete, and once finished, the squares will be connected to form a back-lit mosaic that will hang in one of the lab’s lecture spaces.

Third-year doctoral student Christina Mobley sees the Haiti Lab as an extension of her undergraduate work at McGill

University on Haitian slavery. Her past work parallels much of what Duval-Carrié depicts in his art, so she had great interest in the resin square project as an avenue to further her understanding of Haiti.

“I was fortunate to spend time with Edouard when he came to campus for long weekends,” Mobley said. “He would hole up with undergraduates, graduates, and professors and provide a lot of guidance and encouragement while working with us.”

The student work is impressive, Dubois said, but the lab will only be a true success if participants carry what they learn with them beyond their years at Duke.

“Our intent isn’t for the lab to replace what students can find in the classroom,” Dubois said. “Our hope is that we give them the tools to start thinking about what they can do beyond the University.”



Jessye McDowe  
(UNC MFA Student)  
pouring resin into  
one of the molds to  
make the blocks.

## DUKE AND THE STUDY OF HAITI

The connections between Duke and Haiti became more evident to the rest of the campus following the 2010 earthquake, when the university responded by sending medical professionals and humanitarian aid to the stricken region.

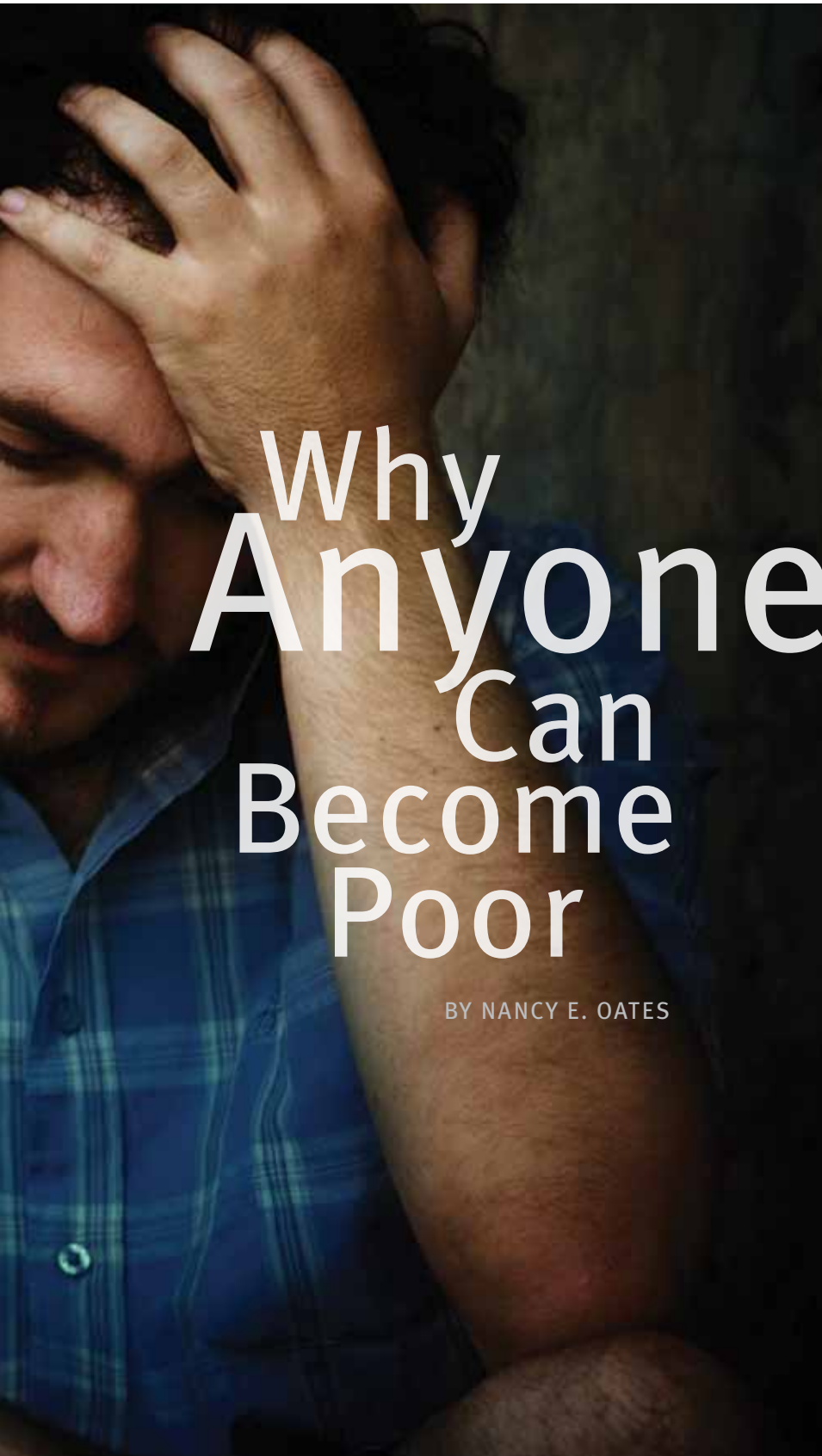
Duke’s growing academic interest in Haiti was highlighted in April 2010, when it hosted a conference that brought leading historians of Haiti together with archivists and librarians to discuss the country’s past and how scholars might work together to better preserve and reconstruct Haitian archives and libraries.

