

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Life after Mizzou



The few short years that students spend at MU can seem fleetingly transitory but the impact of a college education lasts a lifetime. The Office of Enrollment Management tracks past graduates' employment and further education. Rob Hill photo

Destination study

Annual survey tracks graduates' employment and further study

A college education from MU has a lifetime impact on the students who study and live here — not only in potential earnings but in their quality of life and in career opportunities. Although that impact is lasting, the few short years students spend here can seem fleetingly transitory.

Many faculty and staff are left with a basic question: How did they do in life? What happened to the bright young man who was a work-study student in our office five years ago? Did the creative young lady who sat in the first row of class achieve her dreams?

Mizzou can't track individual students that closely, but since fall 2001, the Division of Enrollment Management has conducted what it calls the "destination study" that tracks the employment and further academic careers of its graduates.

The most recent destination study was released recently that covered graduates in fall 2008 and spring and summer 2009 semesters. It showed that even in a dismal economy Mizzou students are faring relatively well. The survey response rate was the highest ever with 61 percent of MU graduates from that time period taking the survey.

There was a 3 percent increase in the number of students continuing with graduate education, 31 percent compared with 28 percent last year. Average full-time beginning salaries for all graduates were down 3 percent, \$42,400 compared to \$43,600 last year. There was an increase of 5 percent of those who remained in Missouri upon graduation — up to 69 percent from 64 percent the year before.

Undergraduates who received the highest average beginning salaries were in engineering (\$50,900), health professions (\$44,500), nursing (\$43,900) and business (\$38,100). The average beginning salary for graduate school students was \$46,800. According to the survey, 82 percent of students who responded and were employed worked in a field related to their degree.

The survey data is broken down further by school and college division. It is available online at the Enrollment Management website at enrollment.missouri.edu (<http://enrollment.missouri.edu>). Click on "Reports and Data."

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Understanding the media can help researchers reduce science “horror” stories

Media mishaps

Media panel describe the intricacies of translating science

When scientists get an interview request from a reporter, it's always a good idea to ask in what publication the article will appear, Jack Schultz told the audience at a recent panel discussion on science writing.

Schultz, director of MU's Bond Life Sciences Center, learned that lesson the hard way. He was a young postdoc the first time a journalist requested an interview, and he and his colleagues had just published a journal article about their study on communication between plants. He still remembers how excited he was when a reporter called, and he blithely described his research.

He wasn't nearly as excited when he found out the article was published in the *National Enquirer* amid reports of alien Elvis sightings and celebrity split-ups.

That anecdote was just one of the media mishaps that were rehashed April 15 when Schultz moderated a panel discussion as part of Life Sciences Week. It was billed as “Tales from Scientists and Journalists: How to Avoid a Horror Story.”

Panel members, all seasoned science writers, were: Bill Allen, director of MU's agricultural journalism program and former *St. Louis Post-Dispatch* environment reporter; Christian Basi, associate director of the MU News Bureau; Emma Marris, freelance writer for the journal *Nature*; and Glen Nowak, director of media relations for the Centers for Disease Control.

“One reason we're doing this is because we're always trying to explain to people what we're doing here (at the Life Sciences Center) and why we're doing it,” Schultz said. “Scientists are not trained to do that.”

Journalists “have the job of translating for us, and that interface is not always comfortable for either side,” he said. Over the years, Schultz said he has heard many researchers' stories about encounters with reporters, often laced “with much mirth and sometimes grinding of teeth.”

He has his share of those stories. Take the time, for example, when *People* magazine did a story about him and sent a reporter to his apartment looking for a human-interest angle. Schultz expected to talk about the science behind his research, but the reporter wanted a photo of him playing the guitar. He looked in Schultz's refrigerator — which, embarrassingly, contained a number of insect specimens — and even looked under his bed.

Schultz was perplexed, but made a point of getting across the information he thought was important. “I said, ‘OK, I'll do what you ask as long as you treat the science seriously.’ ”

The panel of science writers had some horror stories of their own. Basi recalled one incident when an MU faculty member asked the News Bureau to do a press release. After a television station called Basi to set up an interview, he contacted the researcher who flatly told him, “I don't do broadcast.”

