

## Illinois State University ISU ReD: Research and eData

---

Redbird Scholar

Research and Sponsored Programs

---

Fall 10-2015

# Redbird Scholar, Volume 1 Number 1

Illinois State University

Follow this and additional works at: [http://ir.library.illinoisstate.edu/rsp\\_redscholar](http://ir.library.illinoisstate.edu/rsp_redscholar)

 Part of the [Higher Education Commons](#)

---

### Recommended Citation

Illinois State University, "Redbird Scholar, Volume 1 Number 1" (2015). *Redbird Scholar*. Book 1.  
[http://ir.library.illinoisstate.edu/rsp\\_redscholar/1](http://ir.library.illinoisstate.edu/rsp_redscholar/1)

This Book is brought to you for free and open access by the Research and Sponsored Programs at ISU ReD: Research and eData. It has been accepted for inclusion in Redbird Scholar by an authorized administrator of ISU ReD: Research and eData. For more information, please contact [ISURed@ilstu.edu](mailto:ISURed@ilstu.edu).

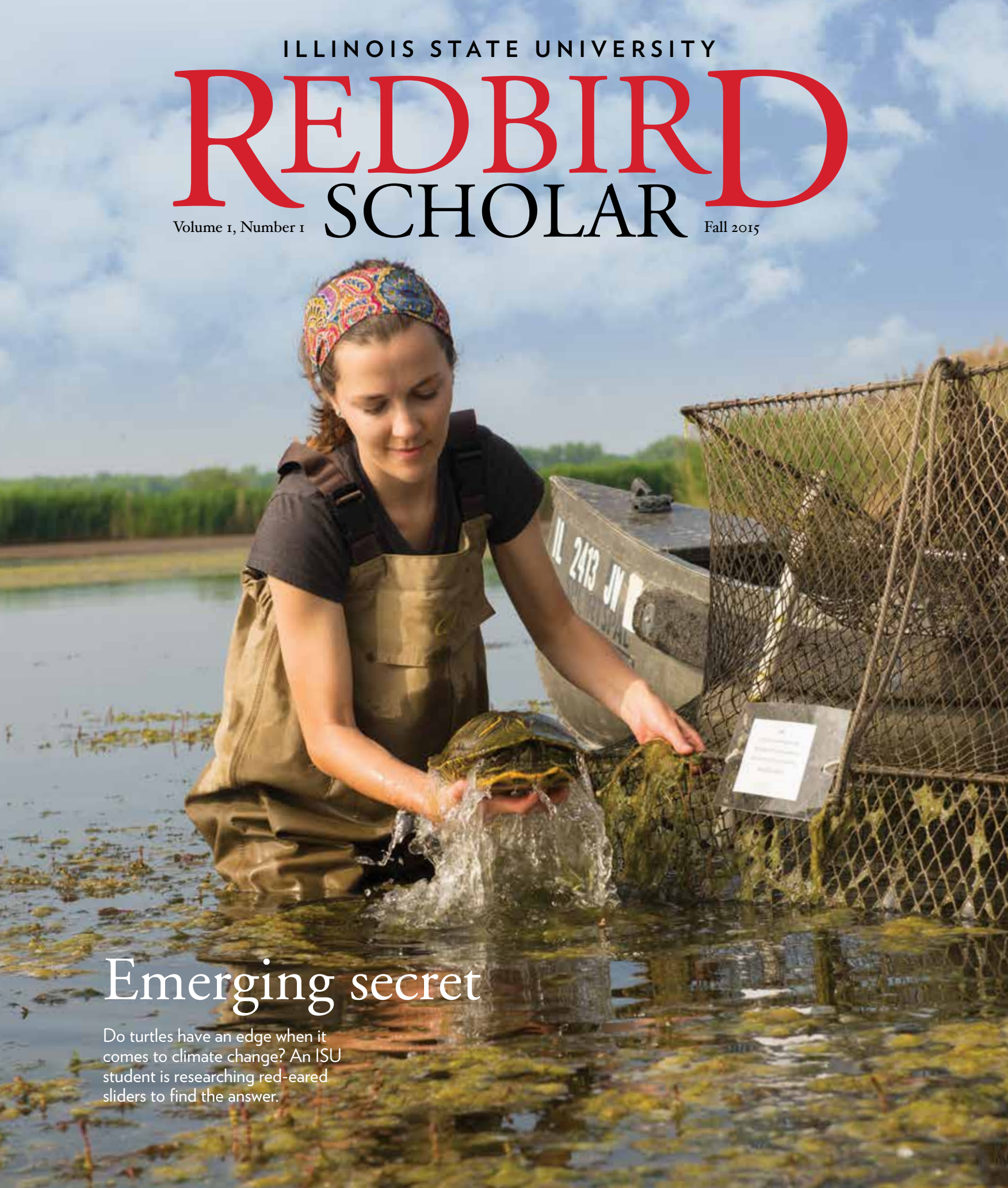
ILLINOIS STATE UNIVERSITY

# REDBIRD

## SCHOLAR

Volume 1, Number 1

Fall 2015



## Emerging secret

Do turtles have an edge when it comes to climate change? An ISU student is researching red-eared sliders to find the answer.



Agriculture is the lifeblood of Ghana's economy. The African country's farmers and banks, however, are operating with little protection, as insurance options are few for their investments. Professors and students are working to alleviate this problem.

## 4 To exercise or not to exercise is the question

Nursing Professor Elaine Hardy has discovered that race plays a role in how much someone exercises. Her research shows some African-American women have negative attitudes toward exercise that are rooted in culture and their circumstances. But a lack of physical activity is leaving these women at a higher risk of death due to chronic disease.

## 12 A painter's "little worlds"

Art Professor James Mai has spent the last 30 years creating abstract paintings that attempt to emulate the order and interrelatedness he sees in nature. One major strain of his work focuses on geometric forms. These galaxy-like sets of colorful polygons have drawn international attention from mathematicians.

## 18 Student research

Biology graduate student Amanda Carter (on the cover) came to Illinois State to study turtles in Professor Rachel Bowden's laboratory. Now the National Science Foundation Fellow spends much of her time conducting fieldwork in a marsh along the Illinois River, investigating whether turtles have an advantage adapting to climate change.

## Departments

- 2 Ask an expert
- 10 Q&A: Business Professor Mathew Sheep
- 20 Featured grants
- 21 Redbird media

# ILLINOIS STATE UNIVERSITY REDBIRD SCHOLAR

Volume 1, Number 1—Fall 2015

#### Editor-in-chief

Kevin Bersett

#### Copy editor

Susan Blystone '84, M.S. '03

#### Lead designer

Michael Mahle

#### Designers

Sean Thornton '00  
Carol Watson '08

#### Photographer

Lyndsie Schlink '04

#### Production coordinator

Tracy Widergren '03

#### Writers

Kate Arthur  
Steven Barcus '06, M.S. '09  
Rachel Hatch

#### Editorial intern

Bridget Anders '15

#### Magazine board

John Baur

*Interim associate vice president  
for Research and Graduate Studies*

Brian Beam, M.S. '94, M.B.A. '10

*Executive director of University Marketing and Communications*

Ashley Ellefritz

*Director of Federal Government Relations*

Amy Hurd

*Director of Graduate Studies*

Eric Jome

*Director of Media Relations*

Jonathan Lackland

*Director of State Governmental Relations*

Jason Wagoner

*Director of Research and Sponsored Programs*

Your feedback is welcome. Send letters to the editor, comments, suggestions, story ideas, Ask an Expert questions, and Redbird Media submissions to Kevin Bersett at [kdberse@IllinoisState.edu](mailto:kdberse@IllinoisState.edu) or by mail to Campus Box 3420, Normal, IL, 61790-3420. To fill out a survey about each issue of the magazine, visit [IllinoisState.edu/RedbirdScholar](http://IllinoisState.edu/RedbirdScholar).

An equal opportunity/affirmative action university encouraging diversity 16-0058. This document is available in alternate formats upon request by contacting University Marketing and Communications at (309) 438-8404.

#### Redbird Scholar

Volume 1, Number 1—Fall 2015, a free magazine

Published biannually

Office of the Associate Vice President for  
Research and Graduate Studies

Campus Box 4040

Normal, IL 61790-4040

[IllinoisState.edu/RedbirdScholar](http://IllinoisState.edu/RedbirdScholar)



**ILLINOIS STATE  
UNIVERSITY**  
*Illinois' first public university*

# From the AVP

What is the best kept secret at Illinois State University? Is it the National Institutes of Justice-funded research to develop portable instruments for the on-site analysis of evidence at crime scenes? Maybe it is the biomathematics cross-disciplinary program that houses an academic journal and will soon be hosting an international symposium on education and research in biomathematics and ecology. Or is it the arts technology program, where students and faculty explore the intersection between art, music, and theater and digital and interactive media?

