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ILLINOIS STATE UNIVERSITY

REDBIRD

SCHOLAR

Volume 2, Number 1

Fall 2016

Can't sleep?

ISU's sleep specialist explains why and offers tips for sleeping well. *Page 16*

English Professor Gabriel Gudding is a poet and essayist whose book *Rhode Island Notebook* has been called a classic of the 21st century. In his latest work, he writes for nonhuman animals, particularly farm animals, whose suffering he compares to life in an unending concentration camp.



8 Special election section

Redbird scholars from across campus weigh in on this year's presidential election. They examine the unprecedented fight over the Supreme Court vacancy, the hidden messages of political art, whether you should trust the polls, among other topics.

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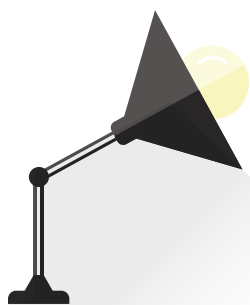
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Research Spotlight



Each issue we spotlight a different research center at Illinois State University. This time we look at the Center for Renewable Energy.

The center is led by Economics Professor David Loomis (*above*). It is a collaboration between the Department of Economics in the College of Arts and Sciences and the Departments of Agriculture and Technology in the College of Applied Science and Technology. Earlier this year, Loomis and two other center staff members, Technology Professors Jin Jo and Matt Aldeman, received the Outstanding Cross-Disciplinary Team Research Award. The center's research focuses on the technical potential for renewable energy integration into the U.S. electric grid and the economic benefits of that integration.

"It's really been kind of foundational to both what we do with the center and the academic programs to really be cross-disciplinary, to respect the different aspects that everybody brings to the table in the different disciplines in looking at a problem," Loomis said. "So there's a real look at the economics, a great respect for the underlying technology. And most of these projects are going to impact farmland, and so the Ag Department has been vitally important to us as well."

How was the center started and funded?

The center opened in 2008 with a \$990,000 grant from the federal Department of Energy (DOE). "Since then, we've gotten a total of four DOE grants to do various projects, numerous state grants from the state energy office, and a number from private foundations," Loomis said.

The center started with three main goals: create and support a renewable energy major, do educational outreach on renewable energy issues, and conduct applied research.

There are now about 70 students pursuing a renewable energy degree. The faculty team that created the degree took an innovative approach by working with the renewable energy industry to develop the program and to create internship opportunities for students.

"It's a field that changes so dynamically. We wanted to get feedback from the industry to make sure that what we are doing in the classroom is relevant to what our graduates are going to need once they

get out of the four-year program."

The center's main public outreach is an annual renewable energy conference held each July at Illinois State.

"We have plenary sessions of interest to all areas of renewable energy and breakout sessions for wind energy, solar, biomass, geothermal, and energy efficiency," Loomis said. "We've just tried to meet whatever the educational needs are, and we partner with other organizations."

The center conducts research with real-world applications.

"We try to take rumors and myths circulating in the general public and apply good academic-quality research to a specific question so that people can look and prove for themselves," Loomis said.

The research that has received the widest attention has been the center's economic impact report on wind energy.

What is an example of the collaborative work the center has done?

The center has partnered with Illinois

State's Center for Mathematics, Science, and Technology (CeMaST) to create the Energy Learning Exchange, a public-private effort funded in part by the Illinois Governor's Office to prepare Illinois students in the science, technology, engineering, and math (STEM) fields.

"So we're bringing the energy expertise, and CeMaST is bringing expertise in STEM education," Loomis said. "It's kind of a nice marriage there to work on K-12 energy education issues right as Next Generation Science Standards started to come out. So we're able to partner with them and help a number of school districts in their energy education."

Where can people find information on the center?

The center posts its reports, conference presentations, newsletters, and information on events at RenewableEnergy.IllinoisState.edu. The website also has links to the center's Twitter feed (@ISU_CRE) and Facebook page.



Ask a Redbird Scholar

By Kate Arthur and Rachel Hatch

Our top faculty experts answer questions from the Illinois State community. To submit a question, email kdberse@IllinoisState.edu or tweet to @ISUResearch.

How do you think that the presidential election has gotten to where it is, with two candidates who have such vehement opposition?

—Matthew Wade '11, Tacoma, Washington

We ended up with two deeply unpopular general election presidential candidates for a myriad of reasons. On the Republican side, the party has been gripped by a variety of factions (Libertarians, Tea Party) over the past few cycles that have weakened the party establishment.

This fissure was exploited by a unique populist candidate, Donald Trump, who had celebrity status, instant name recognition, and a talent for harnessing social media. His party has been out of power and angry about President Obama's policies, including health care, immigration, and gay rights. Trump has been able to tap into this vein of anger at a weak moment for the establishment.

On the Democratic side, the situation is radically different. The GOP has been successful electorally for the past few cycles at all levels of government. This has weakened the Democratic bench and placed few strong candidates at the top of the field.

Hillary Clinton is unique due to her strong resume and family history. She excels at raising money and has strong name recognition. Her candidacy froze a weak field and had most other potential candidates waiting out this cycle. Ironically, her weakness as a candidate was exploited by a relatively unknown national candidate, Sen. Bernie Sanders.

The Sanders ascension was due in part to the high rate of untrustworthiness that the average voter, including Democrats, feels for Clinton. Sanders used that mistrust to his advantage by being authentic. This authenticity allowed him to tap into a younger, more left-wing audience, and he raised money like no other.

It will take a large effort on the part of both candidates to repair parts of their constituencies to win in November. Trump needs to prove that he is a conservative Republican and that he can win without groups he has strongly maligned with his rhetoric, such as immigrants and women. Trump also needs to pull the establishment to his side. Clinton needs to woo the disaffected Sanders voters to have a shot.

Erik Rankin, assistant to the chair and undergraduate advisor, Department of Politics and Government

Why don't we have weather in space?

—Kate Arthur, editorial writer, University Marketing and Communications

Oh, but there is weather in space as discussed in such places as the Spaceweather.com website. Solar radiation and the solar wind are the most important parts of space weather relative to Earth.

Sunshine is the visible portion of solar radiation and is the driving force in our weather, giving us day and night, summer and winter. About 70 percent of solar radiation is absorbed across the Earth, bringing warmth and driving photosynthesis. The other 30 percent is reflected back to space.

Our atmosphere is a collection of gases and particles held here by gravity. Rain, snow, thunderstorms, tornadoes, hurricanes, and blizzards are what we think of as the exciting parts of our weather, but these occur only in the lowest level of the atmosphere.

Larger commercial planes fly into the stratosphere, which extends above the heights that thunderstorms and hurricanes reach. Perhaps you have had the pleasure of looking down on the tops of thunderstorms. The weather in the stratosphere and in higher levels of the atmosphere is different from what we experi-

ence in the lowest level, the troposphere.