The conference built on several years of activity during which Duke had emerged as a leader among U.S. institutions in the study of Haitian history and culture. The university recruited experts in Haiti studies, developed a curriculum in Haitian Creole and undertook a series of interdisciplinary collaborations in the wake of the January earthquake.

In the fall, the Franklin Humanities Institute launched its first 3-year “humanities laboratory,” a “Haiti Lab” that built on these

developments and sought to speed Haiti’s recovery by applying innovative research and practice across disciplines that included Caribbean studies, Creole studies, global health, law and virtual informatics. The Haiti Lab provides a space where experts in Haitian culture, history and language can work with scholars from other areas of the humanities and social sciences, along with legal specialists, experts in engineering and technology, medical practitioners, librarians, archivists and other interested experts, to develop plans to contribute to Haiti’s reconstruction. The lab helps produce books, articles, web resources and pedagogical materials— notably including those in and about Haitian Creole—that help expand Haitian studies in both the United States and Haiti.

It also serves as a resource for media outlets seeking to learn about Haiti. Graduate and undergraduate students are able to use the lab to pursue individual and collaborative research projects and to interact with lab members and visitors.



# Why Anyone Can Become Poor

BY NANCY E. OATES

If the name of Anirudh Krishna's new book on why people become poor—*One Illness Away*—doesn't strike fear in your heart, it should at least make you uneasy.

"Every 30 seconds in the U.S., someone files a bankruptcy claim due in part to medical costs or crisis," Krishna said. "Being one illness away from poverty is scarily true, even in such a rich country as ours."

For the past 30 years, Krishna, an associate professor of public policy and political science at Duke and associate dean for international academic programs, has studied poverty and powerlessness. Rather than consider the overall rate of poverty in an area, he examines issues at the household level to learn why some families descend into poverty while others emerge from it.

"Almost as many people are falling into poverty as are rising out of it," Krishna said. "Those who fall aren't bouncing back quickly."

As a child in New Delhi, Krishna saw children his age living on the street, pulling rickshaws or begging as he commuted to his middle-class school every day. He pondered why those children were poor while he was so much better provided for. He sought ways to improve life for the poor as he developed his career. After completing a master's degree from the Delhi School of Economics, he managed rural and urban development initiatives through the Indian Administrative Service for 14 years.

Then he approached the problem from an academic angle, enrolling in Cornell University, where he earned a master's degree and a doctorate in government. He joined Duke's faculty in 2000. To find answers to the question that plagued him as a child, he delved into how people become poor in the first place. If they were born poor, one set of policy interventions suggested themselves. But people who became poor though they weren't born poor would require a different set of remedies. He looked at the literature and discovered that "there was very little about why people who became poor had fallen from grace," he said. "A parallel question emerged: Why



do some but not others rise out of poverty? What have those who rise out of poverty done that others can learn from?"

Krishna lays out his theory of poverty in a mathematical equation: Poverty = frequent downward tugs + limited upward mobility. The equation has held true in the studies he has conducted in five countries—India, Kenya, Uganda, Peru and the U.S. (where he focused on Eastern North Carolina). He and his research assistants conducted in-depth interviews with families who had sunk into poverty, those who had risen out of it, and those who had not had a change in status. Though the cultures were very different across countries, the reasons that drove people into poverty were quite similar.

"The reasons have very little to do with any personal failings on the part of the persons concerned but have a great deal to do with events beyond their control," he said.

While cataclysmic events such as earthquakes or civil wars had an effect, most people were plunged into poverty by everyday occurrences of serious illness, high health-care costs, debts and lack of institutional support to cope with the events.

"It's a chain of adverse events that by degrees pushes us down irrevocably," Krishna said.

Krishna and his team found a common scenario: Often, funeral expenses, wedding and dowry costs, job loss, crop failure or high interest rates on debt left a family vulnerable. Then someone in the family fell ill, and the cost of medical treatment pushed them into poverty.

Countries with the lowest rates of poverty, he found—places such as Korea, Costa Rica and Cuba—were not necessarily the richest. But all of them provided health-care benefits to all of their citizens. No country has succeeded in reducing poverty rates to single digits without making high-quality health care affordable to its residents, he found.

Society and government have the ability to reduce the intensity and frequency of downward tugs, Krishna said, and can help level the playing field so that a talented, hard-working person from a slum or remote rural area could have the same chance

of rising in a career as someone from a privileged background.

"Government neglect is sitting on top of societal apathy," Krishna said. "That's what makes poverty so pernicious."

Reducing the number of families living in poverty requires a two-pronged approach, he said. The causes of falling into poverty are different from the impetuses for rising out of it. Different sets of policies are necessary to address both.

In every country he studied, female-headed households have the greatest risk of falling into chronic poverty. Asset ownership serves as insurance against descending into poverty. In developing countries, income diversification (selling products from both land and animals, for instance, or farming and providing a service to the community) is most important to escaping poverty. In the U.S., a formal sector job provides the best pathway to financial security.


Role models are critical to aiding talented young people along a path out of poverty,

Krishna said. To break out of poverty, ambitious youth need social connections as well as in-demand skills. Middle-class families have access to information about college scholarships, internships and entry-level positions that lead to a career ladder. Poverty-level families are much less likely to learn of these upwardly mobile assists.

Krishna worries about the inequality of wages he has noticed in all the countries he has studied. Many countries are developing two separate economies, and few people move across this divide. Among his research subjects, "no one who escaped poverty became rich."