“It's embarrassing to send out a press release and then have your source refuse to talk to the media,” Basi said. Fortunately, incidents like those are infrequent, he said, and he praised the patience of most faculty in helping the News Bureau publicize Mizzou's research accomplishments.

More and more often, he said, his office is using video and audio feeds to tell MU's story and is posting those on the university's website. “There are so many more ways to get your message out than just the media, and we can help you do that,” Basi said.

Other panel members recalled lengthy interviews with scientists, at the end of which the researchers said their comments were off the record or they insisted on approving quotes before they were published. That's not the way things work, Marris explained. If you want to put restrictions on an interview, "Do that beforehand."

Basi said he sometimes gets calls from faculty members who ask why he has excised precise scientific wording from a news release — words like peptides or amino acids. Researchers have to remember that releases are intended for a lay audience, he said, not for their academic colleagues. "Trust your media relations professional," Basi said, "especially when it comes to scientific jargon."

But Marris stressed that it's important to understand the difference between a media relations professional and a journalist. "The journalist does not work for you," she said.

One part of her job in reporting on journal articles for Nature is to contact other academics in the discipline and ask for their comments, some of which may be critical. Including that criticism in the story is not a betrayal of trust, she said, "because the journalist did not sign up to be your cheerleader," and added, tongue-in-cheek, "Not that we don't love you."

Criticism goes with the territory, Nowak said, but he finds it ironic that scientists take criticism and debate for granted when they attend conferences or scientific meetings, but "when people see it in print it seems harsher than it would otherwise."

Nowak reminded the audience that a reporter's job is to "tell an interesting, engaging story that grabs your attention and probably has more than one side.

"There's a misperception that the press release is the story," Nowak said. It is not, he said; a press release is only meant to tweak the interest of reporters, who will follow up with their own research.

"You've got to be ready to respond to that attention," Nowak said. "When you knock on the door of the media and say, 'Pay attention to me,' they might respond in ways you didn't anticipate."

Allen suggested that scientists prepare for interviews by putting together a one-page summary of their work that puts it in perspective and explains who they are, what they do in the lab, even how to spell their name correctly.

Those one-pagers are especially important here at MU, where the journalism school sends out battalions of would-be reporters every semester, Allen said. "That way, when a scared — they start out scared — journalist calls and asks for an interview" the researcher can e-mail them basic background information that saves time for both sides and helps ensure accuracy.

Scientists and journalists share some of the same challenges, Allen added. "They both face massive scientific illiteracy, especially in the United States, and massive science phobia."

Allen said it's important for researchers to understand that different portions of the media pantheon — what he called "the news ecosystem and its species" — approach science journalism in widely different ways: as breaking news, feature stories or analysis; by print, TV, radio or digital delivery; by for-profit or public service media; even for large- and small-market audiences. Years of interacting with science reporters have taught him an important lesson, Schultz said: "You don't have to be a scientist to write about science. Writing skills can trump the PhD."

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)

- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Newly formed group will address LGBTQ issues

Inclusive workplace

Group will provide support and education to members and the campus

Faculty and staff members campuswide have had difficulty connecting with their peers in the lesbian, gay, bisexual, transgender and queer community.

Until now.

The first ever organization supporting MU's LGBTQ employees formed earlier this month. About 27 people attended the inaugural meeting April 6, says event co-organizer Carol Snively, director of MSW and Off-Campus Programs for the School of Social Work.

For years, MU's faculty and staff members have recognized the need for such an organization, says Ryan Black, director of the LGBTQ Resource Center, who also helped co-organize the meeting. "I'd have conversations from time to time with new faculty, and one question would be about the faculty LGBTQ group and how to get connected. I grew disappointed with not being able to have a solid answer for them."