My answer is all of the above, and much more.

In my two years as interim associate vice president for Research and Graduate Studies, I have discovered that one of the best kept secrets is the vibrant research culture existing across campus. Although I have been a faculty member in the Chemistry Department, where there is a long tradition of involving students in research, I had no idea about the breadth and depth of research activities going on outside of my narrow world in the natural sciences.

I have developed enormous respect for the scholars all across campus, who are doing impactful, cutting-edge scholarship in every college and academic department and school. I also have a new appreciation for the importance of the creative arts to the scholarly life of the University. Now, whenever I speak of “research,” I am careful to specify that the term is used in the broadest possible sense to include all forms of scholarly and creative activities and expression.



Some may wonder why research is important when Illinois State University has built its reputation as a leader in undergraduate education through outstanding teaching and individualized attention. Research, which is core to the University’s mission as expressed in *Educating Illinois*, is the ultimate in individualized attention. Students work one-on-one with a professor, building critical thinking skills while creating new knowledge and learning how to communicate this knowledge to the scholarly community. Such skills are critical for the student’s professional development and success in their chosen profession. It’s no wonder that research is identified by the Association of American Colleges & Universities as an educational practice that has a significant impact on student success.

Among undergraduate students, an even better-kept secret might be the 42 master’s and 10 doctoral programs at Illinois State. Frequently I talk with undergraduate students who are not even aware that the Graduate School exists! This is despite the fact that one of every nine students on campus is here to pursue a graduate degree.

This inaugural issue of *Redbird Scholar* is our first step in revealing the secrets that are research and graduate studies at Illinois State. The stories highlighted in this issue represent an introduction to the rich and ever-changing story of research, scholarship, and creative activities on campus. Every six months, with each new issue, we will add another chapter to the story. I invite you to listen to our story and help spread the word, as scholarship is meant to be shared, not to be kept secret.

**John E. Baur**

Interim Associate Vice President for  
Research and Graduate Studies



To keep up with research news between issues, be sure to follow @ISUResearch on Twitter. We also invite you to publicize scholarly activities on campus using the hashtag #RedbirdScholar.

# Ask an Expert

Have you ever had a question even the Internet couldn't answer? Some members of the ISU community did. And we put Illinois State University's faculty experts to work answering their inquiries. To submit a question, email Kevin Bersett at [kberse@IllinoisState.edu](mailto:kberse@IllinoisState.edu) or tweet the question to @ISUResearch.

## What are those two shining lights on planet Ceres?

—Mark Wesolowski '91, Chicago

Astronomers, like all scientists, are explorers. Visiting new worlds guarantees unexpected mysteries, with each new discovery initially challenging to explain. The two bright spots, in a crater on the dwarf planet Ceres, are the latest example. Finding and solving such mysteries is one of the reasons we explore the far reaches of our solar system.

The bright spots on Ceres are sunlight reflected from the edge of an impact crater. Yet what reflects this light? Is it piled ice or salt recently churned up from beneath the surface of Ceres by a meteor impact? Or is the ice reflected by something else? Only further exploration of Ceres will tell.

We see a similar phenomenon on Umbriel. This is one of the heavily cratered moons of Uranus. There, irregular patches of sunlight shine from the Wunda Crater. Perhaps the bright spots on Ceres will help us better understand what is also happening on Umbriel.

I hope that the Dawn space probe reveals the source of these lights as the probe gets a closer look at Ceres. We might discover that water, in the form of buried ice, is common throughout our Solar System. Then again ... maybe not. Solving

mysteries like this is why we explore the many and varied worlds that orbit our sun.

**Tom Willmitch, director, Illinois State University Planetarium**

## Why can't I tickle myself? I'm one of the most ticklish people I know! My friends (and wife) can't tickle themselves either. How come?

—J Thomas (Tom) Stoltz '90, Bangkok, Thailand

What you think you are seeing or feeling is not the real world. It is being preprocessed by your nervous system.

Your nervous system does not work like a storage device. It is not a camera, taking in everything around you. Your brain only pays attention to important things — when something is novel or new. Anything that is familiar, your brain sees as useless or unnecessary information.

When you are performing an action, your brain sends signals to your muscles, and the muscles move. But that is not all — a copy of that signal, called an “efference copy,” is kept and subtracted from signals of your sensory system. If your actions happen as expected, the efference copy matches the sensory information and no sensory information reaches the brain.

I touch the computer mouse, and it is only the computer mouse. But say you reach down for your computer mouse,

and there is a spider on it. That is very different than what you expect. You feel that spider. Your “efference copy” does not match; your brain realizes the difference and pulls your hand back.

When we try to tickle ourselves, we have an expectation of what will happen. The expectation is met. That means the efference copy matches, so the tickling sensation does not reach the brain. No reaction.

On the flip side, the expectation has to come from our own nervous system for the brain to have a chance to ignore it. If we see someone coming to tickle us, we will still laugh because it was not our brain that sent the signal, so there is no efference copy, and the message reaches the brain. You laugh.

**Wolfgang Stein, associate professor of neuroscience, School of Biological Sciences**

## What effect do you think branding had on the last presidential election, and do you think it will have an impact on the next?

—Tina Krumdick '85, Lisle

We used to understand branding as a one-way activity engaged in by the communicator in question, whether a person or organization. The more traditional ways of responding to political attacks (via press conference, or occasionally, defensive advertising) have trouble repairing this damage because of lack of access to their opponent's best resource: the social network feed.

Social media has changed branding, especially in contested campaigns where each party's objective is to make their opponents seem less preferable. The candidate with the better social media network and message designs can define his/her opponent's public image in ever more efficient ways.

A good example of this is Republican nominee Mitt Romney's statement that as governor of Massachusetts he sought and obtained "binders full of women" in order to improve hiring of women in his administration. He said this in order to compare his efforts favorably with what President Barack Obama had not achieved in terms of gender equity. This small phrase became a widespread social media meme taken to show Romney as viewing women as some sort of objective commodity, which was precisely the exact opposite of Romney's intent.

Incidents such as this provide evidence that social media have the potential to increase the number of people exposed to political content and potentially galvanized for causes and candidates. It also raises concerns that it may not help improve our level of political discourse and civility.

**Joseph Blaney, professor of communication and associate dean, School of Communication and College of Arts and Sciences**

### Who invented soft soap and why?

—John Klein, (father of Alec Klein '15)  
Vernon Hills

*(Editor's note: Ah John, we love the John Cusack movie *The Sure Thing* as well, and that is arguably one of the best quotes in the movie. Perhaps we'll never really know why liquid soap was invented, but we can talk about why liquid soap looks the way it does.)*

The origins of soap as a cleaning agent can be traced back to the ancient world (~600 B.C., Greek city states). However, liquid soaps were not commercially available until the late 19th century. The most well-known liquid soap at this time was Palmolive soap (from palm and olive oils) developed by a researcher named B.J. Johnson.

As the chemistry of soaps has become more evolved, liquid soaps may contain chemical compounds known as saponified vegetable oils. It is also possible that they may contain chemical agents like sodium lauryl sulfate as an emulsifying detergent to dissolve oil and dirt for cleaning. There are numerous other ingredients, such as oils, anti-bacterial agents like triclosan, fragrances, and colors—both natural and synthetic—to suit the interest of the consumer.

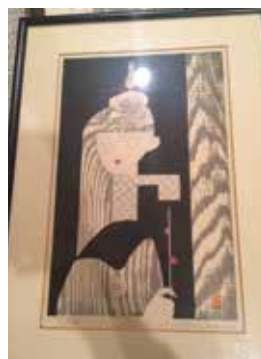
When all combined these chemical agents create liquid soap. The material has an oil consistency, primarily due to the properties of the emulsifying detergent that's being used as the key ingredient.

**Shawn Hitchcock, professor of organic chemistry, Department of Chemistry**

**My fiance (Dan Jones '07) and I were recently doing a spring cleaning of our basement and found a piece of art that belonged to his grandfather. I've tried to do some research on the artist but don't really know where to start. Any information on the background of this piece would be much appreciated!**

—Kristen Massey '06, St. Louis

This woodblock print is by the 20th-century Japanese printmaker Junichiro Skein (1914–1988). It is titled *A Plum*. I found it on artnet.com under auctions. You could find the exact price this print sold for if you pay for a (one-day pass) to the auction database. His auction prices for woodblocks range from a few



hundred dollars to a few thousand.