The highest levels of our atmosphere are made up of more exotic materials and magnetic fields. The solar wind consists of streams of ionized gases that interact with the magnetic fields of the Earth. In some cases these interactions produce the auroras, better known as the northern lights and southern lights. Bursts in the solar wind may disrupt radio broadcasts and overload electrical systems.

Weathercasters report on solar flares and will predict stronger solar winds that might produce auroras or disrupt communications here.

While we seldom pay attention to weather in space, it exists and has influence on our lives here at the surface.

James Carter, professor emeritus, Department of Geography-Geology

I seem to have noticed more monarch butterflies recently than in years past. Is the population rebounding, or is it just my imagination?

—John Baur, associate vice president for Research and Graduate Studies

The answer is yes and no. You probably saw more monarch butterflies last summer because there has been a boost in their numbers for 2015–2016. But no, sadly, we cannot say they are rebounding from long-term declines.

In general, there has been a decline in the monarch numbers over the past 20 to 25 years. In North America, there are two main populations, both migratory—the

western population migrating down to California and the eastern migrating to Mexico to overwinter. The eastern population has declined about 90 percent and the western 50 percent.

It's the eastern monarch population that we see around the Midwest. The adults, who are not fully mature, go down and overwinter in protected forest areas in Mexico. Then they head up the thousands of miles through the United States, all the way up into southern Canada.

This northern migration spans several generations. So the first generation each year is usually in Texas and Oklahoma, and they will hop up to Illinois around the second or third generation. Ultimately, they will make their way to southern Canada.

Monarch populations have always been faced with diseases and predators. The long-term downward population trend is due to a more recent, greater threat—loss of habitat in Mexico and in the United States. Down in Mexico, climate change and the warming of the overwinter sites is causing problems for their survival. And even though forest areas are protected, there is illegal logging that reduces habitat every year.

A large part of the problem in the United States is the loss of plants along the monarchs' migration route.

When they are breeding in the U.S. in the summer, they need two types of plants. They need plants—various species of milkweed—that will provide them with nectar to give them the energy to be able to fly these long distance and they need plants where they can lay their eggs.

There has been a loss of wildflowers in general, but particularly the milkweed. Humans are mowing grasslands within an inch of their life, reducing natural habitat, and removing what some people call “weeds,” but are really a vital part of the ecosystem. Widespread herbicide use is the major threat to monarch habitat.

While monarchs are overwintering in Mexico, researchers can estimate how many millions of monarchs there might be based on counting the trees that are essentially dripping with monarch butterflies clustered for the winter.

The survey from the winter of 2015–2016 saw the population of monarchs go back up to 150 million, after lows of less than 50 million the prior three years. This is good, but the 150 million is still more than 70 percent lower than populations at the start of surveys in the 1990s. Populations fluctuate each year for various reasons, including weather, but the long-term trend is still downward.

Last year was the best weather possible for breeding monarchs, meaning optimum conditions with the monarchs maxing out the habitat they have now.

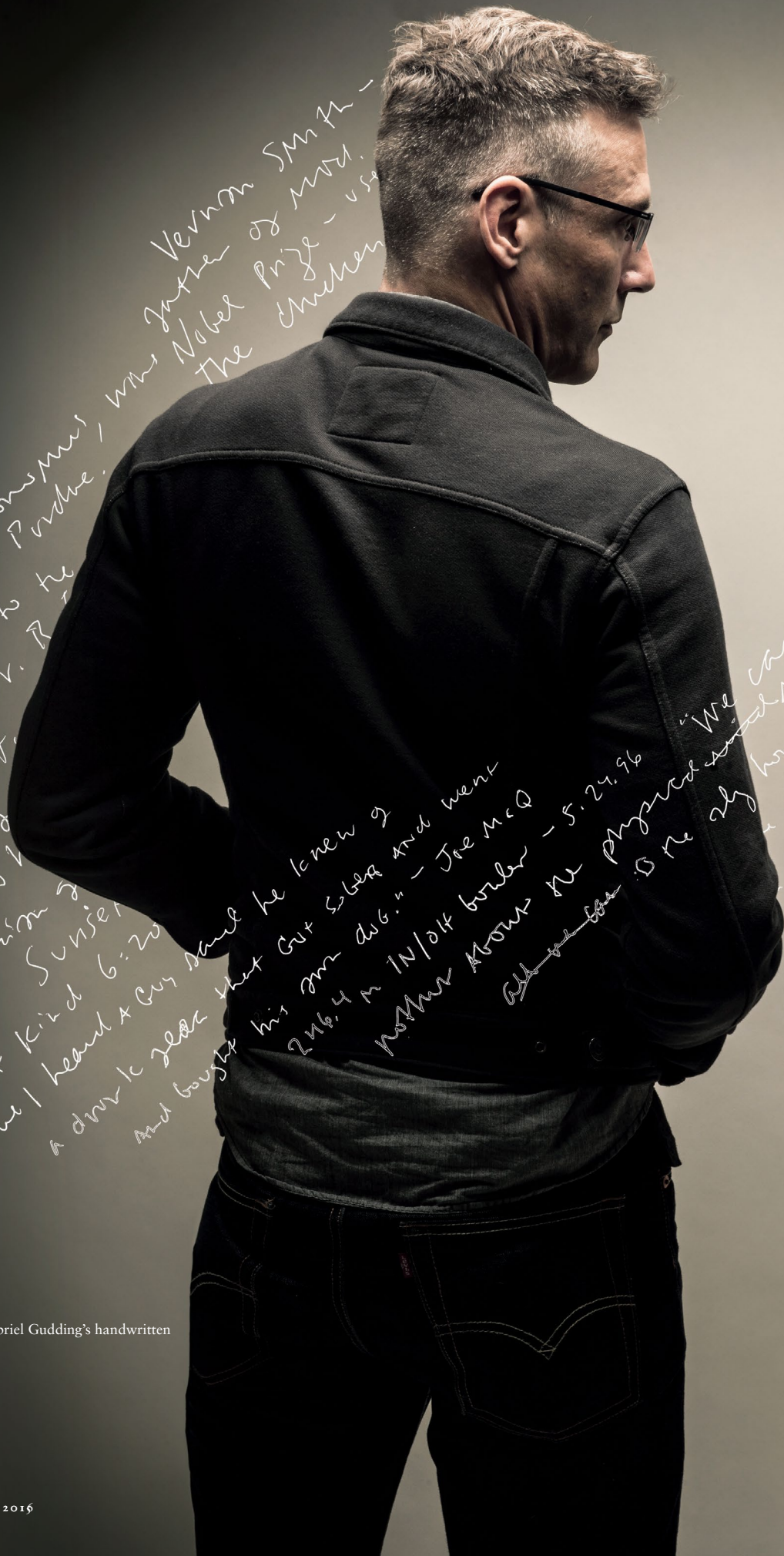
Unless we take part in active management and restoration of habitat, this is the best year you are going to get. Otherwise, we may not see the same numbers again, and in a few years, migrating monarchs could be no more.

