Governor announces final two curator appointments

By Ashley Jost

Saturday, January 3, 2015 at 12:00 am

Gov. Jay Nixon has announced the final two appointments to serve on the University of Missouri Board of Curators just a few days before the members of the Missouri General Assembly return to the Capitol.

The Democratic governor appointed Phillip Snowden of Kansas City and Maurice Graham of Clayton to the board. Both appointees are Democrats and lawyers.

Snowden is a self-employed attorney who served in the legislature for 18 years starting in 1967. He was in the House for 10 years and the Senate for eight. He will replace David Bradley, a Republican and chief executive officer of the News-Press & Gazette media company in northwest Missouri.

In addition to practicing law, Snowden is a housing developer in the Kansas City metropolitan area. He has undergraduate and law degrees from MU, where he also played football.

“It’s just an honor to be picked as one of the board members,” Snowden said. “My wife is a graduate” of MU “too and so are my two daughters. I’ve always followed the university and its growth. It’s an honor to be part of making the university and the four campuses an even better place.”

Chief among the challenges Snowden expects is how to continue providing education without putting too much cost on students and families, a problem the board addressed this year by focusing on alternative funding efforts to help keep tuition costs down while mitigating stagnant state funding.

Graham replaces Don Downing, who is an attorney at the same firm, Gray, Ritter & Graham, where Graham is president, according to the firm’s website. Graham is a past president of the Missouri Bar and the St. Louis Bar Foundation. He has led the Supreme Court Advisory Committee, which oversees attorney discipline.
Graham got his law degree at MU after graduating from Central Methodist University. He previously served on the Board of Curators for Central Methodist, a private university in Fayette.

Graham also was the chairman of the MU School of Law’s $17 million endowment campaign.

“These individuals are distinguished alumni of the University of Missouri who have given great service to their state, their communities, and their alma mater for many decades,” Nixon said in a news release. “They will make outstanding curators for the University system.”

John Fougere, UM System spokesman, declined to comment on the new appointments. He said the university does not comment on any curator appointment.

Graham, Snowden, David Steelman, a Republican lawyer from Rolla, and Mary Nelson, a Democratic lawyer from St. Louis, face confirmation from the Missouri Senate when the session resumes next week. Graham, Snowden and Nelson, if confirmed, would serve terms that end Jan. 1, 2021. Steelman’s term, if confirmed, ends Jan. 1, 2019.

Nicholas Hergenreder

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**Nixon appoints two new curators**

JEFFERSON CITY -- **Governor Jay Nixon today appointed two new members to the University of Missouri Board of Curators.**

According to Nixon's office, Maurice B. Graham of Clayton and Phillip H. Snowden of Kansas City will represent the second and sixth congressional districts on the board, respectively. Both appointments must be confirmed by the Senate.

Graham is president of the law firm Gray, Ritter, and Graham. He is past president of the Missouri Bar and the St. Louis Bar Foundation, and has chaired the Supreme Court Advisory Committee, overseeing attorney discipline in the state. He has a law degree from the University of Missouri.

Snowden is a long-time legislator, serving 10 years in the House and eight in the Senate representing Clay County. He has a law degree from the University of Missouri, and was the starting quarterback for Mizzou in the 1960 Orange Bowl game.
As institutions of higher learning were forced to recognize their P&L statements along with GPA averages, many looked to the ranks of business leaders when time came to hire new chief executive officers.

This was quite a departure when first considered. Traditionally the halls of academe were the only venues considered, but as money pressures mounted and relationships with legislatures and governors became more crucial, fiscal and political skills became increasingly important.

In Missouri, former University of Missouri System Curator Don Walsworth, himself a successful businessman with a long history of financial support for the university, promoted the idea of looking to industry for a new president. First he had to sell the idea, then as president of the UM Board of Curators he oversaw the selection process that brought Gary Forsee to campus. The results were happy enough to repeat the process. Incumbent UM President Tim Wolfe, with similar CEO skills, succeeded Forsee.

Using tactics that would make sense in any business venture, Wolfe & Co. recently were able to announce to curators $48 million in savings during the past year.

The administration used such nonacademic maneuvers as refinancing debt and tighter purchasing practices. They saved money by going online with forms for personnel management. A benefits cap is expected to save additional millions.