All I did was guess the lettering of the signature until I found a likely match. I knew it was Japanese because of the insignia.

**Barry Blinderman, director, University Galleries**

### What is the probability of a Chicago Cubs World Series Championship in 2015?

—Brian Bernardoni '91, Justice

There are multiple methods to calculate a probability. A classical approach is equally likely outcomes. There are 30 teams in Major League Baseball, and if each has the same chance of winning the World Series, the probability is one divided by 30. This calculation results in .033 or a 3.3 percent chance.

Somewhat related to this approach is relative frequency. Since the Cubs have not won the World Series since 1908, the relative frequency is less than 1 out of 100. At a much more technical level the often misapplied law of averages is better interpreted as each year begins anew. Still less than 1 percent.

As of early morning May 25, the Cubs had the ninth best record in baseball, 3.5 games behind the Cardinals. Sorry my bias is emerging! Based on this record and a sophisticated analysis/prognosis, the consensus of the Sports Book in Las Vegas is a 7.7 percent chance. Follow the money for the most realistic estimate.

**Robert Shoop, instructional assistant professor, Department of Management and Quantitative Methods**

Illinois State University has experts on everything from auditing to zoology, and a thousand subjects in between. To search for an expert on a specific topic or to see our full list of experts, visit Illinois State's faculty database at [MediaRelations.IllinoisState.edu/Experts](http://MediaRelations.IllinoisState.edu/Experts).

# GETTING PHYSICAL



## RACE PLAYS ROLE IN HOW MUCH SOMEONE EXERCISES

By Kate Arthur

BLACK WOMEN DON'T JOG ALONG LAKE MICHIGAN, AND GYMS AND TREADMILLS ARE FOR SKINNY WHITE WOMEN WHO EAT GRAPES.

Elaine Hardy laughs when she talks about some of the impressions midlife African-American women have of exercise. The Mennonite College of Nursing assistant professor, a midlife African-American woman herself, has been researching whether racial identity is a predictor of physical activity in midlife black women.

The answer is yes.

“Race has a definite impact on whether women will be physically active or not,” Hardy said, after studying 252 women in Northwest Indiana and repeating the research with 70 women in Central Illinois. She found that African-American women are less active than white women, leading to a higher incidence of illness and death related to chronic disease.

Hardy used two measures of physical activity: the Jackson Heart Study physical activity survey, which measures moderate and vigorous activity, and the Behavioral Risk Factor Surveillance System, which examines the number of hours engaged in activity. The women were between the ages of 40 and 65.

When Hardy chose this topic for her dissertation at the University of Illinois at Chicago, it was a bit of a battle to convince anyone race could be a factor. She was paired with an advisor who had researched midlife exercise in all women, without race being a variable.

Hardy joined Illinois State University in 2012. Last year, she received a University Research grant to expand her study to African-American women in Central Illinois. She's still analyzing that data.

Her research looks at how the women view exercise and what would motivate them to become more active. She looked at variables known to influence activity, from body mass index and chronic health conditions to social support, environment, and self-efficacy, or the belief that you can do the activity.

Believing you can do it isn't always enough, she found.

Earlier in her career as a clinical nurse specialist, she counseled diabetics on how diet and exercise could help them manage their disease. She recruited them for a walking program but found they would stop exercising when the program ended.

"Sometimes they'd rather take a pill than exercise," Hardy said. "And diabetes doesn't hurt. Hypertension doesn't hurt. But it's what kills you."

**IF YOU SAY 'EXERCISE' TO BLACK WOMEN, THEY HAVE A PRECONCEIVED NOTION THAT YOU HAVE TO JOIN A GYM, DRESS IN A CERTAIN WAY, AND HAVE TO BE THERE SO MANY TIMES IN A WEEK.**

Women in midlife often have less time to exercise because of families and careers, and they may be discouraged by the amount of weight they need to lose, she said.

"Exercise for adults is so much harder because we're in a routine, we don't see the benefit, we don't see the need," she said. "And you don't lose 30 pounds overnight; it's such a long process."

The former high school athlete, who laughs when she says she *has* a gym membership, could relate to why the women

stopped exercising: "Here I am looking like the rest of the women in the room. I need to exercise."

Hardy found the women were stuck on the word "exercise."

"Just the word exercise was a big thing," she said. "If you say 'exercise' to black women, they have a preconceived notion that you have to join a gym, dress in a certain way, and have to be there so many times in a week. It's not the person walking around the track: That's not what they consider exercise."

The majority of those in her initial study were from the Chicago area. Going to the gym meant taking public transportation. Walking in their neighborhoods wasn't always safe. She decided to stop using the word exercise and instead encouraged the women to become active, telling them that yard work, laundry, playing with the kids, and taking the stairs counted.

"We define fitness by whether you are able to do the things you need to do in the course of the day," she said.

When it comes to ideal weight, she found cultural differences; there's an acceptance of "curves" among black women. "For black women, shape and weight is not always the same thing as it is for white women," Hardy said. "It's how their clothes fit, how they see themselves. They're not obsessed with the scale."

Also, food is central to social events in the African-American culture. "Everything is around the kitchen, even if it's a death. Everything has to have food and high-fat foods, but some of that is changing," Hardy said.

Hardy would like to bring the women back for focus groups, asking what would motivate them and exploring whether guilt, for taking the time for exercise, could be holding them back.

"Some of the literature says black women feel guilty when they take time for themselves, and I don't know if that's changing," she said.

Hardy hopes to duplicate her research in different geographical areas of the U.S., comparing her findings and designing a "racially sensitive intervention" for the women.

"I don't like going into a community, doing the research, and telling people what they should be doing," Hardy said. "I'd like to find out what they would engage in."

She also wants health care workers and nutritionists to become aware that racial identity can be a factor in unhealthy behavior: "We have to keep in mind that culture and racial identity are as important as age and gender in finding a motivation that works."

To read Hardy's original study, visit [gradworks.umi.com/34/98/3498037.html](http://gradworks.umi.com/34/98/3498037.html).



**Elaine Hardy, Ph.D., RN**

Assistant professor, Mennonite College of Nursing

### Awards

Nurse Faculty Leadership Academy, 2014–2015  
University Research Grant, 2014

Commitment to Diversity Outstanding Faculty  
Award nominee, 2014

Nursing Faculty Leadership Academy Fellow,  
Sigma Theta Tau International, 2014

American Nurse Foundation Scholar, 2010

### Organizations

Founder of Black Nurses Association of Central Illinois

### Education

Ph.D., nursing science, University of Illinois at Chicago  
M.S., clinical nurse specialist, Purdue University Calumet  
B.S.N., Indiana University Northwest





# Insurance Insures Prosperity

BY STEVEN BARCUS

ISU researchers  
working to protect  
Ghanaian farmers

**A**griculture is the lifeblood of Ghana's economy. The agrarian sector employs 60 percent of the Ghanaian workforce and accounts for 44 percent of the country's GDP, according to the Ghanaian government.

Despite the importance of agriculture to the African nation, there are few insurance options to protect the investments of farmers and the banks that support them. However Katie School of Insurance and Financial Services faculty and students are working to create microinsurance products—low-cost insurance designed for individuals with low incomes—that would provide support and peace of mind for Ghanaian farmers, who depend on strong harvests of maize, rice, sorghum, and other crops.

The research project began in 2008 when the Katie School received a grant from the International Labor Organization to study the potential for developing microinsurance in Ghana. This country was chosen because a significant portion of its population could benefit from the research.

In addition the country has a good relationship with the United States, a less-corrupt government, financial and critical infrastructure to facilitate the work, and is English speaking.



Recent Illinois State alums Adolph Okine (left) and Frank Danquah, both of Ghana, helped research potential insurance options for farmers in their native country.

While Ghana already has some insurance products available, most of which are health-related, the Katie School team decided to focus on insurance for the poor. Lack of insurance can be problematic in a year with poor yields. In some cases farmers who are unable to pay back loans are forced to sell vital capital or move to avoid the aggressive pursuit of banks. Likewise when banks do not receive repayment, they are less likely to lend to other farmers who require high-quality seed and fertilizer to ensure a strong harvest. Microinsurance could break that cycle, ensuring that loans are repaid and that farmers and banks are not left to the mercy of unpredictable climates. Yet with

**“At some point the ultimate objective is to put together an insurance instrument with indemnity and everything and how it is going to be paid.”**

premiums for microinsurance amounting to the equivalent of only \$15 per year, cutting administrative overhead to avoid quickly depleting premiums becomes critical.