Ben Sadd, assistant professor of infectious disease ecology, School of Biological Sciences



Need more Ask a Redbird Scholar?

Ask a Redbird Scholar segments are being aired during GLT's *Sound Ideas*. Tune in for all the answers you've always wanted and others you never knew you did.



The text excerpts are taken from Gabriel Gudding's handwritten *Rhode Island Notebook* manuscript.



POWERFUL PEN

BY
SUSAN
MARQUARDT
BLYSTONE

LAUDED FACULTY POET REDEFINES, ADVANCES OLD GENRE

Gabriel Gudding is a poet, essayist, and translator. He's also a full professor in the creative writing program of Illinois State's English Department who has given nearly 100 readings and lectures in Europe, the Caribbean, and the U.S. His work has been translated into French, Danish, Portuguese, Vietnamese, and Spanish.

Harper's Magazine and *The Nation* are just two periodicals that have showcased his poetry, which also appears in 20 anthologies including *Best American Poetry* and *Great American Prose Poems: From Poe to the Present*. His third book, *Literature for Nonhumans*, was published in October 2015. It follows *Rhode Island Notebook*, which was released in 2007 and has since been heralded as a 21st-century classic.

"It's a memoir of a family falling apart," Gudding said, ex-

plaining that every word on the 436 pages was written entirely in his car as he completed 26 round-trips between Normal and Providence.

His motivation for the treks completed between 2002 and 2005 was to maintain a long-distance relationship—which ultimately ended in divorce—and bridge the geographical separation from his daughter, to whom the book is dedicated.

Far from the traditional rhyming formula expected in the poetry of yesteryear, the book is "interlarded with essays" that cover divergent topics ranging from literary narcissism and dung to Iraq, radio broadcasts, and Nancy Reagan. His first book is equally surprising in content, including poems titled "The Pallbearer Races," "On the Rectum of Peacocks," "Memoirs of the Backhoe," and "Poem Imploring the Return of My Butt."

blue shadow Suburban light in WAS² or eve sun AT the
cruiser highway shows¹ through briefly the Area subw⁴ RTL M: the Radio station
even 1950

the serious students he has encountered and their memorable work. A convicted mafia hit man developed amazing fictional characters, while moms behind bars wrote with incredible emotion.

“Their writing frankly helped decrease the amount of pain in their world. It’s rewarding to help people like that.” Gudding finds equal satisfaction in seeing his traditional college students blossom as writers who understand that literature is a means by which to “increase our sense of justice and responsibility to other beings.”

Gudding’s latest book, *Literature for Nonhumans*, published last fall, exemplifies this concern. The writing in the book ranges through nonfiction, poetry, and essays on topics from economics to the history of automobiles and the issue of climate change, with a specific focus on the negative environmental impact of animal farming.

“*Literature for Nonhumans* arose from an increasing realization that nonhuman animals think and feel and perceive and have families and love much as we do,” Gudding explained. “What we are doing to farmed animals is, in the words of Isaac Bashevis Singer, an eternal Treblinka.”

Influenced by historians, Gudding’s writing is driven by the conviction that both poetry and art have ethical valence.

“I think it’s not inappropriate that art clarify the reality of suffering manifest in all sentient creatures such that the effort and effect of pity can be brought to bear beyond the human community,” he said. “I’d like to insist that it’s time we expand our sense of art’s scope into a community that doesn’t just include our human selves in all our trans, racial, sexual, gender, body, and class alterity.”

“There’s no way we can truly try

to ameliorate or even understand suffering in humans to any practical degree without ceasing to purposefully cause it in the lives and families of other animals.”

In explaining his work, Gudding notes that the idea that literature should be written to benefit nonhumans is new. “It’s been a broad scale and sustained note since the advent of humanism: The project of literature is humanity’s improvement.”

He rejects this premise. “Writing literature for the improvement and benefit of nonhumans isn’t some boutique issue, especially when we consider how animal farming is altering our climate and damaging our health and environment. Even for those

who cannot intrinsically value nonhumans as ends in themselves, they should recognize that our fate is bound up firmly in their well-being. A human future that does not acknowledge the injustices done to nonhumans cannot be rosy.”

Forcing contemplation on such controversial and often uncomfortable issues is ultimately Gudding’s calling. His goal as a poet is to help readers see topics from fresh perspectives.

“We experience life in routine ways. The world doesn’t seem as immediate, and it isn’t. We become alienated from our desires, wants and wishes,” Gudding said. “Poetry is a means of pulling us out of our common habits and routine ways of thinking. It is a very practical means of helping people become invested in the world again.”



on the pt of Hwy, & (prk) brown horse
pulls a skeletal white 14 & camel colored spanner
v/p beamed. Hic! an Arch mark?

Fear_{and} Loathing in American politics



It's not all bad, is it? Those who devour the latest tidbits in American politics have been able to gorge themselves this campaign season. Everyone else might be a little sick to their stomachs as we approach the final leg of what has been a very long and tumultuous race to decide who will hold the most powerful political post in the world. At the least, we can expect an unprecedented outcome November 8. For the first time in our country's history we will have chosen as our president a woman or a reality TV star.

We have asked our Redbird scholars to examine some of the more interesting topics related to the campaign season. What will happen to the Supreme Court vacancy? In whose footsteps is Hillary Clinton following in her quest to become the country's first female president? What is the hidden meaning behind political art? Should you trust campaign polls? This is just a partial list of the questions answered in the following pages by experts from our Departments of History, Politics and Government, and Psychology; School of Communication; and arts technology program.

Enjoy and don't worry—it will all be over soon, right?



Divide and conquer

Scare tactics

By Rachel Hatch

Donald Trump screamed for a wall along the border, and crowds cheered. Bernie Sanders derided all of Wall Street as filled with greed and fraud, and crowds cheered.

Messages of fear or anger seemed to punctuate the fraught 2016 presidential election cycle, but it is nothing new. As long as democracy has existed, politicians have used fear as a weapon to win elections.

The ancient Greek historian Polybius actually thought politics based on fear would destroy democracy. Yet more than 2,000 years later, candidates from all political persuasions still keep messages of fear tucked into their campaign arsenals. And that's because fear appeals tend to work.

"Part of the way we process information in general and politics in particular is through emotions," said Carl Palmer, assistant professor of political science. "There are incentives for candidates to make emotional appeals because they are going to resonate with people. Trump exploited anger by blaming Muslims and Hispanics, while politicians like Sanders helped spur emotions by responding to anger and disillusionment."

From immigration and employment, to terrorism and loss of patriotic pride, savvy politicians can employ messages to stir fear (and offer themselves as the solution). "Politicians know that they can use anxiety to highlight issues that are more important for them," said Palmer. "Different emotions invoke different patterns

of response, and people who are anxious are more likely to pay attention."

This election cycle, it might seem as though fear and anger are constantly front and center. "We hear a lot this time around about who, or what, is ruining the country," said Palmer. "For some it is a rigged government, for others it is big business. And for those who feel we have an unfair system, this campaign is resonating very powerfully."