Yet equalizing opportunity should be an important societal goal, he said. A society that promotes social mobility should achieve faster economic growth.

"Political stability and social peace are more firmly grounded where people are not filled with hopelessness," he said.

And for people in many parts of the world, that hopelessness is just one illness away. 


## TURNING RESEARCH INTO ACTION

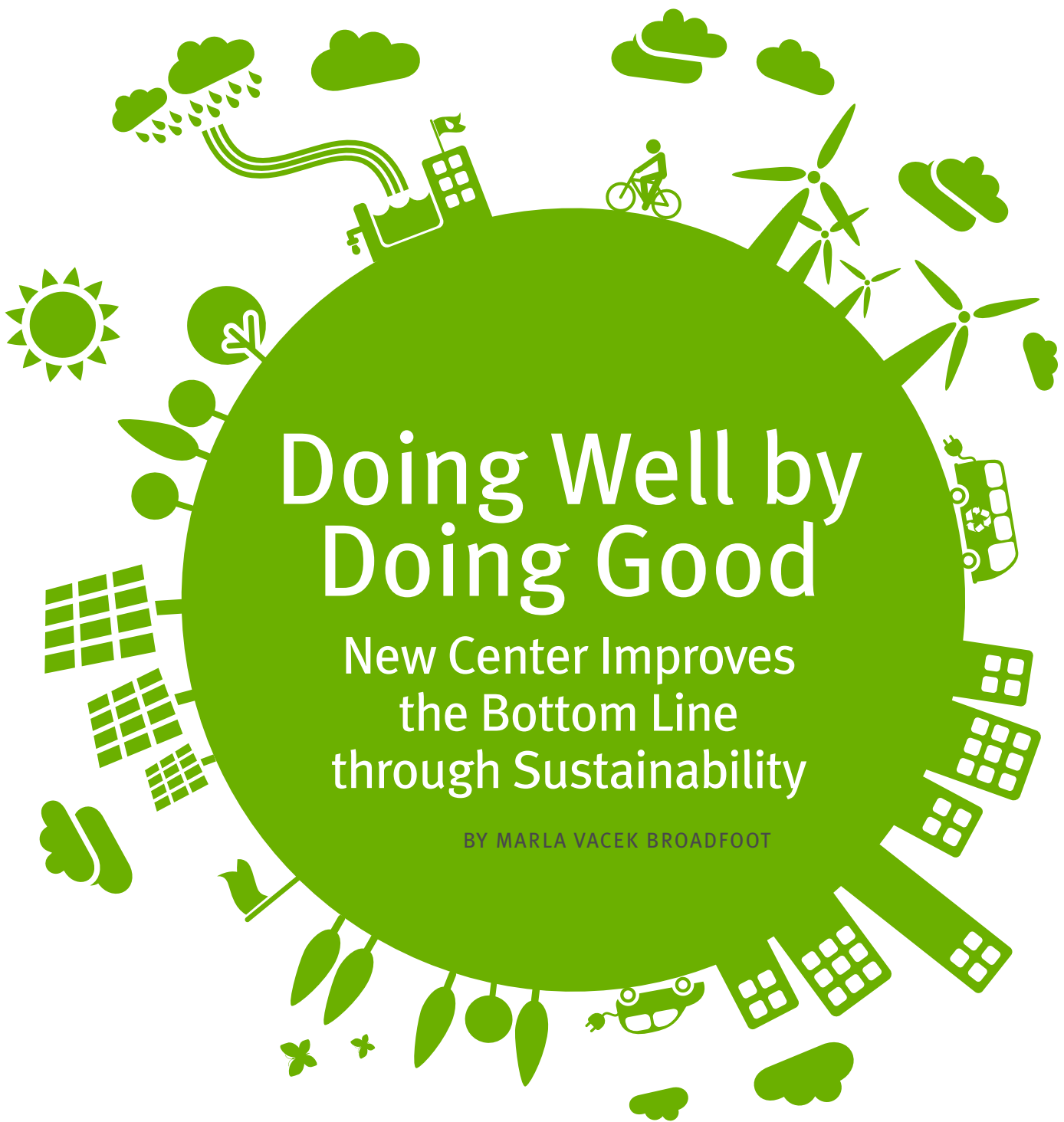
Krishna's research has led him to become an activist at the local level in a cluster of small villages in India. He has helped some talented, ambitious young people make the leap to entry-level, career-building positions. Those launched enter a written contract with him that they will offer a hand up to someone else who comes from a similar background.

This spring, he will have the opportunity to expand his research and his activism as faculty director in India during Duke's new Global Semester Abroad program with the theme of development, environment and public health. Two groups of Duke students from diverse fields of study—public policy, global health, engineering, economics and political science—will spend half of the semester in India or China, then switch countries midsemester. The students will attend classes in their assigned country for part of each week before field-testing the academic theories they've learned by living and working in a poverty-stricken area, residing with a nongovernmental organization.

"I'm hoping that several of the students will come up with smart ideas for effective interventions," he said, "and they will come back and spend the summer or the next semester there and put some of those plans into action."

While he's in India in the spring, Krishna intends to recruit volunteers to find achievable career paths for qualified young people who would otherwise have no hope beyond irregular employment in unskilled jobs. Then he'll need mentors and role models from the community who can perpetuate an upwardly mobile cycle. Once he has perfected a model that will work across cultures, he plans to seek grant funding to set up the programs in poverty-stricken areas.