“The idea is unlike traditional insurance, which you have in the States, where you actually go out and have people look at the losses,” said Jim Jones, executive director of the Katie School. “The infrastructure, remoteness, and size of the farms make that unworkable in developing countries. You have to come up with something else that simulates what the loss would be in aggregate form.”

For the last four years, Jones and Management and Quantitative Methods Professor Askar Choudhury have been exploring methods to assess yields and losses

“I worked in insurance (in Ghana) for a year before grad school. I didn’t see any insurance for farmers. So I see this as a very great step.”

without creating overhead. This goal has seen the team consider several approaches, one of which is using rainfall data in an attempt to create a correlation with crop yield. This would allow assessors to examine data, not the fields.

“At some point the ultimate objective is to put together an insurance instrument with indemnity and everything and how it is going to be paid,” Choudhury said. “Right now we are trying to identify factors that correlate with yield.”

Creating a model that relies on rainfall data has proved challenging. While temperature, rainfall, and other weather data have the potential to estimate yields, weather stations are sparse. Given that Ghana has several microclimates, distances from weather stations may obscure correlations.

Since rainfall alone cannot determine yields, Jones and Choudhury have also included Normalized Difference Vegetation Index (NDVI) satellite data in their research as a way to estimate yields. NDVI images can place a numeric value on the level of greenness in fields, which can be a major factor in predicting a farm’s crop yield.

“I think the most promising thing we’ve had here are NDVI satellite images,” Jones said. “The level of granularity is a challenge—it is 200 meters by 200 meters, so that’s a pretty big area. But it is very close proximity to what you’re trying to measure.”

The team has examined NDVI data for McLean County to determine how well it correlates with actual yield and has been pleased with the initial results. Using McLean in building a model is advantageous as Choudhury and Jones have access to information on what was planted, when it was planted, and what the final yield was. To fully utilize NDVI data in Ghana, similar information would need to be collected.

Several solutions to overcome the lack of data are being explored, including using drones with infrared cameras to more closely examine fields and working with phone companies to establish a system in which farmers can call in or text information. This information, along with the images from NDVI, would paint a more accurate picture of what would need to be covered in case of a disaster.

The project has also given Frank Danquah, M.S. ’15, and Adolph Okine, M.S. ’15, Illinois State actuarial master’s students from Ghana, the opportunity to contribute to the research.

“When there is a disaster, usually the government comes to the aid of farmers,” Okine said. “This index insurance would be a way to take the place of the government coming to the aid of farmers anytime there is a disaster. These farmers have people lending them money. It puts these lenders at ease since they know they will get their money back if a disaster occurs.”

As Jones, Choudhury, Danquah, and Okine continue to create an index model through which a microinsurance product could be based, they are also considering further ways to eliminate overhead. One such idea is to redefine who the policyholder would be for this insurance. Jones noted in one example that a village could actually be the policy holder. With their knowledge of what was planted and other factors, should an indemnity be paid, officials could then distribute money to the farmers. Likewise a co-op, or even the banks themselves, could become the policy holders, making loans more accessible while carrying less risk to lenders.

Though work continues on defining an index that can be used to construct a working model, the project has already allowed for initial findings to be shared in the *Journal of Economics and Economic Education Research*. Additionally, the broad scope of the project has created opportunities for collaboration with other departments on campus, such as Agriculture, Geography, and Marketing.

In the end, it is all about creating a model that can help Ghanaian farmers.

“I worked in insurance (in Ghana) for a year before grad school,” Danquah said. “I didn’t see any insurance for farmers. So I see this as a very great step. We are able to build models and make recommendations. Some companies will be able to pick these models up and implement them.”



# The Q & A

with **Professor Mathew Sheep**

By Kevin Bersett

## Episcopal Church stretches identity to stay together after election of gay bishop

The 2003 election of Rev. Gene Robinson as the Episcopal Church's first openly gay bishop set off an internal debate that led a number of members within several conservative dioceses and parishes to leave the church.

But in the end the church retained about 90 percent of its membership, including many conservatives who opposed Robinson's consecration as bishop. How did Episcopalian leaders and members reconcile their church's identity with such a momentous change?

For the past decade, Illinois State Business Professor Mathew Sheep has worked with four other researchers from across the United States to study how the church viewed itself during this period. Their study has been accepted for publication in the *Academy of Management Journal*.

What the team found was that, rather than organizational identity being a fixed set of descriptions of the organization, it is instead a set of dialectical tensions that people attempt to balance or navigate every day in the way they talk about identity. In other words, organizations can stretch their identity—a concept the researchers called organizational identity elasticity—to allow for major changes.

Sheep spoke about the study—"Elasticity and the Dialectic Tensions of Organizational Identity: How Can We Hold Together While We're Pulling Apart?"—in the following Q&A.

*The interview has been edited for clarity and length.*

### **Why would a business professor study a church?**

The first three authors shared first authorship on this paper, and we all arrived at the University of Cincinnati at the same time—they as professors, I as a doctoral student. So I was basically doing research with them. We've done quite a number of studies with the Episcopal Church as our source of data.

We study organizational identity. So to do good research you have to have an interesting context for identity. People just don't sit around talking about their identity. It takes some sort of catalyst to bring that sort of talk to the surface.

And so the Episcopal Church and our association with them we began to ask, "Why don't we study how the Episcopal Church constructs and talks about its own identity?" In 2003 the Episcopal Church had just had its General Convention in Minneapolis and had elected its first openly gay bishop. This obviously was a controversial event in the church. It was

one that a lot of people were very, very excited about; others were very resistant to it. So it was a time of conflict.

Our study really wasn't about that or that issue per se; it was, "How does this impact how people talk about their organization's identity?" That's why we suggested this research context. We were given very broad access to people in the church to interview them and to thus get our data for the study.

### **It was a 10-year study, correct?**

Yes, we started this basically in 2004. The year after the general convention we began to collect data. This is qualitative research. It is a much lengthier process than more quantitative methods, because with qualitative data you really have this massive amount of interview data spanning hundreds of pages and you have to code that. It's a very rigorous method but it is still a lot more interpretive, if you will, than simply sitting down and crunching the numbers from a survey.

Then there is the matter of writing it up. What does all this mean? How can you contribute to theory? Because journal articles have to show that they have a major theoretical contribution, something that no one has done before. So that part takes quite a while to fashion and just to make sense of what the contribution is and how you are advancing knowledge—in our case, organizational identity and what that means.

We really problematized the conventional definition for organizational identity in this. The conventional definition is that an organization's identity is that which its members would say are the central, distinctive, and enduring characteristics of that organization. But our study and more recent studies have problematized that. In other words, we question the assumptions of that and say, "Is that always really central? How enduring is it? And really how is it distinctive?" Or is it more of a dynamic tension in these things, which is how we theorized it in this paper.

**Your approach was social constructionism. Tell me why you chose that approach and how it worked with your findings?**

That actually is one of the major differences in how people theorize organizational identity. And all these differences are good. Some people theorize organizational identity as *very a priori*. In other words, you come up with these preconceived notions of identity categories. Then you group organizations more or less quantitatively into these categories or groups.

Another way to look at identity is social construction. Identity is what people say it is. It's really not being enacted in everyday life unless this is the way people actually talk about identity and construct the identity of their organization. So how are they doing that? And that is a social con-

struction, which is a dynamic thing. It's not a given. It's contested. And it's negotiated. And sometimes it has to be re-established periodically and changed periodically.

**There are really some interesting quotes in the study. One quote from an interviewee that really grabbed me was, "I think there are two perceptions—those who think the Episcopal Church is prophetic and moving forward and those who see it as adrift into oblivion."**

It was a description of the way they saw the different ways ... and what we eventually from that and other interviews theorized as elasticity. Those who would view it as prophetic would be taking the more inclusive, expansive view of identity as, "This is who we can be." Interestingly they would also link it back to, "This who is we have always been. This is just part of our journey. This is just part of the trajectory of our identity." Identity is not a stagnant state. It's a moving stream, so to speak. So if they can think of it as who we are now and this is who we are becoming, but it's not really inconsistent with who we have always really been at its foundation, then that is what they mean by this is of a prophetic sort of stance.

Those who would say, "It's drifting into oblivion," they would be saying, "It's not a good path to take. It's not a part of who we are. Therefore, it is a departure from who we have been." And therefore that's the way they would be constructing it.