In his statement to the curators, President Wolfe said he and his staff continue to be committed to using resources well, rethinking normal business processes, seeking new revenue streams and finding ways to deliver assigned mission duties most effectively and efficiently.

Sounds like a perfect model for a widget factory — and for the University of Missouri, as well.

Wolfe’s business success is important for the university in today’s political environment. Conservative lawmakers resist “throwing money” at the university. When they see the university
is careful with the public money received, relations between campus and Jefferson City naturally improve.

Percentages of public support for public higher education are notoriously on the wane. Universities no longer can rely on ever-increasing funding. For some time now they have had to raise more money on their own and operate more efficiently.

Of course, a good business manager in the president’s office should recognize the essential value of the academic mission by delegating teaching and research functions to qualified leaders. A successful widget company leader need not know exactly how to make widgets, but he or she had better know how to hire the right people and work the levers of the business organization so well-crafted widgets flow from the factory floor and the company makes money.

In his time at UM, Tim Wolfe is demonstrating the value of having business expertise in the president’s office. A happy new year to him and the institution he oversees.

Puppy Love: Autistic Children Could Benefit Developmentally From Having A Pet

Treating your autistic child to a furry friend this year could help improve his social skills by leaps and bounds

As well as being a great way to boost responsibility in children and give them a loyal friend to hang out with, pets are a great development aid for autistic children.

According to research from University of Missouri, pets can dramatically increase social skills in children with the development disability. Autism affects how a person communicates with, and to, other people - a difficulty that the results of this study may help ease.

“When I compared the social skills of children with autism who lived with dogs to those who did not, the children with dogs appeared to have greater social skills,” says Gretchen Carlisle, research fellow at the Research Center for Human-Animal Interaction in the MU College of Veterinary Medicine.

Carlisle revealed that autistic children living with pets were more likely to introduce themselves, ask for information and respond to questions.
“These kinds of social skills typically are difficult for kids with autism, but this study showed children’s assertiveness was greater if they lived with a pet,” says Carlisle.

**Pets Are “Social Lubricants” For Autistic Children**

The researchers, who surveyed 70 families with autistic children aged eight to 18 years old, discovered that when children with autism are around animals they talk and interact with each other more easily.

“Kids with autism don’t always readily engage with others, but if there’s a pet in the home that the child is bonded with and a visitor starts asking about the pet, the child may be more likely to respond.”

Before you panic about the mess, walks and costs that come with having a dog, breathe a sigh of relief.

According to the researchers, it doesn’t have to be a pooch you purchase – any kind of pet has the same beneficial effect. Yep, even a spider.

While 70 per cent of the families polled had dogs, around half were owned cats and the rest had pets ranging from fish to rodents to farm animals.

“Dogs are good for some kids with autism but might not be the best option for every child,” says Carlisle. “Kids with autism are highly individual and unique, so some other animals may provide just as much benefit as dogs.

“Though parents may assume having dogs are best to help their children, my data show greater social skills for children with autism who live in homes with any type of pet.”

Time for a trip to a pet shop?

If you need help, advice or support about autism, or simply want to learn more about the condition, visit [The National Autistic Society's website](https://www.autism.org.uk).
Pets May Help Improve Social Skills Of Children With Autism

Having a family pet can be beneficial for child development in a number of ways, including keeping kids active and promoting empathy, self-esteem and a sense of responsibility. But dogs may be particularly beneficial for kids with autism, acting as a "social lubricant" that helps them build assertiveness and confidence in their interactions with others, according to new research from the University of Missouri.

The researchers surveyed 70 families with autistic children between the ages of eight and 18, all of whom were patients at the MU Thompson Center for Autism and Neurodevelopmental Disorders. Nearly 70 percent of the participating families had dogs, half had cats, and some owned other pets including fish, rodents, rabbits, reptiles and birds.

The study's lead author Gretchen Carlisle, a research fellow at the University of Missouri, observed that autistic children are were likely to engage socially in social situations where pets were present. While previous research has focused specially on the ways that dogs benefit the development of autistic children, Carlisle found that pets of any type were beneficial for the childrens' social skills.