Assistant Professor Carl Palmer

Laying blame at another's doorstep is an appealing notion, and one that politicians can use artfully to build a coalition. "Fear tactics are often used as a form of unity," said Professor of Communications Joseph Zompetti, who is the author of the book *Divisive Discourse: The Extreme Rhetoric of Contemporary Politics*, "but you can never have unity without division. If I want to unite a constituency with a particular base, that means I am probably dividing myself from those that disagree with that base."

That feeling of unity stems from deeply ingrained ideas that people absorb from an early age.

"Political identity is one of the first beliefs we learn, stemming from a process of socialization from parents, and the times in which we are raised," Palmer said. "Those early beliefs are often very resistant to change. So when people disagree with you, it sparks a threat to your identity."

According to Assistant Professor of Psychology Eric Wesselmann, when people have their core beliefs challenged, they often experience intense anxiety and a desire to reaffirm what they believe to be true. “Extremism—or digging in one’s heels—is a way of reducing that anxiety,” said Wesselmann. He added that politicians on both sides of the aisle can strategically use fear not just to bond with an “in-group” that shares similar ideas, but to openly exclude the “out-group” that thinks differently. Excluding the out-group can minimize the instances that one’s beliefs will be challenged.

“No matter what a person’s beliefs, we as humans have a tendency to think we are reasonable, and other groups are more extreme,” Wesselmann said. “No one wants

to look at themselves and admit, ‘I’m an extremist!’ Oddly enough, in some ways, disparaging the out-group helps us keep a positive outlook of ourselves, but often comes with negative results for society.”

Simply relying on fear tactics to charge a campaign can get old fast, so politicians who use them need to keep evolving their arguments. “People tend to react emotionally, almost in a knee-jerk reaction,” said Zompetti. “Fear shocks us, so we respond accordingly. But, if time is permitted, and we are allowed to think about it, then fear tends to subside and we are not persuaded by it.”

To keep the fear alive, a politician, might highlight immigration or poverty one month, and the next move to the threat of ISIS or fear of war.

The key is to remain relevant, moving to the next fear appeal before constituents are exhausted. Too much fear can be a bad thing, and not just because anxiety might bubble over into violence. The opposite might occur—people may stop listening. “Too much fear and people become desensitized,” said Palmer. “Unless there is something that keeps reminding you to experience these emotions, they tend to fade.”

“Politics is very much an instant-gratification phenomenon,” said Zompetti. “Our attention spans are becoming shorter and shorter as a culture. So everything tends to occur in quick bursts, 140 characters or less,” said Zompetti. “Fear appeals work wonderfully well in that culture, if politicians can sustain interest.”

After Hillary

If America elects its first female president, what changes? *By Ryan Denham*

Here’s the good news: 144 years after the first American woman ran for president, Hillary Clinton is her party’s nominee and could soon become our country’s first female commander-in-chief.

The bad news? It took 144 years for this to happen. (Well, 240 years technically.)

Clinton’s election would be loaded with significance, but one thing it wouldn’t mean is that men and women are suddenly on a level cultural playing field come November 9. Remember the pundits who spoke of a post-racial America when Barack Obama was elected? How did that turn out?

Yet in the same way that Obama became a



Associate Professor Kyle Ciani

role model for this and future generations of children from minority groups, Clinton could do the same for young women, said Kyle Ciani, associate professor in Illinois State’s Department of History and a core faculty member for the women’s and gender studies program.

“It’s not going to solve everything, but that’s where the change comes in,” said Ciani, who teaches women’s history. “It says that anybody is able to sit in that Oval Office if you have the right credentials.”

Fourteen women have run for president all unsuccessfully—gaining varying levels of traction, according to the Center for American

Women and Politics (CAWP) at Rutgers University. Perhaps more visibly, two women—Sarah Palin (Republican, 2008) and Geraldine Ferraro (Democrat, 1984)—were the vice presidential nominees for their respective major political parties. None have been elected.

Even if Clinton is elected, the U.S. will still need more women involved in all levels of government, said Julie Webber-Collins, professor of Politics and Government and also a core faculty member in women's and gender studies.

Indeed, women hold only 104 of 535

seats in Congress, just 19.4 percent, according to CAWP.

Women do slightly better at state and local levels of government, though the American political system—which tends to re-elect incumbents over and over again—doesn't make it any easier for a woman to break through, Webber-Collins said.

There are other barriers. There has historically been resistance to women in positions of authority, and not just in politics, Webber-Collins said. The U.S. is also the only developed nation in the world without a guaranteed paid leave of any

kind, further perpetuating the notion that “women just care for children,” she said. (Clinton wants to guarantee up to 12 weeks of paid family and medical leave.)

“Clinton is a new kind of candidate, in that she's been able to get the kind of political and financial backing that no other woman candidate has ever been able to get,” said Webber-Collins. “She's just been here forever. She's like the Energizer bunny. She keeps getting knocked down but gets up again.”

Here are three women whose political ambition paved the way for Clinton:



Victoria Woodhull

First woman to run for president (Equal Rights Party) in 1872, 48 years before the 19th Amendment provided for women's voting rights at the federal level. While her candidacy was not a serious threat to incumbent Ulysses S. Grant, Woodhull was an influential advocate for women's rights.



Margaret Chase Smith

First woman to have her name placed in nomination for president by a major party (Republican, 1964). Despite taking over her husband's seat in Congress in 1940 due to his unexpected death, the Maine lawmaker carved her own legacy. She was the first woman to serve in both the House and the Senate.



Shirley Chisholm

The first African American congresswoman was also the first African American and the first woman to make a significant bid for president, in 1972 (Democrat). She was on the ballot in 12 primaries and received around 10 percent of the available delegates at the Democratic National Convention, according to her official congressional biography. She helped establish the National Women's Political Caucus to elect more women and shape public policy.



Unprecedented fight

Scalia's death puts Supreme Court on trial during election *By Rachel Hatch*

The sudden death of Justice Antonin Scalia on February 13 not only left a vacancy on the U.S. Supreme Court, but it also pulled the very future of the court into the turmoil of a heated presidential election.

"The Supreme Court always plays a role in elections, but it was generally below the surface, until now," said Assistant Professor of Politics Meghan Leonard. "Choosing future justices has always been part of the election thinking, but mostly in a theoretical way."

While candidates might have to volley questions about who might make a good justice, or even which justice is their favorite, they were rarely asked outside of politically elite circles about the process of choosing a justice, Leonard said. "They never talked about the potential power of the court," she said.

The Supreme Court itself has played highly visible roles in past elections, most recently in 2000 when the dispute over a recount in the state of Florida reached the high court. The decision in *Bush v. Gore* allowed the Florida secretary of state to

declare 25 electoral votes for George W. Bush, giving him the win over Vice President Al Gore. "As a decision, that was a one-time deal that did have a great impact, but holds almost no precedential value. It

has never been cited since," said Leonard.