**What are the implications outside of the Episcopal Church for what your findings were?**

This research is published in a major, some would argue the major management journal that we have for empirical research. So why are they interested in this if it is about a church? Any organization

has certain things in common. One, they all have an identity of some kind and they all negotiate that identity. The things that change that identity might vary, but how they negotiate it and the whole principle of how elastic or inelastic that identity might be is pretty common to any sort of organization.

People might be constructing (identity) when an expansion is going on, like for a merger or an acquisition or when there is a strategic change. So when you do that, there are members and leaders in your organization who will say, "Great. Welcome. Come on in. It's a big tent. Let's include everybody. Let's include all of these identities. Our identity is elastic enough to accommodate all this." There are others who will say, "That's not who we have always been. That isn't true to our roots. It isn't true to who we have been in the past." So they are constructing it in a more inelastic sort of way.

So you will have that sort of verbal, discursive contest going on no matter what the impetus for the change or the expansion or the contraction of the identity is.

**Did going through this study change how you view yourself?**

I think it is really relevant to people. We have this thing now called protean careers. People change careers now much more frequently than at perhaps at times in the past. And so it becomes a real question. So every time you think about, "Maybe I will change my career," you're really kind of posing yourself with an elasticity question, like, "Am I that elastic? Can I think of myself in that new role? Is this part of who I can be or who I am?" So you kind of experiment with that in terms of testing it a bit if that will fit you. So yeah, it does relate at all these different levels.

A decorative background consisting of a grid of colored dots. The dots are arranged in a 5x3 grid. The colors of the dots are: Row 1: light blue, light blue, light blue; Row 2: light green, light green, light green; Row 3: light blue, light blue, light blue; Row 4: light yellow, light yellow, light yellow; Row 5: light blue, light blue, light blue; Row 6: light red, light red, light red.

# BALANCE

MATH & NATURE INTERSECT  
in professor's art

Like a researcher laying out a scientific problem, so begins the process by which Illinois State Art Professor James Mai constructs a set of abstract paintings: Given the eight vertices of a regular octagon, what are all the forms that result from connecting four pairs of points with four lines?

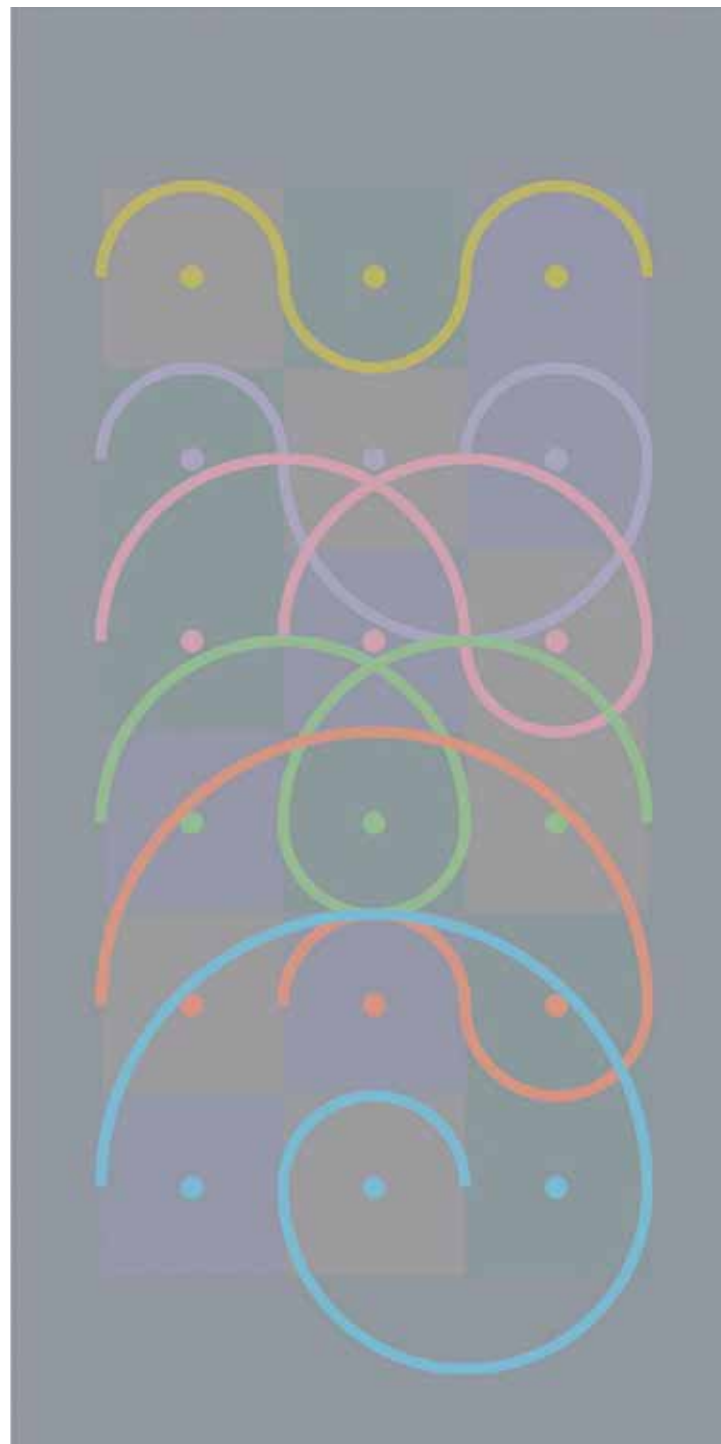
Mai answered his question by creating 17 shapes featuring all the possible permutations of the four lines and points inside the octagons. He inserted them into a table that grew as Mai asked more questions of his octagons involving points, planes, and lines, until 359 octagonal forms were set forth in categorical columns.

The permutations of these shapes formed the basis for a series of abstract works Mai painted to explore the inherent order of geometric shape. His process of creating new work conjures the image of a chemist in a lab. It might not be surprising then that Mai considers the periodic table of elements to be one of the great visual creations in human history, on par with any masterpiece in visual art.

“Of course it is nature’s construction, but it’s man’s recognition and visualization of nature’s order that interests me,” he said. “In many ways, the various forms of periodic tables are somewhat analogous to my construction of tables for my little worlds.”

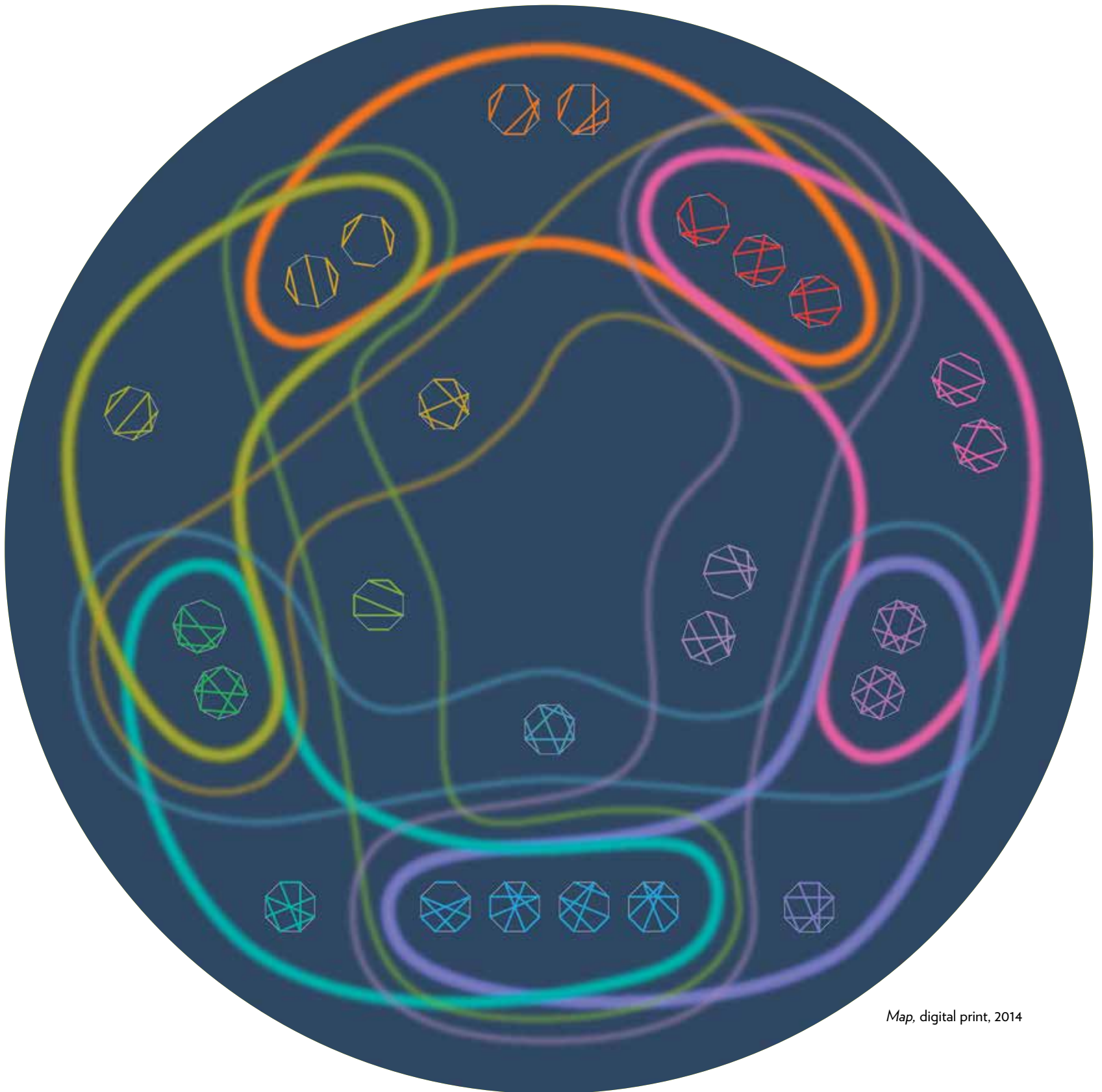
Mai has been creating his “little worlds” for the last 30 years. Once a figurative painter who worked in oil and acrylic, Mai is now an abstract painter who works mostly in digital prints. His artwork and writings have been presented globally, including cross-disciplinary academic conferences in Europe and Asia, and an exhibition this past spring featuring artists represented by the Los Angeles Center for Digital Art.