"When I compared the social skills of children with autism who lived with dogs to those who did not, the children with dogs appeared to have greater social skills," Carlisle said in a statement. "More significantly, however, the data revealed that children with any kind of pet in the home reported being more likely to engage in behaviors such as introducing themselves, asking for information or responding to other people's questions. These kinds of social skills typically are difficult for kids with autism, but this study showed children's assertiveness was greater if they lived with a pet."

Carlisle observed the strongest attachments between the children and small dogs, although parents also reported strong attachments between their children and other pets, such as cats and rabbits.

“Dogs are good for some kids with autism but might not be the best option for every child,” Carlisle said. “Kids with autism are highly individual and unique, so some other animals may provide just as much benefit as dogs. Though parents may assume having dogs are best to help their children, my data show greater social skills for children with autism who live in homes with any type of pet.”
Carlisle's research joins a body of work demonstrating the benefits of animal interaction among autistic children. A 2013 review of studies found that specially trained dogs, horses and other animals can facilitate increased social interaction and improved communication among autistic children, as well as decreased stress and problem behavior.

The findings were published in the journal of *Autism & Development Disorders*.

**Trouble Sleeping? MU researcher suggests less alcohol before bed**

By Caroline Dohack

**Sunday, January 4, 2015 at 12:00 am**

If getting more sleep is one of your New Year’s resolutions, it might help to make a second resolution: drinking less alcohol.

“A lot of people drink alcohol as a sleep aid,” said Mahesh Thakkar, Ph.D., associate professor and director of research in the University of Missouri School of Medicine’s Department of Neurology. “It’s a really simple over-the-counter sleep aid. Anybody can get it, no questions asked.”

And with so many people using alcohol in this manner — Thakkar estimates that 20 percent of the U.S. population does — it does beg the question: Does it really work?

Thakkar, who has been studying the effects of alcohol on sleep for more than five years, said that although a nightcap might indeed make a person feel sleepy, it likely won’t help a person get a good night’s rest.

Thakkar said the body has two primary sleep regulators. One is the circadian rhythm, a sleep-and-wake cycle lasting roughly 24 hours that is affected by external stimuli such as sunlight and temperature. It’s because of the circadian rhythm that we get sleepy when the sun sets and the temperature drops.

The second regulator is sleep homeostasis, a balancing act in the brain that determines how much sleep a person needs based on how much time a person already has spent awake. If a person doesn’t get enough sleep, his or her body produces adenosine, a chemical that increases a
person’s need to sleep. If, on the other hand, a person goes to bed earlier than usual, the homeostasis will shift so that he or she wakes up earlier.

Thakkar said previous thought had been that alcohol altered sleep cycles by affecting the circadian rhythm. However, his studies have indicated the homeostasis is affected when a person’s blood-alcohol level starts to fall. Thakkar said in animal studies, alcohol produced sleep within six to seven minutes, as opposed to the usual 30 minutes to one hour, even during the animal’s usual wake time.

However, the alcohol inhibited REM, or deep sleep, and because homeostasis is a balance between time spent awake and time spent asleep, the animals woke up earlier than usual, resulting in sleep deprivation.

“Alcohol is deceptive,” Thakkar said.

Over time, an altered sleep cycle can lead to insomnia. And if a person turns to alcohol again as a sleep aid, he or she might find that it takes more to get the same effect, in turn resulting in more disturbed sleep, Thakkar said.

But, Thakkar said, that doesn’t mean having a cocktail or a glass of wine earlier in the evening is going to wreck your sleep cycle. Problems arise when one drinks right before bed or after one binge-drinks.

“A small quantity of alcohol may not be bad,” Thakkar said.

Thakkar’s most recent study, “Alcohol Disrupts Sleep Homeostasis,” recently was invited to be published in the biomedical journal Alcohol, but his work is not done. He and his fellow researchers next are working to better understand how sleep deprivation affects learning and memory.

Columbia looks to protect against website attacks
COLUMBIA, Mo. (AP) — Columbia is looking to bolster its cybersecurity after an attack shut down the city's website for nearly three days.

Beginning around 11 p.m. on Dec. 24, the city website, gocolumbiamo.com, experienced a distributed denial of service attack. The Columbia Daily Tribune (http://bit.ly/17860Pa) reported. The website was flooded with requests from multiple computers, and remained offline until around noon Dec. 27.