"Breaking out of that cycle of poverty requires role models, and how to develop role models has not been part of the development agenda," Krishna said. "But it's a very critical part of the agenda." 



# Doing Well by Doing Good

New Center Improves  
the Bottom Line  
through Sustainability

BY MARLA VACEK BROADFOOT

Jay Golden once took time off from his undergraduate studies at Arizona State University to serve as a gun-toting environmental crimes detective. Now, 30 years later, he brings that same passion and fervor to his work at the Nicholas Institute, as the newly appointed director of the Duke Center for Sustainability and Commerce.

Sustainability and Commerce—or “corporate sustainability”—is reducing the environmental, economic and social

footprint left by corporations, so that future generations have the same opportunities as the current one.

Our planet is in a state of rapid urbanization and population growth. The population is going from 6 to 9 billion people, almost half of which will be considered middle class. More people means more products being purchased and more resources being used up, putting more strain on an already stressed environment in terms of climate change, natural resource

depletion and energy shortages. Changing the way corporations do business could make a difference in reducing those effects, Golden said.

“Corporations play a big role in the sustainability of our planet,” he said. “Almost half of all greenhouse gas emissions in the United States are attributable to consumer products. At Duke, our center is developing the methodologies to help quantify the role of corporations, and then to model and identify ways to reduce





those impacts throughout the full value chain. That means modeling every step from natural resource acquisition, manufacturing, distribution, retail sale, consumer use and eventually disposal, reuse or recycling.”

Golden has long been a pioneer of corporate sustainability. He earned his Ph.D. in engineering from the University of Cambridge, and a master’s degree in environmental engineering and sustainable development from a joint program of the Massachusetts Institute of Technology and the University of Cambridge. Golden was then hired as the first faculty member in the first full school of sustainability at Arizona State University. There, he focused primarily on the engineering side of the built environment and finding ways to reduce energy and climate impact.

But Golden quickly became frustrated with the amount of time it was taking to effect positive change, and started to expand his work to the corporate side by exploring how to measure and report changes in sustainability to consumers. So when he got a call from an executive at Wal-Mart asking for his help in making their operation more sustainable, he eagerly entered into a partnership with the world’s largest retailer.

“If you can move that size ship towards a more sustainable future, that carries a lot of weight and a lot of opportunities,” said Golden.

The Sustainability Consortium, which Golden founded and now serves in an

“Because Duke is global not just in name but in actuality, we are going to be able to leverage that to address these complex questions with a global lens, and to engage partners from corporations, governments and peer institutions from around the globe.”

— JAY GOLDEN

advisory role, includes not only Wal-Mart but also a number of other leading retailers and manufacturers from around the world such as Disney, Proctor & Gamble and General Mills. Together, those corporations are working to come up with a global standard to measure, report and ultimately to score the impact of their products.

A number of similar industry-led efforts are also underway. In late January, Golden brought approximately 100 thought leaders to Duke to brainstorm on a variety of sustainability issues. Among the participants were the Federal Trade Commission, which regulates how corporations communicate the sustainability of their products; international organizations like the World Bank; industry partners from apparel to retail to manufacturers; and pure university researchers from Duke and collaborative institutions like Yale, Cambridge, Cornell and Stanford.


“Because Duke is global not just in name but in actuality, we are going to be able to leverage that to address these complex questions with a global lens, and to engage partners from corporations, governments and peer institutions from around the globe,” said Golden.

Even before coming to Duke, Golden had been collaborating with researchers at the Nicholas School as director of the Sustainable Energy Fellowship. The program consistently receives 10 times the number of applicants as there are spots, which Golden says is a sure indication of how keenly interested students are in issues of sustainability, energy and consumerism. Some of these issues are social rather than environmental in nature, and have begun to

arise as more products are purchased from developing countries, each with their own societal norms for employment. For example, in some African countries the oldest child, who might be under 18, provides the financial support for the family. That practice might be against the law on this continent, but is a way of life on others.

Golden feels that the social aspects of sustainability will likely require an even more educated and mature approach than has been used to tackle the environmental aspects. Through the new center, Golden hopes to cultivate the future leaders who will address these issues, first through new courses on “Life Cycle and Sustainable Systems” and later through the development of a two-year certificate program that will cover both the drivers of sustainable systems, as well as the tools and analytics used to measure sustainability.

He also plans to tap into a number of different partners at Duke—the Pratt School of Engineering, the Nicholas School for the Environment, the Sanford School of Public Policy, the Fuqua School of Business, the Duke Center for Global Health and the Duke Center on Globalization, Governance and Competitiveness—to help his center create useful models of sustainability.

“Having global health, energy and the environment as major foci for this university is a great benefit,” said Golden. “Duke’s commitment to trans-disciplinary research will make it possible for us to develop what has been sorely needed in this field—a way of modeling sustainability that is timely, effective and user-friendly. You shouldn’t have to have a Ph.D. in engineering to be able to use these models to make your company better.” 

# Abstinence-only **VERSUS** Comprehensive Sex Education

BY MARY-RUSSELL ROBERSON

Last year, when the North Carolina legislature passed a law changing how sex education will be taught in public schools, Rebecca Bach saw an opportunity. Bach, associate professor of the practice of sociology, plans to compare the rates of teen pregnancy and sexually transmitted diseases before and after the law. “My thinking is to give the change a couple of years and then examine its impact,” she said. “It’s sort of a natural experiment.”