Meeting other LGBTQ and ally faculty and staff is but one benefit of this group. Knowing that one is not alone is helpful as well. "There is the social aspect of realizing that I'm not the sole queer person on campus, but there are others in my community who work in all departments at Mizzou," Black says.

"It was fantastic to be at the meeting and see the different departments represented. Besides the social aspect, however, there are issues on campus that can be addressed, and the group would want to assist in that."

Although the newly formed group has yet to develop a mission statement, vote on bylaws or even decide on a formal name, members did map out some goals at the first meeting, Snively says.

Among those objectives, the association will: communicate concerns, interests and awareness of members of Mizzou's LGBTQ community; act as an advocate for recruiting and retaining LGBTQ faculty, staff and students; foster the educational missions of the university; and advance the recognition and status of LGBTQ individuals as viewed by the administrators, faculty, staff and students of the university and the surrounding community.

"I believe this faculty and staff association will provide social support to members, educate the broader university community about LGBTQ issues related to faculty and staff, and advocate for an inclusive work and academic environment," Snively says.

The association specifically will want to raise awareness about the lack of domestic partner benefits for university faculty and staff members, Snively says. "Other issues include adding gender identity and expression in the University of Missouri's nondiscrimination policy, and recruiting and retaining LGBTQ faculty and staff."

Membership is open to faculty and staff members who are interested in the goals of the association, and all university and community members who are concerned about LGBTQ affairs.

Black says the next meeting will take place in May. With questions or for more information, call him at 884-7750 or e-mail [blackr@missouri.edu \(mailto:blackr@missouri.edu\)](mailto:blackr@missouri.edu).

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Darwin's sexual selection theory best explanation for gender differences

male, female

Book explores 2,500 research studies in gender differences

In 1871, Charles Darwin sparked debate that continues today when he proposed that human sex differences evolved based on sexual selection. Sexual selection is Darwin's theory that certain physical, mental or psychological traits evolved because they aid in competition among individuals for access to preferred mates or because they are enhancements of traits that help to attract mates.

Now, in a much expanded update of his book, *Male, Female: The Evolution of Human Sex Differences*, MU psychology researcher David Geary has compiled research that shows how Darwin's sexual selection is the best explanation of the differences between women and men including from infancy, relationships with friends, mate choices, to brain and cognition. He also explains how the expression of these differences can vary across cultures and historical periods.

"Choosing a mate is one of the most important decisions made in one's lifetime and one of Darwin's core components of sexual selection," Geary says. "Sex and reproduction complicate our lives in many ways, the most fundamental of which involve the demands of finding a mate. These choices are important because they echo through subsequent generations. The social dynamics that emerge as a result of sexual reproduction usually involve competition with members of the same sex for access to mates or control of the resources that will attract mates."

In his book, Geary documents how sex differences found in humans and many other species can be explained by Darwin's sexual selection. One of these sex differences is the level of parental involvement by males. Male parenting is found in less than 5 percent of mammal species. Because the males in many species do not provide any parental investment, females in many species do not compete for mates. In humans, however, men have a significant role in parenting, compelling women to compete for mates.

"The more men have to offer, the more valuable they become to women as a reproductive resource," Geary says. "For this reason, men in all cultures are highly motivated to attain social status and control of culturally significant resources. Male-male competition is about making themselves attractive to women but the competition also can lead men to compete in lethal ways to gain control of social resources."

Female competition may include how they dress or adorn themselves in ways that enhance their traits that men find attractive. Women may degrade these same traits in potential competitors and manipulate social information and relationships to drive competitors away from potential romantic partners. Male-male competition may explain factors, such as greater male mortality, risk-taking and rough-and-tumble play. Female-female competition may account for greater female emotional sensitivity and greater language proficiency, Geary says.

In 1998, Geary wrote the first edition of *Male, Female: The Evolution of Human Sex Differences*, which compiled the research to that point on sex differences and synthesized it based on Darwin's theory.