Deputy City Manager Tony St. Romaine said it's not possible to prevent such an attack from happening, but there are ways to mitigate it, at a price. St. Romaine previously said an online post indicated the group Anonymous was taking credit for the attack, although he can't be certain the loosely organized network of activist hackers is to blame. The online post in the Counter Current News said Columbia's website was targeted after the hackers learned of a video of a February 2010 SWAT team raid of a man's home. The SWAT team found a misdemeanor amount of marijuana and shot two dogs in the home, killing one. Release of the video sparked outrage and spurred changes in police policies and procedures.

St. Romaine said there was no cost involved in the outage because salaried staff worked to fix it. But he said it was an inconvenience to those wanting to visit the website, which includes city documents, bill-paying options and other functions.

St. Romaine said there are services that guarantee to keep websites operating. The annual cost estimates have been between $50,000 and $100,000.

Prasad Calyam, assistant professor of computer science at the University of Missouri, said many companies are turning to cloud solutions for website hosting, and those include content delivery networks. A content delivery network also can improve access speed when a website is not being attacked, he said.

St. Romaine said content delivery networks are among the options the city is considering.

HERE ARE SOME OF THE HOT ISSUES BEFORE THE MISSOURI LEGISLATURE:

State budget: Gov. Jay Nixon will unveil his 2016 budget proposal when he makes his "State of the State" speech to the House and Senate on Jan. 21. In a strategic move, legislators plan to put consideration of it on a fast track. By sending the budget to the governor by mid-April, they would have time to consider any vetoes before they adjourn in mid-May. Legislators also may try out new powers that allow them to override budget withholdings, just as they would a veto. They are frustrated because Nixon is still blocking about $700 million in expenditures in the current budget.

Education: Legislators will try again to pass a bill fixing the school transfer law and providing alternatives for students in failing districts. One proposal, by Rep. David Wood, R-Versailles, would accredit individual schools rather than entire districts and let students transfer to accredited buildings in their home districts as a first option. It does not include a private school option, which triggered Nixon's
veto of last year's fix.

**Capital improvements:** Legislators last year authorized $600 million in state bonds. Nixon wants legislators to approve spending the money for various projects, including $200 million for public colleges and universities. Under his proposal, the University of Missouri would get the largest chunk of the higher ed money: $95 million.

**Ethics:** Ethics legislation is on the agenda this year, according to legislative leaders. But exactly what might pass is hard to tell. Republicans have filed proposals to cap or ban lobbyists' gifts to individual legislators, require legislators to wait two years after they leave office to become lobbyists, and increase transparency by requiring entities such as nonprofit corporations to list their donors if the entity spends more than 25 percent of its annual budget to influence elections. Some Democrats will also try to limit campaign contributions but that is unlikely to fly.

**Health care:** GOP leaders say Missouri won't expand Medicaid to cover the working poor. But they want to tackle Medicaid reform, which could include broadening the use of managed care and fixing the state's enrollment system problems. Another legislative priority would allow specialists to mentor primary care physicians through interactive teleconferencing. Nixon vetoed $1.5 million for that new program this year.

**Taxes:** Senate President Pro Tem Tom Dempsey, R-St. Charles, said he doesn't expect an income tax cut to pass this year since "the one we passed last year, we haven't even had the first phase-in" yet. But legislative leaders hope to enact a law requiring the Department of Revenue to notify businesses when sales tax laws change. Numerous tax credit bills also have been filed, with some adding new incentives and others paring back the subsidies.

**Abortion:** Abortion is not expected to take center-stage this year since Missouri last year tripled the waiting period before women can have an abortion. Still, anti-abortion groups support a measure requiring the state to conduct annual inspections of abortion clinics and Rep. Rick Brattin, R-Harrisonville, has drawn national attention for a bill that would require pregnant women seeking abortions to obtain the written permission of the father.

**Highways:** Raising billions of dollars to rebuild Interstate 70 and repair other roads and bridges could draw debate, though legislators may be gun-shy since state voters in August defeated a plan to increase the state sales tax for road improvements. A recent Missouri Department of Transportation report said funding minimal I-70 repairs with tolls would require motorists to pay $20 to $30 to travel one-way across Missouri.
JEFFERSON CITY, Mo. • Missouri's legislative leaders have proclaimed 2015 as the year they'll rein in lavish gifts from lobbyists and increase accountability for unchecked campaign donations. But even as lawmakers make a renewed push for ethics bills that have met little success in previous sessions, political scientists question how much will actually change.