Bach studied just this sort of natural experiment the last time North Carolina passed a sex education law. In 1995, the legislature dictated that schools must teach “abstinence-only” sex education, which among other things prohibits teaching about condoms as an effective means of avoiding unwanted pregnancies and sexually transmitted diseases. The only way a school system could teach about contraception or sexuality outside of marriage was to hold public hearings on the proposed curriculum to ascertain parental support. School systems also had to provide their own funding if they chose to use a different curriculum.

The law took effect in the 1996-1997 school year. Bach realized she could compare teen pregnancy rates in those counties that stuck with abstinence-only to the rates in counties that held public hearings to teach more than just abstinence.

“It was the coming together of my personal interests—since my kids were in the Durham Public Schools—and my long-standing professional interest in sex education,” said Bach, who has

As North Carolina’s legislators considered the new law, Rebecca Bach followed the debate in the local newspaper and other media.

“I was fascinated by the politics, the rhetoric, the misinformation,” she said.”

taught courses in sexuality at Duke for many years.

In the mid-1990s, the rise of abstinence-only sex education in schools was in large part driven by funding requirements of the federal government. As North Carolina’s legislators considered the new law, Bach followed the debate in the local newspaper and other media. “I was fascinated by the politics, the rhetoric, the misinformation,” she said.

When she began her research, she was surprised at how difficult it was to identify the school systems that had gone beyond abstinence-only. The Department of Public Instruction was reluctant to name the school systems, and school administrators often didn’t return her calls. “There was such a climate of fear,” she said. “No one wanted to be identified as polluting the youth or encouraging sexuality.”

In some cases, Bach and her undergraduate research assistant had to scour local newspapers for articles about public hearings. They finally managed to identify 10 school systems in eight of North Carolina’s 100 counties that were going beyond the abstinence-only curriculum. These school systems varied in their

approaches, with some adding information about contraception and others also teaching tolerance of gays and lesbians, but they all were based on the philosophy of abstinence before marriage, as the law required. Bach called the range of programs “abstinence-plus.”

The eight abstinence-plus counties were Buncombe, Caldwell, Durham, Guilford, Jackson, New Hanover, Orange, and Person. They differed from the abstinence-only counties from the outset in having higher household incomes, higher levels of education, higher numbers of physicians per capita and lower levels of poverty.

Bach compared rates of teen pregnancy in the abstinence-only and the abstinence-plus counties in 1995, before the sex education law took effect, and in 2003, after it had been in effect for seven years. During that time, teen pregnancy rates were declining markedly all over the United States from an all-time high in 1990. True to this trend, teen pregnancy rates declined in both sets of counties in North Carolina as well. However, the rates decline significantly more in the abstinence-plus counties.

“The fact that after the law changed, the abstinence-plus counties had a greater





Bach in her social/psych classroom where she teaches "Sexuality and Society."

.....  
**NORTH CAROLINA  
 TEEN PREGNANCY RATES**  
 .....

The average teen pregnancy rates among the abstinence-only counties went from **92 per 1,000 in 1995** to **66 per 1,000 in 2003**, a decline of **28%**.

The average teen pregnancy rates among the abstinence-plus counties went from **84 per 1,000 in 1995** to **49 per 1,000 in 2003**, a decline of **42%**.

.....

decline I think indicates that abstinence-plus is more effective at preventing teen pregnancy than abstinence-only," Bach said.

North Carolina's most recent sex education law, which passed in 2009 and went into effect in 2010, says that schools must provide comprehensive sex education, but that parents can choose to keep their children out of class. Bach said the curriculum is still based on abstinence, but also includes information about methods of preventing pregnancy and sexually transmitted diseases. In a few years, Bach plans to look at the rates of both among teens in North Carolina before and after 2010.


In the meantime, she's working on other research projects with local organizations and engaging undergraduate students in

the research process. Student teams from her Sexuality and Society course have conducted research for the Durham Crisis Response Center, Duke University Center for LGBT Life, the Associate Dean of Residential Life, Duke University Student Health, and the Duke University Women's Center. She likes involving undergraduates in the research because, she said, "Students learn so much from the experience and they're helping out an organization at the same time. And working as a team, they generally do a pretty good job."

In fact, student engagement in research seemed like such a good teaching tool that she decided to study it in her own classes. She said, "Not only did it increase students' positive attitude toward community involvement, but it clearly improved and

increased students' confidence in their research skills." Her results are published in the January issue of *Teaching Sociology*.

She's also preparing a paper for publication on the attitudes toward reproduction and mothering among women in a domestic violence center.

When Bach began teaching at Duke in 1990, she taught just one course because she wanted to have time with her young children. As her children grew, so did her work at Duke. Now her sons have left home and she is a full-time professor of the practice and director of undergraduate studies in sociology. "As a professor of the practice, you do more applied work than traditional scholarly activity," she said, "and I love doing the practice of sociology." 

## SEEING POLITICS, MARRIAGE AND SEXUALITY TOGETHER

Women's Studies professor examines marriage and family in the Middle East

BY PAUL DUDENHEFER

**WHEN FRANCES HASSO** begins a research project, she likes to begin, as she described it, "on the ground."

"I don't start with politicians, government officials or official statements," Hasso, who is an associate professor in Women's Studies, International Comparative Studies, and sociology, explained; "instead, I want to know what regular people are doing and saying."