"Since then, research on human sex differences has exploded with the emergences of new technologies, such as brain imaging techniques that allow us to understand men and women and boys and girls in ways that Darwin could have only dreamed of," Geary says.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Provost announces first round of Mizzou Advantage grants

Seed money

Grants made for 26 projects total \$913,410

Mizzou Advantage is a long-term initiative to build MU's stature and impact by indentifying its top five competitive assets and capitalizing on those strengths. Last week, Provost Brian Foster announced the first round in an ongoing series of grants that are meant to build networks or strengthen relationships and to provide seed money to build capacity for significant projects in the future.

Funding for the first round of grants totaled \$913,410. Proposals for a second round of grants will be requested next month; and Foster has pledged \$1.5 million for the next round.

The campus will highlight MU's progress on the Mizzou Advantage initiative with a celebration from 4 to 6 p.m. Tuesday, May 11, in the Reynolds Alumni Center ballroom. The event is open to the campus community.

The first round of grants were awarded to:

- A 21st century program in cancer research: Targeting metastatic cancer cells to improve diagnosis and therapy — John Viator, Scott Holan, Mark Hannink, Paul Dale and Stephen Alexander
- Metagenomics use at a former coal mining environment to bio-prospect for enzymes with applications to sustainable energy — Gary Stacey, Melanie Mormile
- Modeling childhood/adolescent obesity in a pig — Frank Booth, Jamal Ibdah, James Perfield and Cuihua Zhang
- Bioenergy plantations: An integral part in the sustainability of the biomass supply chain — John Dwyer, Shibu Jose, Gary Stacey, Francisco Aguilar, Hank Stelzer, Gene Garrett, Greg Coffin, Paul Hoemann, Dusy Walter, Felix Fritschi, Mark Coggeshall and Jim Houx
- The architecture of collaboration: Defining networks, developing methods — Jack Schultz, Kate Anderson, Mary Barile, Bill Bondeson, Roger Gafke, Jeni Hart, Lindsay Leonhard, Tim Matisziw, Yi Shang, Chi-Ren Shyu, Douglas Steinley, John Wedman, Randall Westgren
- Biomass supplies in the U.S. Midwest: An integrated geospatial assessment of environmental and economic impacts — Ciuzhen (Susan) Wang
- Cancer drug development center automated radiopharmaceutical technology — Timothy Hoffman
- Clinical interaction between stress, diet, genetics and inflammation in the etiology of autism — David Beversdorf, Matthew Will and Kevin Fritsche
- International conference: Corporate governance: The role of the board of directors in understanding and managing disruptive and transformational technologies — Elaine Mauldin and Karen Schnatterly
- Opportunistic discovery of information — Sanda Erdelez, Guilherme DeSouza, Chi-Ren Shyu, Antonie Stam and Kevin Wise
- Targeting plasminogen activator inhibitor-I to inhibit neointimal hyperplasia — William Fay, Mayank Mittal and Douglas Bowles
- Whole genome sequencing of an animal model of cerebral cortical dysplasia: Developing the next generation of genomics for human and animal health — Dennis O'Brien
- Early breast cancer detection using novel optical imaging techniques — Ping Yu
- Developing and validating emission models for commercial swine finishing barns — Teng Lim, Albert Heber and Jiqin Ni
- Realistic decision-making — Ann Bettencourt, David Mandy and Andrew Melnyk

- The dark archives project — Denice Adkins, Kate Anderson, Brian Brooks, John Budd, Dorothy Carner, Stephanie Craft, Charles Davis, Debra Mason, Earnest Perry, Richard Reuben and Lilliard Richardson
- A symposium on building networks for the Center for Translational Neuroscience — Douglas Anthony
- Food and society speaker series — LuAnne Roth
- Symposium and faculty workshop on integrin signaling in physiology and disease — Anand Chandrasekhar, Michael Hill, James Lee, Gerald Meininger, Sharon Stack and Gary Weisman
- One health, one medicine, one community network — Karen Edison
- Proposal to establish evolutionary studies and science studies on campus — Stefani Engelstein, Heidi Appel, Andre Ariew, Noah Heringman and Mark Smith
- Regional symposium on molecular biophysics: Single-molecule analysis of macromolecules — Gerald Hazelbauer, John Tanner, Kevin Gillis, Stefan Sarafianos, Gavin King and Thomas Quinn
- Print for the people — Devoney Looser, Berkely Hudson and Michael Holland
- Mizzou Advantage in reproduction biology — Matt Lucy and Randy Prather
- Food, fuel and society — Janet Saidi, Bill Allen, Steve Borgelt, David Brune, Mike Dunn, Mary Henderickson, Marc Linit, Domingo Martinez, Mike McKean, Frank Morris, Keith Politte, Pat Westhoff and Handy Williamson
- Communication markets — Esther Thorson and Murali Mantrala