"Coming up with real, meaningful ethics reform that could get majority support in both the House and Senate is just unlikely," according to Missouri State University's George Conner, who heads the political science department. Marginal reforms could pass, he said, but none addressing "the root of the problem of money in Missouri politics."

State Rep. Jay Barnes, a Jefferson City Republican, has called the state's ethics laws "the weakest in the country," and other lawmakers from both parties have said more needs to be done.

The momentum follows an October article in The New York Times claiming state Attorney General Chris Koster is one of many across the country influenced by lobbyist gifts and donations from companies facing lawsuits from his office. Ethics also popped up during the November elections, when Missouri's largest political donor, Rex Sinquefield, and Democratic U.S. Sen. Claire McCaskill each funneled hundreds of thousands of dollars to candidates and causes.

Currently in Missouri, contributors can funnel an endless amount of cash to candidates and political committees as long as it's reported publicly. And there are no limits on how much lobbyists can spend on gifts, meals and trips for public officials. Lawmakers can even switch to lobbying as soon as they leave office.

At least 28 bills have been filed so far to address concerns — with proposals ranging from capping campaign donations, "cooling-off" periods after leaving office and limits or bans on lobbyists paying for legislators' hotels and out-of-state trips.

But elected officials have promised change for years with little success: Bills introduced in the past two sessions rarely made it out of committee, and some didn't even receive a hearing. It'll take a "major scandal" to enact change, says University of Missouri-Columbia political science professor Peverill Squire.

Gov. Jay Nixon threatened in late 2013 to push a ballot initiative on campaign contributions if lawmakers failed to pass legislation with new limits and again called for reform during his 2014 State of the State address. Spokesman Scott Holste said Nixon in 2015 will again take "a firm position on the need for reform in Missouri's campaign contribution law."

Senate President Pro Tem Tom Dempsey said partisan politics also decreases the chances of ethics bills passing.

Democrats want to reinstate campaign contributions limits, which were repealed in 2008. But many Republicans say the amount of money donors give isn't a problem as long as that information is posted publicly.

"Back when we had limits, you didn't really stop the flow of money into campaigns," said Rep. Todd Richardson, R-Poplar Bluff, who will be the House majority leader when the 2015 legislative session begins Wednesday. "You really just obfuscated the source of it."

Proposed bans or limits on lobbyist gifts would help, Conner said, but attacking the influence of money in politics is less effective if done in bits and pieces.
Ballot initiatives that come from citizens have a better chance of success, Connor and Squire noted. To that end, an omnibus initiative to amend the Missouri Constitution to limit campaign contributions and lobbyist gifts has been approved for circulation, and another is open for public comment.

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Associated Press writer David A. Lieb contributed to this report. Follow Summer Ballentine at: https://twitter.com/esballentine

COLUMBIA MISSOURIAN

Digging into salamander populations yields new perspective
Monday, January 5, 2015 | 6:00 a.m. CST

BY ROSE MCMANUS

COLUMBIA – When Katie O'Donnell put on her first pair of heavy duty knee pads and crawled through Missouri forests in 2010, she found more than she was looking for.

Grubbing in the leaves for red-backed salamanders was part of an MU research project that concluded there were far more of the amphibians that previously believed in forests of the Missouri Ozarks.

The researchers estimated red-backed salamander populations were up to two to four times higher than previous estimates. Salamanders were described as one of the largest sources of food of all vertebrates in the forest when previous population studies were published in the 1970s.

O'Donnell, a graduate student at MU, helped with the research and statistical analysis. The results, coming from samples collected by O'Donnell in 2010 and 2011, are a closer estimate than the earlier research.

"There's been this trend to tackle the issue of imperfect detection," O'Donnell said.
The research involved in-depth sampling and statistical methods not used in the past, which contributed to the higher and likely more accurate estimate, O'Donnell said.

In the previous study, salamanders were counted when seen, and plotted on a grid to estimate abundance. The new study took into account factors such as the nocturnal nature of salamanders and their tendency to live underground, O'Donnell said.