It was that kind of approach that allowed Hasso to pick up on the many conversations in person, at conferences, and in the blogosphere about the kinds of sexual and relationship behavior young people in the Middle East were engaging in—behavior that violated official and family norms.

"Whether it was making secret marriages, delaying marriage, or having sex outside of marriage, the young people I encountered and heard about were conducting their lives in ways that went against the notion we have in the West of the Middle East as being conservative and governed by religious norms," she said. "I wanted to know why they were having these relationships. What were they reacting to?"

In searching for answers, Hasso was led to the law. "That was not where I was headed. But the fact remains that laws have a significant impact on what people do in their daily lives—law does not control what they do, but it does affect what they do," she said. "The secret relationships, for instance, violate state law as well as mainstream cultural norms—but you can't understand the relationships without understanding the law."

Hasso has just finished a book on the relationship between the family and the state in the Middle East, particularly in Egypt and the United Arab Emirates. Published in 2011 by Stanford University Press, the book is titled *Consuming Desires: Family Crisis and the State in the Middle East*. "Middle Eastern countries have initiated marriage and family projects whose goal is primarily to promote efficient state rule," Hasso explained. But state goals and family-related laws and policies often fail or have unintended consequences. "There is a widespread belief in the region that the family is in crisis, but that crisis is described in different ways by different social groups. For one thing, state authorities and religious moralizers are not interested in the sexual or gender double standards that often explain why women delay or avoid marriage, marry secretly, or initiate divorce. Men are often not



"Whether it was making secret marriages, delaying marriage, or having sex outside of marriage, the young people I encountered and heard about were conducting their lives in ways that went against the notion we have in the West of the Middle East as being conservative and governed by religious norms."

—FRANCES HASSO

meeting their responsibilities. Such cases have led to a paradox: women, often encouraged by feminist organizations, have turned to male-dominated and often undemocratic governments to force their husbands to be responsible; and the governments, interested as they are in having husbands take financial responsibility, have responded by creating new requirements, such as forced counseling when women seek divorce, that shape and intervene even more directly into sexual and family life. One result is that women are made further dependent on undemocratic states, although the laws and policies are primarily concerned with extracting resources from and controlling men."

Hasso was born in the United States but spent a lot of her childhood in Jordan, where her parents were born. She has many friends and colleagues in the Middle East and visits the region nearly every year.

Before coming to Duke in 2010, Hasso spent 10 years teaching at Oberlin College. She is excited by the challenge of moving from a small liberal arts college to a larger university that puts greater emphasis on research, as well as by the opportunity to be involved in Duke Islamic Studies Center and the new Duke Middle East Studies Center. She has already found it particularly rewarding to teach and mentor undergraduates majoring in International Comparative Studies or Women's Studies.

In the fall of 2011 she will teach a first-year seminar on gender and sexuality in the Middle East. She also teaches the capstone course in International Comparative Studies. "I'm looking forward to getting to know Duke undergraduates and getting a sense of their multifaceted interests. I'm definitely in a learning mode." 📖



## RESEARCHING AND TEACHING THE ECONOMICS OF EDUCATION

Ph.D. student Erika Martinez offers undergraduates a timely new class.

BY MELISSA EGGLESTON

**“EDUCATION IS THE** means by which all Americans have opportunity, so it’s an exciting topic to me,” explained Erika Martinez, a Ph.D. student in the Department of Economics. “There are so many applications in this area that are relevant to almost everyone.”

The economics of education is the study of economic issues related to education, including why people invest in education, the way education systems are organized and the impact of education on economic and social outcomes.

An Orlando, Florida native, Martinez’s economics education began at the University of Florida. There she enjoyed and succeeded in her classes as an economics major, so her advisor recommended she consider Duke’s Ph.D. program.

“I just knew I was curious as to how individuals make decisions in the business of everyday life,” Martinez said about her research.

As a research assistant to Patrick Bayer, chair of the economics department, she helped with various projects related to urban economics. In a joint project with Jake Vigdor, a professor of public policy and economics, the three worked together to link housing and education data, which piqued Martinez’s interest in education.

Bayer and Vigdor became her advisors along with Charles Becker and Thomas Nechyba. The group offered her guidance as she developed her skills and eventually her job market paper titled “Do Housing Prices Account for School Accountability?”

Now in her final semester and trained as an applied micro-economist, Martinez is able to share her enthusiasm for the economics of education with undergraduates. Martinez already knew she liked teaching experiences at both Elon University and Duke, so she applied for a Bass Fellowship, which gives graduate students the opportunity to teach a topic directly related to the student’s dissertation research work.

“My plan is to expose undergrad students first to the general background on the economics of education,” Martinez said of her class syllabus. “Then we will go into specific topics such as charter schools, privatization, school reform, school accountability, and class size.”

Fortunately for Martinez, she now finds herself a researcher and teacher in an expanding specialty.

“The literature on the economics of education has really boomed in the last three to five years thanks to ‘No Child Left Behind’ and other accountability programs,” Martinez said. Because of these programs, many schools are now required to keep track of test



“I’ve been to one of the schools and saw students in the environment,” she said. “It makes my work more concrete than just seeing the data on the computer.”

— ERIKA MARTINEZ

scores, student demographics and school quality measures.

“The data that is available to economists who work in this area has increased substantially, and so the number of papers in this area has risen as well,” she added.