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail:

MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

MU geologists' research helps unravel Haiti long-term earthquake impacts

Shaking up science

Team generates data to help Haiti rebuild

Evidence of the Jan. 12 earthquake in Haiti remains. On land, buildings are destroyed and coral becomes stranded above sea level. In the sea, the water is murky from the displaced mud. An MU researcher and a graduate student were members of a team that went on a 20-day research cruise off the coast of Haiti after the earthquake. The information gathered during the trip will help officials rebuild Haiti.

The scientists wanted to understand which segments of the earthquake fault ruptured and how much fault movement and uplift of coastal features occurred in locations along or near the fault. Colleagues working at the same time on land discovered that some areas of the Haitian coast had been uplifted almost a foot and a half, while other areas had dropped.

"The coast in this region has been uplifted, while other areas had dropped, which indicated that some faults had not yet been mapped," says Milene Cormier, assistant professor geophysics and geodynamics. "When mapping the underwater extension of the faults, we can determine where it hasn't ruptured at the seafloor in the last earthquake. This could be used to forecast what might happen there next."

Mapping the faults will help people make better decisions about rebuilding the capital city, Cormier says. The research team took a seafloor sonar survey of the area that is being considered for a new port and will determine if it could be a better location.

"The team working onshore was constantly communicating with our team surveying offshore," Cormier says. "Understanding what happened both on land and underwater during the earthquake gives us a more complete picture of what may happen in the future. Scientists from many different universities around the world and from U.S. agencies have been collaborating constructively since the Jan. 12 earthquake and are racing to understand what happened."

The National Science Foundation Rapid Response Research program funded the research team that used multibeam, sub-bottom profiler, and side scan sonar equipment to map the seafloor surrounding the Enriquillo-Plantain Garden Fault, a system of faults which runs along the southern side of the Dominican Republic and Haiti.

Researchers produced sonar images of the seafloor and seismic profiles that revealed the 3-dimensional geological structures to about 50 meters below the seafloor. During the trip, researchers also gathered sediments and other evidence from the seafloor that might reveal hidden structures, how the Earth's plates have moved and where strain may be building now.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments

- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Sanborn Field is a ‘time capsule’ that helps national biofuel research

Soil profile

Mining carbon data from 122 years of experiments

There will be an unwanted side effect in switching American farms to large-scale biomass production for biofuel. Removing almost all crop residue at harvest won't allow carbon to return into the soil and rejuvenate it. No one knows the effects on soil quality for decades and even centuries into the future.

Randy Miles, associate professor of soil science, is part of an international consortium of scientists assessing and predicting these effects before biomass planting and harvesting is initiated. Unfortunately, they don't have decades to set up experiments and gather data.

To get results more quickly, the researchers are mining results from past long-term soil experiments. Data from these old tests could provide clues that could give scientists an idea of what residue removal levels are acceptable to maintain healthy earth for future agriculture.

In this, Miles has a secret weapon — MU's Sanborn Field. For almost 125 years, this research plot has been the site of hundreds of experiments in crop production and soil quality. In 1965, Sanborn Field was added to the National Register of Historic Places.

Carbon is essential for healthy soil. When organic carbon enters and stays in the soil it provides essential nutrients, increases microbial biomass, assists with water movement and holding capacity, and hinders erosion.