What makes the entangling of the Supreme Court and the presidential race so thorny in 2016 is Scalia's untimely death, and what that means for the future of nominating justices to the Supreme Court.

"It has never been this crazy. Everything we thought we knew

about nominations to the Supreme Court has blown up," said Leonard, who noted justices almost never die in office and not during session when hearing cases. "We have never faced this before."

Leonard explained that as justices age, they generally wait to retire until a president is elected who holds a similar ideology. "Though justices would never admit to doing this, they are people and understand politics," she said. When the president and the Senate are of opposite parties, the president tends to find a moderate candi-

date, someone who can be accepted by all parties, she added.

Scalia's death, however, left a conservative gap in the Supreme Court—a court that typically voted with a razor-thin conservative majority of 5-4. And Scalia was more than simply a conservative justice; he could be called the "poster justice" for conservatism.

"No matter who is chosen as the next justice, that person is going to be more liberal than Justice Scalia," said Leonard. "He held the mantle for what a conservative justice can be."

With a conservative majority at stake, the Republican-controlled Senate did something no other Senate has done when it comes to choosing a new justice nothing.

The Senate Judiciary Committee refused to hear any nominee from President Barack Obama, taking their chances on a more conservative president taking the helm in November.

"Both Senate Democrats and Senate Republicans have used the power of the filibuster to block lower federal court nominations," said Leonard. "But at the Supreme Court level? And nearly a year before a new president comes into office? It's unprecedented."



Assistant Professor Meghan Leonard

Which polls should you trust?

Redbird scholar offers tips for understanding polls

By Kate Arthur

Did you vote in the last election?

Of course you did.

At least that's the answer most people give in a poll, whether they voted or not. It's called the halo effect, which means that we want to be perceived as doing the right thing.

"You want to give good answers," said Kerri Milita, who studies the science of polling. "You want to give the answers you think the person wants you to give. Basically, you lie."

Milita, an assistant professor in the Department of Politics and Government, is familiar with the challenges of determining voter preference, but believes there are credible polling organizations, such as Pew Research and Gallup.

For a poll to be considered scientific, it needs to include a random sampling of 1,000 adults from across the country. That's far different from a Facebook poll, or one conducted on the FOX News or CNN website where you can vote online or by phone. Milita said these informal polls are fun to look at but are the equivalent of a political horoscope.

There are polling websites that are valid. She rated election analyst Nate Silver's statistics-driven website FiveThirtyEight.com as good. He accurately called all 50 states in the 2012 general election. She also favors RealClearPolitics.com, an often-cited source for U.S. public policy issues.

Polls are conducted by phone, email, and in person. The way questions are phrased, the order of questions, even

the gender and race of the pollster can influence the outcome. And they're only talking to people who are willing to talk to a pollster.

"Certain types of people will hang up. Certain types of people will not respond, and that biases the polls a bit," she said. "Polling is a very imprecise science. There are so many nuances. That's why we can't rely on polls."

Word choice can influence responses. She gave the example of using "very" versus "extreme" to describe being conservative or liberal. Because of an aversion to the word "extreme," respondents will rank themselves closer to the middle. "How you word your question is as important as who you select to answer it," she said.

As cell phones replace landlines, phone polls have become more difficult to conduct. Random digit dialing will find cell numbers, unless the person is on a do-not-call list. Online polling with random email addresses captures only those with Internet access.

National polls that attempt to predict the outcome of the presidential race are misleading because presidents aren't elected by popular vote, Milita added. "They're not going to battle nationwide, they're going to battle state to state. We'd

need 50 head-to-head polls to see how it's going to come out."

She also pointed out the difference between a poll that's "reliable" versus "valid." A poll can give the same answers over and over, which makes it reliable, but it may not be valid. Every adult has to have an equal chance of being sampled for it to be valid. Many polls reported in the media don't meet that criterion, she said.

"I can put a poll on my Facebook

page and it'll give me the same answer. So it's reliable, but that doesn't mean it's valid."

Polls based on registered voters or likely voters carry a little more weight. And Milita likes exit polls, which tend to be accurate because people are usually honest about whom they voted for. Although she

has never done exit polling, each semester she and Carl Palmer, an assistant professor in the Department of Politics and Government, take the political pulse of about 2,000 college students at eight universities across the country.

Drawing on her experience, she has a prediction for November. "This is going to be a tight one. Either way, it will be interesting."



Assistant Professor Kerri Milita

What campaign logos can tell us about our next president

By Ryan Denham

During the 2008 presidential campaign, Barack Obama wasn't just a politician. He was a brand.

And like any successful brand, Obama's campaign used a cohesive visual identity to woo its customers—in this case, voters.



Obama portrayed himself as the candidate of the future through the iconic "HOPE" image created by artist Shepard Fairey and the use of the fresh-but-credible Gotham font and sunrise logo in campaign materials. Obama was named *Advertising Age's* Marketer of the Year in 2008.

A political campaign's logo, font, and other visual cues are overt and covert psychological and communication strategies, expressed visually, said John Walker,



Assistant Professor Rick Valentin and Professor Emeritus John Walker

a graphic designer and recently retired director of Illinois State University's arts technology program.

"I don't think design can make or break a campaign, but it is an essential ingredient in the 'stew' that forms the electorate's impression of the candidate," said Rick Valentin, assistant professor of arts technology.

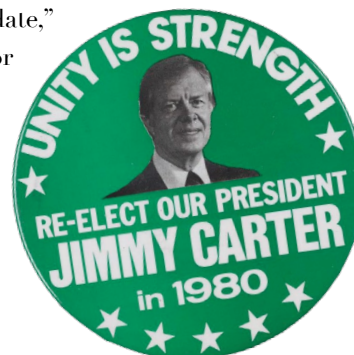
In the following sections, Walker and Valentin unpack the hidden meanings behind current and past campaign imagery.

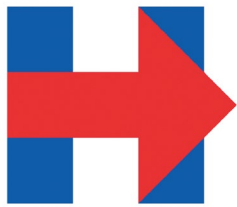
Reagan vs. Carter

Looking at two rival campaigns' imagery side-by-side can also reveal hidden messages.

In 1980 incumbent Democrat Jimmy Carter faced Republican challenger Ronald Reagan. Carter's campaign stuck with the green color scheme used in his outsider, post-Watergate 1976 campaign, rather than the customary red-white-blue you might expect from an incumbent. The Reagan campaign staked out blue as its color, which echoed the country's refreshed and restored patriotism, Valentin said.

"In an interesting twist, embracing conservative design choices and a conservative political perspective represented the voice of change (for Reagan)," said Valentin.





Hillary Clinton

Clinton's arrow logo has won praise for its versatility—it's used in all sorts of ways, like the logo on Google's home page—and because it points to "moving forward." It's also bold for what it's missing: her name.

"This is likely to avoid the 'Do we really need another Clinton presidency?' critique," Walker said.