In one line of her own research, Martinez is working with Margaret Gayle, executive director of the American Association of Gifted Children (AAGC). Martinez is studying the efficacy of the AAGC’s Bright IDEA project, which provided K-2 students with instruction similar to that found in a gifted program (which usually begins in grade 3.) The program was implemented in regular classrooms in order to close the achievement gap and to nurture under-represented populations for advanced or gifted classes.

“Those students who received this gifted-like instruction are now in 3rd, 4th, 5th grade, and we have data on them,” Martinez said. “Now that they are mixed back in with other students who weren’t exposed to the project, we are determining whether the instruction was effective.”

Smiling as she explained the project, it’s clear that this research has meaning for Martinez. “I’ve been to one of the schools and saw students in the environment,” she said. “It makes my work more concrete than just seeing the data on the computer.”

In addition to her teaching and research responsibilities, as a job market candidate, Martinez is busy interviewing for academic jobs at universities and colleges as well.

“I hope to have the opportunity to teach courses in applied microeconomics as well as continue to do research on education,” Martinez said of her future goals. “I’m extremely curious to see where I will be next year.” 🏡




## **MOST OF US THINK** of “family” in the traditional sense: husband, wife, two kids... But what about unmarried partners with children? Divorced. Separated. Together but living apart. Same sex...? Has society become more open to the idea of accepting families in various forms? What criteria should be used to ensure all families are counted equally?

**ARGUABLY THE MOST** profound shift in the American family formation landscape over the past half century is the increasing disconnect between marriage and fertility. In the United States of fifty years ago, when abortion was illegal, contraception was difficult for unmarried women to obtain, and societal norms censured out-of-wedlock sexual activity and childbearing, marriage and fertility were closely linked. Individuals who desired to live in a romantic relationship with an opposite sex partner, or who faced an unplanned pregnancy, had little option but to marry. Today, the family formation landscape is quite different, and behaviors that were once considered the sole province of marriage (e.g., contraception, sexual intimacy, and cohabitation) are now normative outside the bounds of marriage. Because of this shift in the family formation landscape, individuals can choose from a wide array of socially acceptable household arrangements, and are no longer “locked in” to choosing marriage if they wish to raise children.

This has led to a plethora of new family arrangements that were not conceivable just a few decades ago, and has led to some concern that American society is being undermined by a decline in traditional married parent families. The reality is somewhat more complex, however. American parents are not forgoing romantic unions; while it is true that a sizeable percentage (about 40 percent) of births are to unmarried parents, the majority of those births are to cohabiting couples, and only one in five births are to women living without a romantic partner in the household. Moreover, the majority of Americans, and even the majority of women with an out-of-wedlock birth, will eventually marry, albeit at later ages than in years past.

If there is a cause for concern, it may arise because the lock-step order of family formation patterns has been replaced by multiple family paths, and that certain types of individuals who



were prohibited from having children in the past (cohabiters, single mothers, same sex couples) can now be parents. Yet whether these new types of arrangements are harmful remains a matter of debate, as it is very difficult to prove that any type of household arrangement has a causal effect on well-being. But it is clear that that there has been a shift in what constitutes the American family, and efforts to revert to a time when marriage and fertility were more closely connected may be in vain. 

**Christina Gibson-Davis**  
*Sanford School of Public Policy*  
*Department of Sociology*  
*Department of Psychology and Neuroscience*  
*Social Science Research Institute,*  
*Center for Child and Family Policy*

# AHMAD HARIRI

We sat down with neuroscientist Ahmad Hariri to learn more about his research on individual differences and the ‘Hariri Lab.’

BY COURTNEY ORNING

**Q: We’ve all heard of ‘neuroimaging’ but not many of us know what it really is...can you explain?**

**Hariri:** Neuroimaging refers to a broad array of tools used to measure the structure and function of the living human brain. For example, one tool we use extensively in our research is called functional magnetic resonance imaging, or fMRI. This tool provides an indirect measure of brain activity as people perform a variety of behavioral tasks like viewing facial expressions.

**Q: If you could describe the Laboratory of NeuroGenetics (LoNG) in two sentences...**

**Hariri:** The Laboratory of NeuroGenetics is an interdisciplinary team of scholars exploring the genetic, neural and environmental factors that shape human behavior. One interest of the LoNG is to identify how specific neuromodulators, like serotonin and dopamine, bias the response of the brain’s circuitry for processing threat and how individual differences in this response interact with stress to increase risk for mood and anxiety disorders.

**Q: You completed your postdoctoral fellowship at the National Institute of Mental Health with Daniel Weinberger, M.D. Weinberger has a major interest in schizophrenia. Did this type of research effectively prepare you for leading your own lab?**

**Hariri:** Certainly. Danny has a gift for unifying a group of investigators who have different backgrounds and skills toward a common goal. I try to emulate that in my direction of the LoNG. What I learned most from Danny, however, was I should provide resources that allow trainees to pursue their specific interests even if they are not necessarily my own. For instance, while schizophrenia is the clear focus of Danny’s research, he allowed me to apply the novel tools and resources he had developed for his research to my own interests in stress-related brain circuits and disorders, such as depression.

**Q: The “Do You Have a Brain?” study is said to be the largest of its kind in the world. Your group is looking for people to help you identify brain pathways that shape how we react to our environment. What do you hope to achieve from this research?**

**Hariri:** We hope to achieve a deeper understanding of genetic, neural and environmental factors that shape diversity in human behavior and, ultimately, how these factors can help us better treat and even prevent mental illness.