"Oftentimes when people are looking for salamander, they only look under natural cover objects," O'Donnell said, which neglects leaf litter and other places the amphibians tend to hide.

During the research, conducted in the spring and fall of 2010 and 2011 in the Mark Twain National Forest about 130 miles southeast of Columbia, O'Donnell manually counted sightings at test sites by uncovering rocks and digging through leaves. The new estimate is considered more accurate partly due to this diligence.

Ray Semlitsch, an MU biology professor who led the research, said salamanders provide food for other creatures such as birds, raccoons, snakes and other mammals and reptiles. Salamanders, on the other hand, have an appetite for insects.

High salamander populations likely mean greater control of leaf-litter invertebrates, such as spiders and termites, which can increase carbon content in the air if uncontrolled, Semlitsch said. Salamanders and other amphibians also assist in soil enrichment, he said.

Many of these benefits are still speculative, Semlitsch said.

"We can't really say what the role of salamanders are based on this study," Semlitsch said. "It's just an enormous amount of biomass out there."

The southern red-backed salamander is 2 to 4 inches long and marked by a red or orange stripe down the back. It can be found in forests hiding under rocks, moss, fallen trees or leaves.

Jeff Briggler, state herpetologist for the Missouri Department of Conservation, said the study does not indicate an increase in salamander populations over time, but it does give a more accurate estimate of the amount of biomass that has always been out there.
"It's not that they're increasing in numbers," Briggler said. "We really don't have a handle on how many are out there."

Salamanders rely on moist environments so amphibian populations are often reflective of environmental stress, Briggler said. Because of this, strong populations of salamanders can indicate a healthy habitat.

Briggler said the exact role of salamanders within the ecosystem is not fully understood. The biomass estimate gives insight to how many other forest species may rely on salamanders in some way.

"We're just now learning more about these types of roles," Briggler said.

Due to their small size, salamanders are not often perceived as a major source of biomass. The results from the research, which estimate the total biomass of red-backed salamander rivals that of white-tailed deer in the region, may change this perception.

"As part of the food chain, these little salamanders are very important," Briggler said.

Healthy salamander population estimations also soothe concerns of a declining population, Semlitsch said.

"There's potentially going to be another round of declining amphibians worldwide," Semlitsch said. "When major species disappear from forest ecosystems, I would speculate there would be an effect."

The large amount of biomass indicates salamander populations play an important role in the forest ecosystem, Briggler said, making conservation efforts important.

Acknowledging salamanders as a main food source for forest populations may drive research and conservation efforts, Semlitsch said.

Future research on the effects of salamander biomass is necessary to obtain insights on the importance of the salamander population in forest ecosystems, Semlitsch said. "This is a small piece of a puzzle that we need to understand."
FROM READERS: Douglass students learn through community involvement

Monday, January 5, 2015 | 6:00 a.m. CST
BY SKYLER HUFF/MISSOURIAN READER

Skyler Huff is an intern for the MU Office of Service-Learning. She also is the vice president of public relations and social media for the National Society of Collegiate Scholars.

COLUMBIA — For the staff at Frederick Douglass High School, a community partner of the MU Office of Service-Learning, it’s about more than getting students to graduation. It’s about actively engaging students in their education and providing them with the skills necessary to succeed, not only in school but also in the future.

A major part of this initiative by FDHS is partnering with community organizations to provide opportunities for students to learn and get involved outside of the classroom. From volunteering to job shadowing to community-funded projects, students are being exposed to real-world experiences that are better preparing them for college, technical training, jobs or community roles.

“These partnerships are creating opportunities for students to learn by doing and be recognized for doing,” says John Reid, biology and outdoor science teacher. “Students are learning communication and social skills that allow them to get along with each other and authority figures better, which will also help them interact better in other school and job environments.”

FDHS Principal Eryca Neville began building community partnerships three years ago and has seen an immense interest from the community that continues to grow.

Columbia Center for Urban Agriculture (another community partner of MU’s Office of Service-Learning) allows students to help with their community garden and also provides aid to FDHS’s own garden. Several Rotary clubs within the city adopted the school and provide mentors, speakers, funded field trips and more. The District helps
finds after-school jobs for students. Columbia Parks and Recreation develops service projects that are aided by students. PedNet Coalition donated quality used bikes for student after school, field trip and volunteer use. Lucky’s Market donates food items, planting seeds for the school garden and time from generous employees.