Donald Trump

Unlike his flamboyant campaign, Trump's official logo is rather plain and uses a sans serif font.

"This simple use of blocky sans serif is about as boring as you can get," Walker said.

"Early on in the primary process, Trump invested very little money in promoting his campaign, preferring to build awareness through social media and controversial statements that would garner free exposure through traditional media," Valentin said.



John Kasich

Lacking the celebrity status of Clinton or Trump, the Ohio governor's campaign logo was purposeful.

"The uppercase spelling of KASICH below the K/flag spells out the candidate's name, which is important here since not many national voters knew who he was when he entered the race," Walker said.



Marco Rubio

The Florida senator caught some heat when he unveiled his logo because the U.S. map that dots the "i" in his last name is missing Alaska and Hawaii.

At first glance the lowercase and sans serif font together broadcast the image of a young, modern, forward-looking candidate. But this font's rounded shapes actually make it sort of a throwback. "It's supposed to represent the 21st century, but it reminded me of a '70s political campaign graphic," Valentin said.





The Q&A

with **Teresa Valerio**

By *John Moody*

Secrets of sleeping well

Teresa Valerio is an assistant professor in the Mennonite College of Nursing, a family nurse practitioner, and a sleep specialist. She has a clinical practice in sleep disorders at Illinois State University's Student Health Services, and in 2012, she became the first nurse practitioner to be board certified in behavioral sleep medicine by the American Board of Sleep Medicine.

Valerio's writings on sleep have been widely published in scholarly journals. *The American Journal of Nursing's* 2011 Book of the Year Award went to the book *Sleep Disorders and Sleep Promotion in Nursing Practice*, for which Valerio was a contributing author. Earlier this year, Valerio co-authored a study, "Association of Sleep Quality to Health Behaviors, Functioning, and Information Among U.S. College Students," published in the *American Journal of Health Education* with Illinois State Nursing Professor MyoungJin Kim and Elmhurst College Psychology Professor Kathy Sexton-Radek. The research team examined the sleep problems of 27,750 college students from 57 U.S. institutions of higher learning.

In the following Q&A, Valerio talks about her latest sleep research and offers lessons on how to sleep well.

Can you describe your most recent research? What kinds of things are you finding out?

After looking at the health survey data from ISU students for several years, it was clear that sleep problems were consistently in the top three health problems they reported. So I reviewed the literature and found that this has been a problem across U.S. and international university students and that sleep problems were getting worse.

There had not been an evaluation of the sleep problem across multiple U.S. colleges and universities for a few years, so I assembled a research team to do this. Our major findings were that sleep quality decreased with increasing levels of stress or alcohol/cigarette use and with decreasing levels of general health. We recommended that college interventions should include efforts to address sleep quality to improve students' academic performance and long-term quality of life, especially for students experiencing substantial stress or poor general health.

There are few interventions that have been tested. Because of this gap in the science and our findings in the aforementioned study, I am conducting a study to test an intervention to improve college students' knowledge of sleep health, use of sleep health information, and quality of sleep. The study includes a pre- and post-survey of sleep health knowledge, sleep-related experiences, and associated health and academic performance. The intervention is an enhanced Web page with various types and forms of sleep health information. Our research team includes leaders in Illinois State's Health Promotion and Wellness and University Assessment, and myself. We have collected data from over 100 ISU students and are in the analysis phase.

Why is sleep so important?

Sleep gives the body and brain time to rest, of course, but also time to heal. Blood pressure goes down during sleep, which allows your arteries to relax a little. Heart

rate goes down. Respiratory rate goes down. There are over 20 hormonal changes that occur during sleep. One of those changes involves growth hormone, which is released during sleep, and which we need for healing.

How are sleep and memory connected?

Memory consolidation happens in sleep. Whatever occurred during your day in the classroom or at work becomes consolidated into your memory from short-term to long-term during REM sleep. REM, or rapid eye movement, is a stage of sleep that occurs approximately every two hours in an adult sleep cycle. So if you sleep eight hours as opposed to six hours, you get an extra REM cycle, which gives you a better chance at having a better memory and being more alert and able to access that memory. The alternative is being tired, being in a fog, and not feeling mentally sharp. This can lead to lower job performance or lower academic performance.

What is a normal amount of sleep?

Research shows that six hours or less of sleep will cause a person to live a shorter life and have more disease; some studies now show those same results for people getting between six and seven hours of sleep. The normal amount of sleep for an adult is seven to nine hours. Increased disease and earlier death are associated with getting less than six hours of sleep per night; however, sleeping more than nine hours each night may be an indication of underlying health issues.

Should bedtime be at the same time every night?

A regular schedule will keep you on track with your sleep pattern, but the wakeup time is really the anchor. On weekends, keep the same wakeup time or keep within an hour of your regular wakeup time. Bed-

time is based on when you're sleepy, and getting up at the same time every day will help regulate that part of your schedule. Ideally, an adult is sleepy by 10 or 11 in the evening and wakeful by 6 or 7 a.m.

Are bedtime snacks OK, or are they harmful to sleep?

Bedtime snacks are fine, but you don't want to eat a big meal so that you feel full. Conversely, it's not good to go to bed hungry, because hunger will distract you and make it difficult to relax.

What are the most common sleep problems?

There are over 90 varying sleep disorders, affecting all ages from infants to older adults. Sleep deprivation, simply not getting enough sleep, is the No. 1 sleep disorder in America. Insomnia is No. 2 and affects 30 percent of the adult population in the U.S.

Restless leg syndrome (RLS) is No. 3, affecting about 15 percent of the population. With RLS, you get a feeling of discomfort in your legs causing the urge to move. It's neurological. It occurs in the evenings when you're at rest and not in the mornings.

Sleep apnea is No. 4 and affects about 10 percent to 20 percent of adults. Apnea is caused by a blockage in the airway where soft tissue in the back of the throat collapses during sleep. That blockage causes snoring as air tries to make it through the blocked airway. Any snoring at all is not normal. Apnea contributes to high blood pressure. It's more common in overweight or obese people but can affect people with a normal weight.

What treatments are available for sleep disorders?

First you should see your primary provider to see if the problem can be resolved quickly. If not, your provider should refer

you to a sleep specialist, which could be a physician, nurse practitioner, physician's assistant, or psychologist.

What are the causes of sleep disorders?

The causes of sleep disorders fall under two categories: behavioral versus biological. The majority of sleep problems are the result of behavioral problems like, for example, falling into bad habits of staying up too late and waking up too late. That's why sleep specialists focus on a person's schedule and habits based around their sleep.