Regardless of which materials he uses, Mai’s paintings of galaxy-like sets of colorful polygons have the same objective: The works are an attempt to emulate the order, wholeness, and interrelatedness he sees in nature, the study of which he consid-



*Paths and Points*, digital print, 2007





Map, digital print, 2014

ers as important to the artist as it is to the scientist. “I would not be making what I make now had I not been trained as a figurative artist to look carefully at nature’s shapes, proportions, and colors,” Mai said. “I learned that the visual study of nature, with all of its subtlety and complexity, expands the possibilities for an artist’s imaginative work. It is the necessary grounding for creative work.”

Mai works with systems to generate “minimum complete sets” of geometric forms—minimum in that no two forms are alike and complete in that no forms are missing. These sets of forms are used to populate the compositions of his artworks in such a way that the finished work reveals how all the shapes are related.

His work is influenced by a tradition of abstract artists extending back to the Dutch painter Piet Mondrian, who laid out the language for a fully abstract art based on simple colors and forms in the first half of the 20th century. But Mai considers Mondrian’s approach too subjective.

“There was no objective way an independent viewer looking at a Mondrian painting would know why (a line) is over there and not over here,” Mai said. “What I seek in my work is something that lives its own life without either my subjective whim or my verbal interpretation to explain why it is the way it is. I would like my work to be self-explanatory at least at a certain level. If you spend enough time with it and you look objectively at its shapes and colors, the painting reveals its web of relationships. My purpose is to offer a direct visual experience of order, aside from verbal or mathematical explanations.”

Mai’s work has drawn the attention of mathematicians, including Bellarmine University’s Daylene Zielinski. They have

collaborated on papers about his work. The audience for this research is artists and mathematicians interested in the new mathematical shapes and relationships Mai has created. His creative research overlaps with such mathematical topics as symmetry, number theory, and graph theory, including polyominoes—a set of geometric figures composed of squares placed edge to edge.

Zielinski and others consequently label Mai’s work mathematical art. Though he sits on the editorial board of the *Journal of Mathematics and the Arts*, Mai dismisses the label, noting dryly that his mathematical skills would not impress mathematicians.

“I don’t describe my work as mathematical art, because it doesn’t emerge from mathematics per se,” he said. “The work is perhaps motivated by the same thing that motivates mathematicians: that is to find the underlying order of various aspects of experience. So I think it is more accurate to say that my work and mathematics share some fundamental values and methods.”

Mai compared the geometric relationships in his work to meter in poetry or rhythm in music: “Every art form has its structural language. For visual art, the structure of the language has to be involved to some degree in geometry because the perceptual mechanisms by which we see include recognition of geometric features such as symmetry, edge alignments, shape closures, similarities of scale, angle, spacing, and the like.”

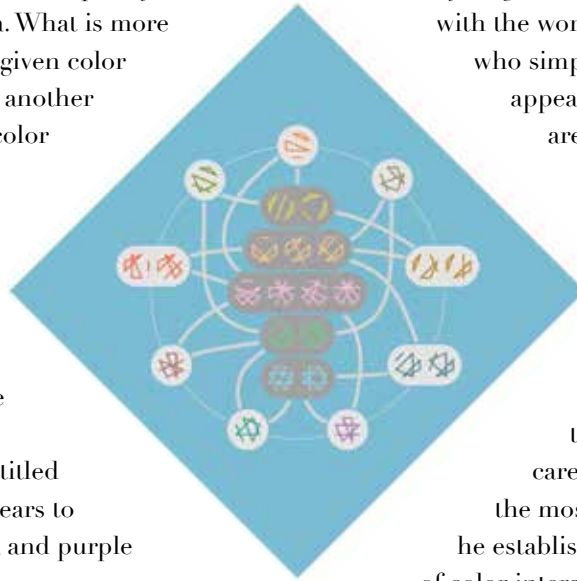
The process of seeing is Mai’s other main area of work, as he examines how we experience color. The work in each sphere is different but not mutually exclusive. Color, Mai said, is not a thing, like a chair, or even a stable attribute, like mass or dimension. It is an experience that resides in human perception.

“WHAT  
I SEEK IN  
MY WORK IS  
SOMETHING  
THAT LIVES  
ITS OWN  
LIFE.”

“There is no color out there,” he said. “It’s a purely subjective experience of light phenomena. What is more important is that color is contextual. Any given color changes its appearance simply by placing another color next to it. The way that we process color is always in ensembles.”

His color-interactive paintings explore the changeable nature of color identity. This color-based work plays with the concepts of color convergence (two different colors appear to be the same) and color divergence (the same color appears to be different). An example of the latter is his 2013 piece titled *Mirroring (Yellow-Green)*: A green line appears to change as it passes through yellow, green, and purple vertical rectangles.

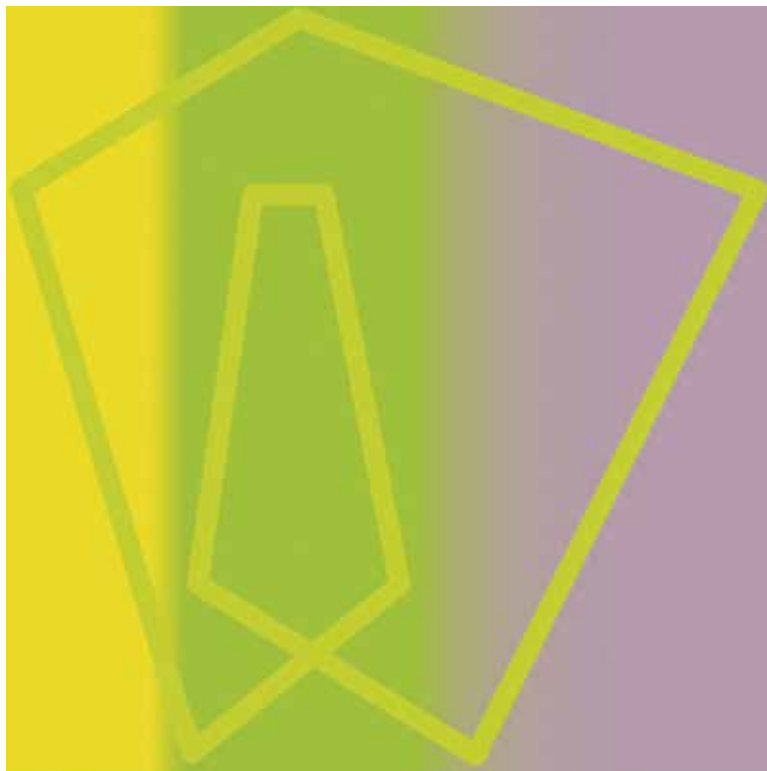
“These paintings reflect back to us something that is