That’s just to name a few.

“Neville has been great at opening up the school to the community,” Reid says. “There are a lot of people who have helped and are interested in helping in the future.”

To show appreciation for support received, FDHS hosts an annual Thanksgiving dinner for all students and their relatives, staff, and current and potential community partners.

This year’s Thanksgiving dinner was held on Tuesday, Nov. 25. Several organizations donated food to the event: pork from Patchwork Family Farms; greens from the Columbia Center for Urban Agriculture; turkey, sides and dessert from Bulldog Barbecue and Burger (FDHS’s student-run catering and cooking class); dessert and volunteer service from Lucky’s Market; and several dishes and desserts made from sweet potatoes and herbs out of the school garden.

Reid says that for bringing in families and community members, the Thanksgiving dinner is the most successful event FDHS hosts throughout the year.

“It’s our way to give back and make student’s families and the community feel welcome,” Reid says.

And it appears to do just that.

“It’s a good thing to know that it’s like family here,” FDHS student Dasia Evans told the Columbia Missourian at the time. “It’s not like other schools.”

Dedan Githegi, FDHS internship and community supervisor, says that this year’s dinner had a turnout upward of 217 people.

“It was a great opportunity to meet parents of our students and give thanks for those who work with us in our school, whether it’s students, staff or community partners,” Githegi says.

The next big community partnership event for FDHS will be its annual job fair on April 8. Volunteers from Columbia Rotary clubs teach students resume writing and interview
skills, and also provide dress code tips. Local businesses are present to provide a place for students and parents to seek a variety of positions in one accessible location.

“Events such as this are important to us because it makes the school relevant to the area and to the students that we serve and their families,” Githegi says.

Dr. Anne-Marie Foley, director of the MU Office of Service-Learning, agrees and says that serving the Douglass Park area is vital, particularly for MU’s campus.

“I’m always excited when MU students work with organizations in the Douglass Park area and by everything they have to learn by working with the remarkable programs at Frederick Douglass High School,” Foley says. “The Douglass Park area is the closest neighborhood to MU and, for me, that’s very powerful. Being in higher education is one of the most privileged places we can be, but right next door are students in great need. That’s why the Douglass Park message has been really important to me for a very long time.”

If you’re a community organization interested in partnering with Frederick Douglass High School, please contact Dedan Githegi directly at 573-214-3680. To learn more about how you can serve FDHS as a service-learner, please contact the MU Office of Service-Learning by phone at 573-882-0227 or by email at muserves@missouri.edu.

Health risks from West Lake Landfill still unclear

January 03, 2015 1:30 pm • By Jacob Barker

How dangerous is the radioactive West Lake Landfill?

To environmental activists and some nearby residents, it’s a disaster waiting to happen, now more than ever because of the underground fire in the adjacent Bridgeton Landfill.

Ask executives at Republic Services, the waste management giant that owns the landfill, and they’ll tell you the waste is contained, the fire is under control and even if it did move into West Lake, it wouldn’t spew radioactive material offsite.

Government regulators haven’t clarified the situation much.
The U.S. Environmental Protection Agency, which oversees West Lake, admits it has to get better information about the radioactive waste to fully understand the risks.

From what it knows now, the fire could “create conditions” that spread particulate matter from the landfill, according to a March EPA memo. However, EPA Region 7 Director Karl Brooks says the agency doesn’t think any gas or steam would contain radioactive material except for radon gas.

So far, he said, the radioactive material hasn’t moved off site.

“It’s really important to emphasize that, because people need to know,” Brooks said.

The official EPA report says the waste is made up of 8,700 tons of barium sulfate residue left over from uranium processing at Mallinckrodt that was mixed with 39,000 tons of fill dirt. Most of the radioactive components come from uranium isotopes, and there is a high ratio of thorium-230, a more dangerous thorium isotope that comes from uranium ore processing.

Both of those atoms are very large and very heavy, and they tend to stay put, especially if they’re intermixed with soil, said Bob Skinner, a former radioactive waste specialist at the Idaho National Laboratory. Temperatures from a fire would have to be over 1,000 degrees Fahrenheit to turn them into more mobile liquids or gases, he said.