Sleep tips

1. Schedule time to sleep. Put it on your schedule like other parts of your day.
2. Incorporate a relaxing period before sleep for about 30 minutes to an hour where all electronics are turned off, and the lights are dimmed so as to induce sleep. Reading is a great thing to do before sleep, but if you read with a Kindle, use the black screen with white letters to decrease light exposure.
3. Don't try to sleep with the TV or radio on. Give yourself the best opportunity for good sleep by controlling your environment by having low light, low noise levels, and no electronics.
4. Keep a consistent schedule. Most people think a consistent schedule involves going to bed at the same time every night, which is helpful, but more important is making a habit of waking up at the same time every day.
5. If you have a night where you're having trouble sleeping, don't fight it. Get out of bed and keep the lights low and computer off. Try to relax to invite sleep. Get to a comfortable chair, read or listen to soothing, quiet music. You want just enough distraction so that you're not thinking about sleep. Don't go back to bed until you're feeling sleepy.
6. Finally, if you're doing everything right and still not getting the proper sleep, then it's time to see your health care professional.

Studentresearch



Kristi Probst, *right*, became interested in special education as a child after she suffered minor hearing loss. She was inspired by the story of Helen Keller, the famous deaf-blind speaker and author, and her longtime tutor Anne Sullivan.

Doctoral student uses national fellowship to research ways to educate blind-deaf children with autism in understudied field

By Kevin Bersett

Research into how to best teach a child who is blind, deaf, and autistic is scant. There is not even a reliable estimate of how many students have all three disabilities and minimal research to direct teachers on how to best educate these students.

Illinois State doctoral student Kristi Probst '96, M.S. '98, is working to fill those gaps. Probst said one difficulty in researching this topic is identifying deaf-blind students who are also autistic. Many educators don't understand deaf-blindness and sometimes misdiagnose children who can't hear or see as being autistic because of the behaviors they exhibit.

"Deaf-blind children do things like flapping or spinning that people associate with autism. But a lot of times that's because they don't get the sensory input from their eyes and their ears," Probst said.

Probst wants to tease out how to properly diagnose these students so she can develop interventions that help the



students communicate better. She is starting by using the field of autism and its 50 years of research in evidence-based practices to see if she can adapt those practices to fit the needs of this deaf-blind population.

“Those are the students that really I focus on,” Probst said. “This fellowship gives me the opportunity to do that.”

Last year Probst was one of 15 students from across the county — and the first Illinois State student — to receive a fellowship from the National Leader-

ship Consortium in Sensory Disabilities (NLCSD). The consortium provides a scholarship and stipend to the selected doctoral students. The goal of the program is to increase the number of professors in the blind and deaf education field.

“Our field is aging. Everybody is retiring, but there are not enough people to take their place. That’s why this fellowship was created,” said Olaya Landa-Vialard, a special education professor, a former NLCSD Fellow, and current coordinator of the College of Education’s low vision and blindness program. “Our field is considered low incidence but high maintenance, which is why if we don’t have people to train students, then there is not going to be anybody to work with our kids out in the field, and that is setting them up for failure.”

Probst taught for several years at Normal West High School before entering the doctoral program. At the high school, she worked with students with learning disabilities, including autism.

“While I loved that job, I also had degrees in low vision and blindness and deaf and hard of hearing, and I didn’t get to use those,” Probst said. “That’s where my passion has always been.”

Special Education Professor Christina Borders encouraged Probst to apply to be a doctoral student because of her background and her interest in Borders’ research.

“I kept having questions about why does education go in this direction,” Probst said. “Why do we not see more integration of these kiddos who have more

severe disabilities? Why do they often get put in a classroom where they are segregated all day?”

Borders said the doctoral program gives Probst the time and resources to research those questions. The fellowship puts her in contact with doctoral students and researchers nationwide who are tackling similar problems.

The doctoral program is a juggling act for Probst. Last spring, she took classes, co-taught a course with Borders, and worked on several research projects.

These projects included a critical literature review on deaf children with autism that she presented with Borders and Special Education Department Chair Stacey Jones-Bock at a national conference.

Probst also conducted a survey of teachers of the visually impaired in Illinois. She asked the teachers what evidence-based practices they knew from the field of autism, what they used, and what they thought were effective.

“What I actually found was that teachers of the visually impaired are pretty well prepared. But the teachers who have been in the field for the longest amount of time know the least about evidence-based practices.”

The challenge will be to get her research into the hands of busy teachers so they can apply it in the classroom.

“I want to change the world. I can’t change everything in the world, but I want to change wherever I am because children shouldn’t be left out of education because the services aren’t there.”

Grant news

ISU, U of I join forces to enhance research-based innovation

Illinois State University and the University of Illinois at Urbana-Champaign (UIUC) have formed a partnership to enhance research-based innovation.

Under the partnership, the UIUC's Office of Technology Management will provide fee-based services to Illinois State's Office of Research and Sponsored Programs to help identify, patent, and license new intellectual property developed by faculty on the Normal campus. Along with technology transfer services, UIUC also will provide workshops, seminars, and educational materials to promote awareness of research opportunities and interest among Illinois State faculty.

Over time, Illinois State expects to develop an internal innovation ecosystem, based on the knowledge it gains through the partnership with UIUC.

NSF grant helps researchers study how children learn measurement

Two Illinois State professors are part of a research team working on the \$2 million National Science Foundation-funded Children's Measurement Project.

The research team, composed of Illinois State Mathematics Professors Jeffrey Barrett—an associate director of the Center for Mathematics, Science, and Technology—and Craig Cullen and University of Denver Professors Julie Sarama and Douglas Clements, is studying how children process math concepts and is providing teachers with insights on techniques and interventions that help students.

The mixed methods research project is extending, testing, and revising learning trajectories for children's knowledge

of measurement across a 10-year span of development. The team, which received the grant in 2012, is working on a comprehensive, longitudinal account of children's ways of thinking and understanding mathematical and scientific concepts of measurement based in empirical analysis.

Using genetics to domesticate pennycress as new cover crop

Illinois State Associate Professor of Genetics John Sedbrook is collaborating on a \$1 million grant awarded by the U.S. Department of Agriculture (USDA) to develop genetic resources that can be used to rapidly domesticate field pennycress as a new winter annual oilseed cover crop.

Illinois State University's portion of the grant is \$367,021, and the grant period runs through August 2017. Sedbrook, who is a faculty member in the School of Biological Sciences, is working with Professor David Marks, from the University of Minnesota, and Professor Win Phippen, from Western Illinois University.

Pennycress holds considerable agronomic and economic potential due to its extreme cold tolerance and natural ability to produce copious amounts of seeds high in oil and protein content. Pennycress is planted in the fall near the time of corn harvest, over-wintering as a cover crop to reduce nitrogen runoff and soil erosion, and harvested the following spring in time for planting soybeans.

Field studies suggest that pennycress could produce as much as 2,000 pounds of seed per acre, yielding 80 gallons of oil per acre that could be converted to jet fuels, biodiesel, and a variety of industrial products including soaps and cosmetics. However, wild strains of pennycress do not always grow uniformly, so Sedbrook and

colleagues are working to improve seed germination and crop establishment.