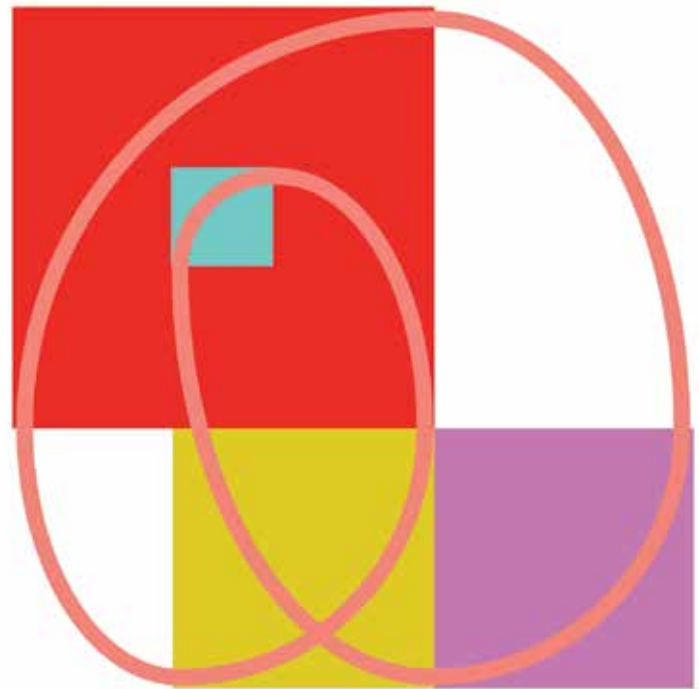
easily forgotten but very important about our engagement with the world,” Mai said. “We are not passive bystanders who simply move through the world and witness its appearances, as though we are separate from it. We are instead active participants in making the world that we inhabit, because our perceptual systems automatically structure our sensations of it. Color, in my view, makes this clearer than any other experience we can have.”

These paintings build on the work of another 20th-century artist and art theorist, Josef Albers, whom Mai has studied carefully since the 1970s. He considers Albers the most important colorist in the last 100 years, as he established greater awareness than any other artist of color interaction and the questions raised by color perception. Mai’s approach is similar to Albers’ in emphasizing

(Above) *Pantheon*, digital print, 2014



*Mirroring (Yellow-Green)*, digital print, 2013

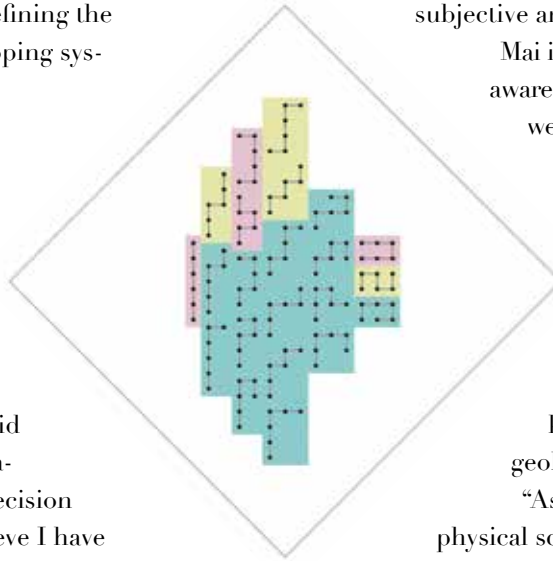


*Circuit*, digital print, 2010

the primacy of perception in art, but Mai has been working to add to Albers' work by more precisely defining the structure of color interaction and by developing systematic applications of color in paintings.

"In visual art, clarity comes in part, although not entirely, by precise shape and color relationships," Mai said. "So my interest in a kind of structured clarity means that I am usually not satisfied with things being sort of this way or that way.

"I want to push a color relationship until it reveals some surprise to me that I did not know before. I suppose it is like any academic research in being committed to a precision that pushes through to new territory. I believe I have arrived at some new understandings about the interactions of colors. This understanding about color is, ultimately, an understanding of our own entanglement in the world. And



(Above) *Menagerie*, digital print, 2012

so my work probes that sometimes blurry territory between subjective and objective worlds."

Mai is attempting to get the viewer to become more aware of their own seeing. "Color doesn't reside well in memory," Mai said. "One must be in the presence of color to experience its varied and fugitive appearances."

His ultimate desire to find new understanding of the world through a commingling of perception, science, and art stretches back to his youth in Wyoming. He grew up knowing how to draw but intending to be a geologist or a paleontologist.

"As a youth, I didn't think of drawing and the physical sciences as separate or unrelated activities," Mai said. "For me, both were powerful and very natural ways to explore the world."

It's an exploration that has continued throughout his life.

## JAMES MAI

Position: Illinois State professor of art since 2000

Education: B.F.A. and M.F.A. from the University of Wyoming

Awards: College of Fine Arts nominee for Outstanding University Researcher Award, 2009 and 2014; College of Fine Arts Outstanding College Researcher Award, 2008; College of Fine Arts Outstanding Teaching Award, 2005; School of Art Outstanding Teaching Award, 2004

Exhibition and research record: Mai has exhibited his artwork and published and presented papers on his and others' work in dozens of national and international forums. To see a list of his exhibitions and research, read this story online at [IllinoisState.edu/RedbirdScholar](http://IllinoisState.edu/RedbirdScholar).

Quote from a colleague: "He is so dedicated to his studio practice, to his theory, to his writing, to his review of even international essays and papers—he reviews books, he's deeply involved in his scholarship, his research, and creative activities. And I think it is noteworthy to say despite that his teaching and his service to the University community don't suffer.

"It's quite a package. I think Illinois State is very fortunate to have Jim on the faculty. He is one of the finest scholars I've ever known."

—Richard Finch, Illinois State art professor emeritus and printmaker



# Studentresearch



## NSF Fellow Amanda Carter researches turtles. Her focus: ‘Hot Babes, Cool Dudes’ phenomenon, which may help turtles adapt to climate change

By Rachel Hatch

It is often the excellence of Illinois State’s faculty that attracts students of high caliber, like Amanda Carter, a biology doctoral student in her third year.

Carter arrived at Illinois State as a National Science Foundation (NSF) Grad-

uate Research Fellow. Those receiving the prestigious award can generally choose where they wish to pursue their doctorate. Carter chose the lab of Biology Professor Rachel Bowden.

“The people I met when I visited Illinois State and the science being done in

Rachel’s lab really brought me here,” said Carter, who is originally from Richmond, Virginia.

Carter joined Bowden’s lab, specifically for research on turtles. Bowden is a leader in the study of red-eared slider turtles. Her lab has brought in more than \$1



the sex of a turtle is determined by the temperature of the sand or soil in which a mother lays the egg. Eggs laid in warm sand or soil produce female turtles. Cooler temperatures tend to produce males. The phenomenon has the nickname, “Hot Babes, Cool Dudes.”

**“I’m at ISU because I have the opportunity to work with doctoral students like Amanda.”—Biology Professor Rachel Bowden**

Carter is exploring whether a mother turtle can give an extra boost of steroids to the turtle eggs that would tip the scales beyond temperature. When mother turtles lay eggs, they allocate steroids that can include adding a bit more estrogen. “So you can incubate an egg at a ‘male’ temperature, but if you add a dose of estrogen to the outside of the egg, it will produce a female,” Carter said.

This extra dose of estrogen may give turtles an edge when it comes to climate change. Changes in climate have shifted the temperatures of sands and soils where turtles nest. In her studies, Carter works to understand if mother turtles can help offset the variations in soil temperature.

“I’m looking at whether turtles have the potential to better respond to climate change via yolk estrogens, which may increase the range of temperatures that

produce both male and female offspring,” she said.

Much of Carter’s field research is conducted at the Banner Marsh near Peoria, along the Illinois River. “I love fieldwork, so I try to plan to be out there as much as I can,” she said. Summer means travelling to the marsh from May to July to track females nesting and to gather eggs to incubate in the lab. “Turtles will lay two clutches of eggs in the nesting season, one early and one later, and we know that the clutches laid later in the season have higher levels of estrogen. So there might be a seasonal shift in the ratios of female to males as well,” she said.

“Amanda’s work has the potential to provide important advances in our understanding of how a long-lived species may cope with rapid environmental change,” said Bowden. “Her decision to study how turtles respond to temperature fluctuations using a very common species will help inform how less common species may be able to respond to changing temperatures as are predicted under climate change models.”

A fascination with temperature-dependent sex determination (TSD) is what drew Carter to biology. And Bowden’s lab offered her the ideal chance to cultivate her love of science.