On average, soil organic matter is 58 percent organic carbon. Organic carbon gets into the soil through crop residues and other organic solids lying on the soil after harvest and decomposing. Plants also breathe in carbon in the form of carbon monoxide, sending CO₂ into the roots and then into the soil.

Governmental initiatives would encourage massive sowing of biomass plants, such as switch grass, hemp or sorghum, as a way to reduce petroleum imports. In the process almost all of the above-ground plant materials are harvested to ground level to recover all biological material that can be converted into fuel, which stops much carbon from returning to the soil.

Sanborn Field was established in 1888 by J.W. Sanborn, director of the Missouri Experiment Station and dean of MU's College of Agriculture, to demonstrate crop rotation and the production of winter wheat. Later, corn, soybeans and sorghum were added to the research projects list. Most research studied soil changes, crop responses to fertilizer and tillage, and the effects of differing nutrient balances — all good clues for today's long-term carbon sequestration study.

Sanborn is the oldest continuous experimental field west of the Mississippi River. Of the 45 plots, one is in the native prairie species common to mid-Missouri before the influx of European settlers — a perfect control sample. Nine plots are still involved in the original cropping program started by Sanborn, yielding 120 years of data of plant growth, human intervention and soil quality.

This old research is so valuable because of the records that have been kept for each experiment, be it the application of animal manure or the planting of clover, Miles says. Each intervention's effects have been scientifically measured and each crop harvest carefully recorded along with accompanying weather observations. For scientists like Miles, having such cause-and-effect data for almost a century-and-a-quarter is of immeasurable help in predicting how aggressive biomass harvesting could affect soil quality well into the 21st Century.

There are almost no farmlands where such continuous long-term recorded research results exist, Miles says. Sanborn's soil is a unique time capsule that is little changed. Sanborn is one of only a handful of research fields in the world that can supply this

data.

Three previous research projects are of particular importance in providing clues to how biomass production will impact soil quality, Miles says. One occurred when the field was used to measure the build-up of lead in soils before and after the changeover from leaded to unleaded gasoline. During the Cold War, accumulation of radioactive nucleotides and carbon from atomic testing was detailed.

Most importantly, between 1888 and 1949, all crop residue was removed for animal feed. “This research is very pertinent to what we are looking at in biomass production,” Miles says.

The Sanborn scientists also have “snapshots” of the soil at different points in the last century. MU researchers captured and saved deep core samples in 1915, 1938, 1962 and 1988. These samples have great research value as they show how much carbon was captured and retained both at the surface and below tillage level, Miles says. Carbon nearer the surface trends to fluctuate dramatically with farm use while deeper portions reflect longer term trends.

These core samples have showed that most agricultural soils may have already lost 30 to 75 percent of their antecedent soil organic carbon pool, Miles says, and the implications of additional carbon loss to future generations could be enormous.

No herbicide has ever been used on some plots at Sanborn. Most crops were harvested by hand or with modified small tractors, minimizing this variable on the research projects.

Sanborn is one of only a handful of research fields in the world that can supply this data. Others are the Morrow Plots at the University of Illinois at Urbana-Champaign, established in 1876 and, like Sanborn, was designated a National Historic Landmark; the Columbia Plateau Conservation Center near Pendleton, Oregon; and the 160-year-old Rothamstead Research Centre in Hertfordshire, UK. Scientists at these locations are Miles’ colleagues in the carbon sequestration study.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates’ employment and further study
- [Understanding the media can help researchers reduce science “horror” stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin’s sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists’ research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a ‘time capsule’ that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou’s 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Meet Mizzou's 2010 Kemper Award winners

Earlier this week, a rite of spring played out at Mizzou. Chancellor Brady Deaton and an entourage of reporters visited classrooms across campus to personally deliver an award that celebrates excellent teaching — the Kemper Fellowships for Teaching Excellence. The awards are given to five faculty members each year. This year's winners are:

- [Michael Barnes \(michael-barnes/index.php.html\)](#), assistant professor of classical studies
- [Srinath Gopalakrishna \(srinath-gopalakrishna/index.php.html\)](#), professor of marketing
- [Anand Prahlad \(anand-prahlad/index.php.html\)](#), professor of English
- [Gregory Triplett \(gregory-triplett/index.php.html\)](#), assistant professor of electrical and computer engineering
- [Michael Ugarte \(michael-ugarte/index.php.html\)](#), professor of Romance languages

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Protein markers allow fertility researchers to cull defective sperm samples

Quality control

Study has potential benefit for human research

Selecting perfect sperm cells is a hard job, but MU researcher Peter Sutovsky aims to find a better way. His work with protein markers to identify defective sperm could one day reduce challenges in artificial insemination for farm animals and infertility treatment for humans.

“In farm animals we’re hoping to develop a process where you can cull the inferior males with poor fertility,” says Sutovsky, associate professor of animal sciences and of medicine. “That can truly affect the bottom line in the pork and cattle industries.”

His research builds on studies of ubiquitin, a protein dubbed the “kiss of death” by researchers because it attaches to defective sperm, acting as a natural quality-control safeguard. Because ubiquitin-tagged sperm appear normal even under the microscope, assisted fertilization treatments can’t take advantage of this safeguard.

Sutovsky is working to change that. He and colleagues have been developing techniques in which small metallic particles recognize and bind to ubiquitin on the surface of bad sperm. “You can mix it with bull semen, for example, and then by using a strong magnet you can pull down the bad sperm that have ubiquitin on their surface and leave the good sperm in the semen dose,” he says.

“In the end, the artificial insemination companies may end up using a smaller dose of sperm per artificial insemination service,” Sutovsky says. “That will help their bottom line if we can develop this technique to be simple, quick, efficient and cheap.”

He notes that these findings benefit fertility research across species and could lead to advances in human fertility treatments.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates’ employment and further study
- [Understanding the media can help researchers reduce science “horror” stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin’s sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists’ research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a ‘time capsule’ that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou’s 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail:

MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Undergrads present posters

Faculty researchers and grad students aren't the only people laboring away in labs around campus. One of the things that makes Mizzou special is the extent to which undergraduates take part in creating knowledge through research. MU will celebrate those students' accomplishments with the Undergraduate Research and Creative Achievement Forum from 2:30 to 5 p.m. Monday, April 26, in the Bond Life Sciences Center's McQuinn Atrium.

More than 200 MU undergraduates will present more than 175 research posters detailing their work with faculty mentors. Topics are as varied as gender in advertising, roadway work zone safety, effects of public service announcements on binge drinking and detecting melanoma cells with lasers. Winners of the Chancellor's Award for Excellence in Undergraduate Research and Creative Achievements will be announced at 4 p.m. April 27 at McQuinn Atrium.

Undergraduates develop their problem-solving and communication skills by conducting research with MU faculty in addition to learning more about their chosen academic disciplines," says Linda Blockus, director of MU's Office of Undergraduate Research.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](http://www.missouri.edu). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

This is a test, only a test

At 2:50 p.m., Thursday, April 22, MU students, faculty and staff who have registered their cell phone numbers with the University's mass notification system will receive a test text message.

The message will read: "This is a test of the MU Alert Notification System on April 22, 2010. This is only a test." Cell phone users will be asked to acknowledge receipt of the message. University officials expect to test the system at least once each semester. In the Columbia area — which includes the MU campus, MU Health Care and the UM System — there are 22,450 text addresses in the notification database out of a possible 52,515 faculty, staff and students, according to the Division of Information Technology.

MU last tested the notification system in November 2008 with voice calls and e-mails as well as text messages. A survey of student notification preferences conducted last year by Educause found that students overwhelmingly preferred text message notification (72 percent) compared with voice calls (8 percent), public address systems (6 percent), e-mail (12 percent) and other means such as website notification (2 percent).