Pennycress seedpods also break open easily, resulting in about 20 percent of the seeds falling to the ground before they can be harvested. Students in Sedbrook's lab have already genetically fixed the so-called pod shatter problem in pennycress.

New genetic tools, along with a large body of scientific knowledge and this USDA funding, will allow the researchers to make additional genetic improvements to pennycress. The goal is to domesticate and commercialize pennycress on a time scale of years instead of the hundreds to thousands of years it took to domesticate corn and soybeans.

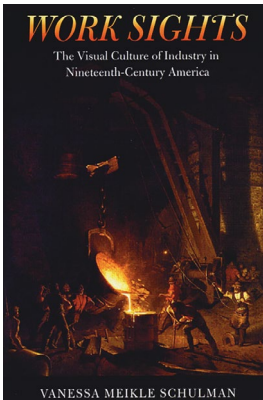
Grant to help expand access to high-quality pre-K education

Illinois State's Center for the Study of Education Policy (CSEP) is part of an \$80 million project funded by the U.S. Department of Education to expand high-quality preschool programs to children who come from lower-income families.

Eighteen communities from across Illinois applied to receive grants from the state to expand their preschool programs. CSEP received nearly \$1 million to manage the Birth through Third Grade (B-3) Continuity Project. B-3 is supporting these communities' ability to develop a high-quality, education system from birth through third grade.

The goals of the project are for the communities to develop children who are well-prepared for kindergarten, successfully transition to kindergarten, and are able to sustain gains made in preschool through the third grade.

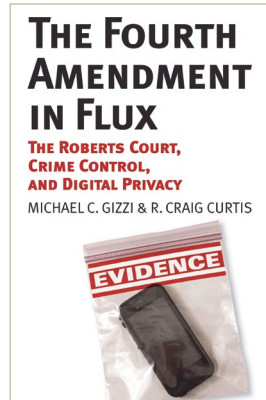
Redbird media



Work Sights: The Visual Culture of Industry in Nineteenth-Century America

By Vanessa Meikle Schulman, assistant professor, School of Art (University of Massachusetts Press, 2015)

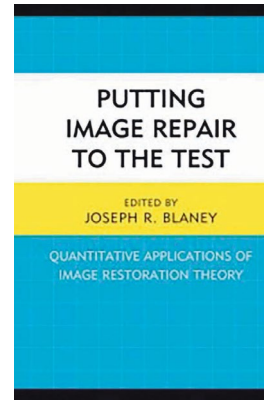
Schulman, a professor of art history, has written a book showing how visual representations of labor, technology, and industry were important in shaping how Americans understood their country and its place in the world in the 19th century. This extensively illustrated book focuses on the period between 1857 and 1887, when the United States saw rapid industrialization. She examines popular and fine art of the time, and the book ranges across the fields of art history, visual studies, the history of technology, and American studies.



The Fourth Amendment in Flux: The Roberts Court, Crime Control, and Digital Privacy

Co-written by Michael Gizzi, associate professor, Department of Criminal Justice Sciences (University Press of Kansas, 2016)

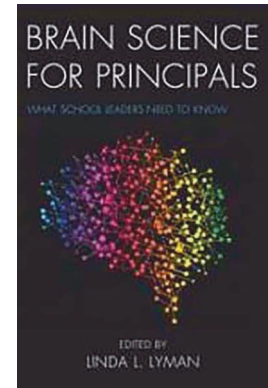
Gizzi has co-authored a book with R. Craig Curtis, an associate professor of political science at Bradley University, that analyzes how Fourth Amendment law has dramatically changed in recent decades in the context of the drug war, automobiles, digital devices, and other modern developments. The book examines application of search and seizure law over time with particular emphasis on recent decisions by the U.S. Supreme Court. The authors expose the tensions caused by attempts to apply legal doctrine that was created by the Founding Fathers to current problems involving digital privacy.



Putting Image Repair to the Test: Quantitative Applications of Image Restoration Theory

Edited by Joseph Blaney, professor, School of Communication; and associate dean, College of Arts and Sciences (Rowman & Littlefield, 2016)

This book shines new light on repairing tarnished images and public perception of scandals. Blaney, who has researched public perception of image for 20 years, uses quantifiable evidence to shift image repair from a case-study approach to a scientific one. With input from more than 20 scholars, the book examines everything from failed humor to the impact of apologies on public perception, all from a social science approach. The new book also delves into how social media impacts image reparation.



Brain Science for Principals: What School Leaders Need to Know

Edited by Linda Lyman, professor, Department of Educational Administration and Foundations (Rowman & Littlefield, 2016)

In this book, Lyman uses recent findings of educational neuroscience to focus on the leadership of learning. Each of the book's 24 short chapters explores a question related to learning and offers practical suggestions for principals. The book opens with a section explaining how understanding brain neuroplasticity changes belief in fixed intelligence and goes on to explore several subjects, including neurogenesis, neurodiversity, memory, brain fitness, embodied cognition, multitasking, the role of the arts, ages and stages of the brain, emotional intelligence, and maintaining mindfulness.

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. For more listings, visit IllinoisState.edu/RedbirdScholar.



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Former foster youth research how to help peers succeed

Lauretta Schaefer is a dance education major who spent her early childhood in the foster care system before being adopted. Now she is working with Social Work Professor Doris Houston, director of Illinois State's Center for Child Welfare and Adoption Studies, to investigate the factors that influence academic success for Illinois students who have spent time in foster care.

The center received a \$50,000 grant from the Spencer Foundation last year to partner with the Illinois Department of Children and Family Services (DCFS) on the two-year study. Houston is leading a research team that includes Schaefer; student researchers Marquise Brown, LaShawnda Kilgore, and Verneice Prince; Social Work Professors Deneca Avant and Christopher Gjesfjeld; and Communication Professor Aimee Miller-Ott.

The study grew out of a welcome reception hosted by the School of Social Work for former foster care students attending Illinois State.

"We were interested in developing support programming for this population of students, but we wanted to target our efforts by first conducting a 'Needs and Assets Assessment' to get a better idea of what students want and most need to succeed in college," Houston said.

The study is examining the social, emotional, and academic lives of



Lauretta Schaefer and Professor Doris Houston

350 former foster youth who receive DCFS scholarships to attend Illinois institutions. The researchers are conducting two surveys through the Spencer Foundation Grant, and they also plan to interview 32 students through a second grant funded by the Administrative Office of the Illinois Courts.

According to data gathered from the first survey, the students displayed high levels of resilience as evidenced by self-confidence, resourcefulness, and excitement about attending college. However, they were lacking in

time-management and study skills.

Schaefer said DCFS could do a better job of preparing foster youth for college while they are in high school. "I don't think that I can come as a freshman, and you can suddenly fix my poor study habits," she said.

The researchers are hoping to find ways to boost the college admission and graduation rates for foster youth. Several studies have shown that the graduation rate for foster youth is between 46 percent on average, Houston said.

"We are conducting action-oriented research," Houston said. "Education is the great equalizer, and we want to do research that will impact society."