“There are several labs across the country that study TSD, but I knew I was interested in the hormone and physiological side of TSD, and not many labs are set up to do that,” said Carter. “So Rachel’s lab was really the perfect combination of science and my interests. Not to mention the fact that Rachel is wonderful.”

million in grants for research with graduate, doctoral, and postdoctoral students, such as Carter.

“Doctoral students are critical to the success of the School of Biological Sciences,” said Bowden. “I’m at ISU because I have the opportunity to work with doctoral students like Amanda.”

In Bowden’s lab, Carter studies whether turtles will have an advantage when it comes to climate change. Typically,

# Featured grants

Illinois State faculty brought in more than \$18 million in grant funding in fiscal 2015. Here are a few research projects that would not be possible without this support.

## **ISU educates teachers on primary sources through Library of Congress program**

Illinois State University is one of 28 partners in the Library of Congress' Teaching with Primary Sources program (TPS). The program offers professional development to K-16 educators centered on the utilization of the more than 20 million primary sources that the Library of Congress began digitizing in the 1990s. Since 2004 the Library of Congress has been awarding annual TPS grants to Illinois State's program, under the direction of Richard Satchwell '79.

The project is housed at Milner Library and offers two graduate level courses each semester focused on primary source instruction. These courses are offered online through the School of Teaching and Learning in the College of Education and are taken by in-service teachers from across Illinois and beyond. Illinois State has trained more than 600 teachers and introduced thousands of preservice teachers to primary sources found at the Library of Congress' website.

In 2007 the Library of Congress created three regional offices to oversee a grants program to further its impact on K-16 primary source instruction. Satchwell was asked to direct the Midwest Region, composed of 17 states. This program provides funding of up to \$20,000 to institutions for professional development projects focused on the Library of Congress's digital primary sources.

For more information about the Teaching with Primary Sources program, visit [TeachingPrimarySources.IllinoisState.edu](http://TeachingPrimarySources.IllinoisState.edu) or email [resatch@IllinoisState.edu](mailto:resatch@IllinoisState.edu).

## **COE professors receive \$1.23 million grant to train service providers for blind children**

College of Education Professors Mari-beth Lartz and Olaya Landa-Vialard have received a \$1.23 million grant from the U.S. Department of Education to address a shortage of professionals trained in early intervention services for visually impaired children.

Over the next three years, it is estimated that more than 1,500 children in Illinois will be eligible for early intervention services and less than one-fifth will receive them, or even be identified. Positive developmental outcomes for infants and toddlers depend on the effective development of these highly trained professionals.

Lartz and Landa-Vialard, through the Early Learning Visual Impairment Services, Training, and Advancement (ELVIS-TA) grant program, will serve these vulnerable populations by training credentialed providers of these services for children up to 3 years old through a cohort-based model situated in areas of need across Central, Western, and Southern Illinois. The project is expected to more than double the number of Illinois providers.

## **Grant renewed for professor's research related to heart failure treatment**

The National Institutes of Health (NIH) has renewed an award to School of Biological Sciences Director Craig Gatto for a project that he started upon his arrival at Illinois State in 2000. The grant for \$348,000 will run through June 2018.

This research is on a ubiquitous cellular protein called the sodium-potassium ATPase (Na,K-ATPase). It is an essential transport system and the site of action of

digitalis, the most widely used therapy to treat patients with congestive heart failure. Prospects for improved therapies for cardiac and neuronal function, as well as improving renal function, will be greatly aided when scientists have a better understanding of the regulation of the activity of the Na,K-ATPase in cell membranes and by elucidating the mechanisms by which cells properly deliver this vital enzyme to specific subcellular locations.

## **Dietetic interns use tours to encourage people to eat more fruits and veggies**

The Department of Family and Consumer Science's dietetic internship program received \$4,978 from the Produce for Better Health Foundation to lead grocery store tours throughout the spring 2015 semester. The tours focused on getting people to eat more fruits and vegetables and were tied to the Fruits and Veggies More Matters campaign.

A registered dietitian employed by Meijer grocery store trained 10 dietetic interns to give the tours, during which participants were guided through the different parts of the store where fruits and vegetables could be found. Participants were given a taste test of some of the produce that were featured on the tour. Participants received a reusable grocery bag filled with produce items to use at home and some informational handouts.

The purpose of the project was to introduce participants to produce that they may not have had before and to teach them how all forms of fruits and vegetables can be incorporated into the diet. The dietetic internship program is seeking additional funding to continue the project.

# Redbird media

Books, audio and video recordings, and mobile applications created by Illinois State University faculty, staff, and students are eligible for consideration for this section. Submit entries to [kdberse@IllinoisState.edu](mailto:kdberse@IllinoisState.edu). To see a more complete list of media produced by Illinois State faculty, visit [IllinoisState.edu/RedbirdScholar](http://IllinoisState.edu/RedbirdScholar).



**A War for the Soul of America: A History of the Culture Wars**  
By Andrew Hartman, associate professor, History Department (University of Chicago Press, 2015)

This book explores the battle between conservatives and liberals for the national identity. The title of the book takes its name from a speech by Patrick Buchanan at the 1992 Republican National Convention, a time often seen as the pinnacle of the culture wars in the U.S. Hartman argues that the culture wars began in the 1960s and were the very public face of America's struggle over the unprecedented social changes of the period, as the cluster of social norms that had long governed American life began to give way to a new openness to different ideas, identities, and articulations of what it means to be an American.



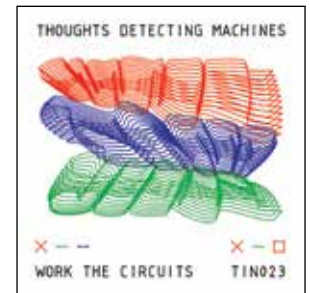
**The Effectiveness of an Online Fitness Course**  
By Karen K. Dennis, instructional assistant professor, School of Kinesiology and Recreation (LAP Lambert Academic Publishing, 2014)

Given the current trends of physical inactivity, obesity, and chronic disease prevalence, understanding appropriate levels of physical activity, healthful nutrition, and risk reduction for chronic-disease is crucial. This book provides a review of effective pedagogies for postsecondary adult learners in an online environment along with a review of students' perceptions of an online personal health and fitness course.



**The Assault on Communities of Color: Exploring the Realities of Race-Based Violence**  
Co-edited by Nicholas Hartlep, assistant professor, Department of Educational Administration and Foundations (Rowman & Littlefield, 2015)

Through a series of essays, written by leading and emerging academics in the field of race studies, the short "conversations" in this collection challenge readers to contemplate the myth of post-raciality, and the real nature of the assaults on communities of color. The essays in this volume, all under 2,000 words, cut to the heart of the matter using current assaults as points of departure and are relevant to education, sociology, law, social work, and criminology.



**Work the Circuits**  
By Rick Valentin, assistant professor, arts technology program (Twelve Inch Records, 2015)

Thoughts Detecting Machines is a continuing multimedia project from Valentin that incorporates music, performance, design, and interactive video. The new album, *Work the Circuits*, has been released in a limited edition of 400 records with algorithmic artwork drawn directly on the packaging by a computer controlled pen plotter.





**ILLINOIS STATE  
UNIVERSITY**

*Illinois' first public university*

**Office of the Associate Vice President  
for Research and Graduate Studies**

Campus Box 4040  
Normal, IL 61790-4040

## Professor, student team to research e-governance

**Arafat Kabir**, a master's student majoring in politics and culture, and **Michaelene Cox, M.A. '11**, an associate professor in the Department of Politics and Government, teamed up to better understand research trends in e-government. Kabir presented their work at the 2015 Illinois State University Research Symposium held in the spring at the Bone Student Center.

Cox began researching e-government three years ago and regularly attends the European Conference on e-Government. Kabir, who is Cox's graduate assistant, decided to work on a portion of Cox's e-government research related to public trust and e-democracy.

"I encouraged him to do this not just for the research experience, but for the presentation experience, to give him practice with communication skills, and to take responsibility for a product that the public is going to see," Cox said.

Kabir analyzed almost 600 articles published in the past 10 years on e-governments in Europe and the United States. Through looking at research trends, Kabir found more American articles than European articles on public trust and e-democracy.

"While it may be speculative to conclude that scholars based in the U.S. are, by far, more interested in public trust and e-democracy than Europeans, the difference in number may simply reflect editorial decisions as what to publish," said Kabir. "In the end, significant works are being done in this field both in the U.S. and Europe."