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the University of Missouri. All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Devil in the details

Do the thousands of details about health care reform have you stymied? If so, you're not alone. Millions of Americans have questions about the sweeping national health care reform legislation that became law last month. The MU Center for Health Policy will provide answers at "Health Reform Explained," a presentation and discussion scheduled for noon to 1:30 p.m. Wednesday, April 28, in Acuff Auditorium, MA217, at the MU School of Medicine.

Center director Karen Edison, will discuss various aspects of the Patient Protection and Affordable Care Act, including: what was included and what was left out, timelines for when key reforms take effect and what has to happen for the bill to be implemented.

There will be time for discussion, questions and answers following the presentation. Edison is chair of dermatology and medical director of the Missouri Telehealth Network at MU.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail:

MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](#). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Investing energy in edible landscapes

If you prefer landscaping to gardening but still would like to enjoy the benefits of homegrown produce, then edible landscaping might be for you, says MU horticulturist David Triklein. “Edible landscaping uses attractive plants that also just happen to produce food.”

Edible plants in the landscape can include Swiss chard, cherry tomatoes, peppers, lettuce, spinach, cabbage, onions and most herbs. “Containers filled with tomatoes or peppers can add to the decor of a patio or deck while at the same time providing fresh, tasty food,” Triklein said. “Fruit trees can be planted instead of small flowering trees. Blueberries can take the place of shrubs and grapes can adorn an arbor or cover a trellis instead of vines.”

He offers some more ideas to consider:

- Incorporate plants such as lettuce, radish or cabbage into your flowerbeds and borders.
- Plant herbs along with flowers in a container.
- Train raspberries up a fence.
- Plant flowering cabbage in the fall as an alternative to mums.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates’ employment and further study
- [Understanding the media can help researchers reduce science “horror” stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin’s sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists’ research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a ‘time capsule’ that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou’s 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail:

MizzouWeekly@missouri.edu

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.

Mizzou Weekly

April 22, 2010 Volume 31, No. 28

Start your engines

Spring is here, and MU's Agricultural Systems Management Club's lawn mower clinic has become so popular that club members have to schedule two weekends to take care of all the customers. The second clinic of this spring will be held this weekend.

Let the club members take care of getting your mower ready for the warm weather. They will power wash the mower, sharpen the blade, change the engine oil, clean/replace the air filter, and replace the spark plug. Cost is \$30 due at pickup; cash or checks are accepted. Drop-off times are 1 to 9 a.m. and 4 to 6 p.m. April 22 and 23 on the east side of the Agricultural Engineering Building. Customers may pick up their mowers at the same times on April 26 and 27. Mowers must be in working condition, and no riding mowers are accepted. With questions, call 882-2731.

Issue

- [Life after Mizzou](#) Annual survey tracks graduates' employment and further study
- [Understanding the media can help researchers reduce science "horror" stories](#) Media panel describe the intricacies of translating science
- [Newly formed group will address LGBTQ issues](#) Group will provide support and education to members and the campus
- [Darwin's sexual selection theory best explanation for gender differences](#) Book explores 2,500 research studies in gender differences
- [Provost announces first round of Mizzou Advantage grants](#) Grants made for 26 projects total \$913,410
- [MU geologists' research helps unravel Haiti long-term earthquake impacts](#) Team generates data to help Haiti rebuild
- [Sanborn Field is a 'time capsule' that helps national biofuel research](#) Mining carbon data from 122 years of experiments
- [Meet Mizzou's 2010 Kemper Award winners](#)
- [Protein markers allow fertility researchers to cull defective sperm samples](#) Study has potential benefit for human research
- [Undergrads present posters](#)
- [This is a test, only a test](#)
- [Devil in the details](#)
- [Investing energy in edible landscapes](#)
- [Start your engines](#)

[More in the archive »](#)

Published by Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, MO 65211 | Phone: 573-882-7357 | E-mail: MizzouWeekly@missouri.edu

© 2021 — Curators of the [University of Missouri](https://www.missouri.edu/). All rights reserved. [DMCA](#) and other [copyright information](#).

An [equal opportunity/access/affirmative action/pro-disabled and veteran](#) employer.