**Q: What do you think is the biggest assumption or misconception about ‘individual differences’?**

**Hariri:** That they’re only skin deep. Differences in our behavior are as great, if not greater, than those in our physical appearance. More importantly, these individual differences often predict who will succumb to stress and hardship and who will be resilient.

**Q: What attracted you to Duke?**

**Hariri:** I was interested in the University’s commitment to my research as well as the opportunity to extend my research in new directions through collaborations with some of the best scientists in the world, while working with the best students in the country. 🏆

••• Check out Hariri’s lab, Laboratory of NeuroGenetics, at: <http://haririlab.com>



DUKE UNIVERSITY PHOTOGRAPHY



## DGHI STUDY FINDS CHILD LABOR IS PREVALENT AMONG ORPHANS

BY ALYSSA ZAMORA

**ONE IN SEVEN** orphaned and abandoned children (OAC) in low- and middle-income countries are engaged in child labor, according to new research by Duke Global Health Institute (DGHI) researchers. With such organizations as UNICEF declaring that child labor is harmful and should be eliminated, the cross-cultural study calls on policy makers and social service providers to pay close attention to the demands being placed on orphaned and abandoned children, particularly in rural areas and poor households with limited income sources.

The Positive Outcomes for Orphans (POFO) research project led by Kathryn Whetten at DGHI's Center for Health Policy, is among the first to quantify the prevalence of child labor among OAC in low- and middle-income countries. The study includes 1,480 orphaned and children abandoned by one or both parents ages 6-12 living in family settings in Cambodia, Ethiopia, India, Kenya and Tanzania.

In a newly published paper in BioMed Central by lead author Rachel Whetten, POFO researchers found that children who tended to work more were female, healthy, lived in rural settings, and/or had caregivers who had no income. Another significant finding is a strong association between increased child labor and decreased school attendance.

Whetten's research team conservatively found 60% of OAC engaged in work during the past week, and of those who worked, about 18% worked 28 or more hours. More than a fifth of the total children sampled met UNICEF's definition of child labor, which is work that exceeds a minimum number of hours depending on the age of the child and type of work. For children ages 5-11, child labor is defined as at least one hour of economic work or 28 hours of domestic work per week. For children ages 12-14, child labor is defined as at least 14




The international study shows that female orphans are twice as likely to engage in child labor as males.

hours of economic work or 28 hours of domestic work per week.

“The very definition of labor is considered in this study, as in what is defined as labor versus chores, the argument being that household chores are not always measured as ‘work’ or ‘labor’ but are almost universally assigned to females, such as child care, water fetching, cooking or cleaning,” said Rachel Whetten of the labor study, which included household chores that exceeded the minimum number of hours per week. “One of the striking conclusions of this study is that female children are twice as likely as male children to be engaged in child labor. This supports the argument made by child protection and policy making organizations that when unpaid domestic ‘chores’ are not counted as labor, we risk missing the large burden being placed on children, particularly female children, which can interfere with their educational attainment and future well-being.”

With an estimated 143 million orphans worldwide, the research has implications for global policy makers and child service providers in low- and middle-income countries. POFO researchers suggest that programs to promote school attendance among orphaned and abandoned children may need to focus on the needs of families holistically as well as the needs of the children. Additionally, Rachel Whetten urges policy makers and care providers to consider the reality that female children are in great need of additional services and aid.

Other researchers for this study include Lynne Messer, Jan Ostermann, Brian Pence, Megan Buckner, Nathan Thielman and Karen O'Donnell. The study was funded by the National Institute of Child Health and Development. 

See the study: <http://www.biomedcentral.com/1472-698X/11/1>



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.....  
**FINAL NOTE**  
.....

## DUKE UNIVERSITY AND DURHAM PUBLIC SCHOOLS TO EXPAND PARTNERSHIP

School strategic plan calls for more collaboration.

BY SUZANNE VALDIVIA

**DURHAM PUBLIC SCHOOLS' (DPS)** new strategic plan highlights a growing collaboration with Duke's Center for Child and Family Policy (CCFP).

Center scholars and some undergraduate students are leading a number of intervention programs and research studies with DPS support. In addition, DPS leaders regularly consult with Duke faculty members about programs and policies, such as reading and math learning, social behavior of high-risk children, and policies about teacher recruitment.

"Much of our work deals with solving complex social problems that have multiple layers of determinants," said Board of Education member Heidi Carter. "We are very lucky to have in our own backyard resident experts on child policy issues and program evaluation... Duke in turn can benefit from our relationship by learning about the research questions to which policy makers and administrators are seeking answers."



Through Duke's School Research Partnership projects, the center matches undergraduate students with DPS leaders who have identified a specific educational issue they need researched. Issues covered during past semesters have included the effect of school nutrition on student learning, alternatives to school suspension, and best practices for after-school tutoring programs.

"Not only have I enjoyed spending time with these young idealists, I have also depended on them for information that my board colleagues and I might not have had time to research and discover on our own," Carter said. "I will use the information and recommendations they have prepared to design better programs and policies for our school system."

Center Director Ken Dodge said faculty members are thrilled about the growing partnership with DPS. "DPS Board members and administrative leadership have great vision," Dodge said. "And we feel fortunate that they want to include our faculty members and students in the task of educating the children of Durham." 