The smoldering Bridgeton Landfill only gets to around 300 degrees, and fires 20 years ago reached about 800 degrees. Then, there was little publicity or concern about those fires, said a recent Missouri Department of Natural Resources report. “The chances of that atom getting up and going airborne at the temperatures you’re talking about are almost nil,” Skinner said.

Justin Walensky, an assistant chemistry professor at the University of Missouri-Columbia who studies uranium, thorium and other radioactive elements, agreed that larger atoms tend to be harder to move, especially through the air.

However, the daughter products from uranium decay, such as radon and radium, are more mobile and can cause cancer if inhaled or ingested. They don’t last as long as the larger uranium and thorium isotopes, which would put off radium and radon for hundreds of thousands of years while they decayed. But they still last long enough to pose the risk of exposure, Walensky said.

“If there’s a fire and it’s going to burn things off, they’re going to be much more dangerous,” he said.

The EPA has said a fire would release more radon, but compared to dealing with the migration of uranium processing waste, it “would be a much more manageable response for this agency and one there are control technologies to deal with,” Brooks said.

Moving the contaminants through groundwater, however, is another issue, one even the EPA has said is a concern.

A fire could cause decomposing waste to release more contaminated liquid in West Lake, like it is doing in the Bridgeton Landfill. The EPA says that could move more material into the groundwater.

Both Skinner and Walensky said the water would typically have to be moving quickly in order to move the larger atoms. However, Walensky said research has shown there is a risk they can move via groundwater.

“Groundwater is definitely the way of uranium transport and any other nuclide transport,” Walensky said.
A recent groundwater report from the U.S. Geological Service found radium in groundwater below the landfills at levels above federal health standards. However, the USGS said it couldn’t determine whether the radium came from the landfill radioactive waste.

But some contend the waste is worse than the EPA believes, possibly mixed with contaminated soil from another radioactive cleanup site in the area. The EPA and Missouri Department of Natural Resources agree more study is needed.

“The waste needs to be better characterized in the first place so we have a little better idea what we’re dealing with,” said Bob Criss, a professor of earth and planetary sciences at Washington University who follows the situation.

After that, many want to see a full-scale risk assessment from the EPA that takes into account a landfill fire. The lack of a fire risk assessment has been a persistent criticism from some groups.

While the EPA says quantifying that risk is difficult, Brooks said that sort of risk analysis can take place once the agency chooses a remedy.

“That is the place where those factors get considered, when you design the actual remedy and begin to install it,” he said. “So it’s not as if they will never be considered.”

While the community waits on the EPA to make a decision on a final remedy, both Walensky and Skinner agreed that leaving the waste where it is and encapsulating it, or completely enclosing it, makes more sense than excavation and removal.

“If you just encapsulate it, that would be the easiest thing,” Walensky said. “I think I would be more concerned if you disturbed it and you started scooping everything out.”

Scientists work to chip away at challenges chocolate farmers face

By Jan Wiese-Fales

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Stockings hung by the chimney with care on Christmas Eve were fat with little surprises and our favorite treats on Christmas morning. Invariably, stocking stuffers include chocolate, one of the Fales family’s and all of man and womankind’s best-loved indulgences.

Because chocolate luxuriously stimulates and engages a variety of senses with its fragrance, flavor and texture, Swedish botanist Carl Linnaeus bestowed the botanical name Theobroma cacao on the plant, which literally means “food of the gods.”
Small clusters of flowers that spring from the evergreen cacao tree’s trunk are pollinated by small flies, although most do not receive adequate pollen to produce fruit. Those that do develop into roughly 10-inch, football-shaped pods that contain 30 to 40 seeds surrounded by a bittersweet white pulp. Seeds, or beans, are extracted, fermented and roasted and used to make the cocoa liquor, butter and powder that become ingredients for the various chocolate products that both the gods and we mortals know and love.

Cacao trees grow only in a narrow band that is roughly 20 degrees north and south of the equator. Native to Colombia, Ecuador, Venezuela, Brazil, Guyana, Surinam and French Guiana, cacao also has been introduced as a crop plant into tropical Asia and Africa. Today, about 70 percent of the world’s cacao is grown in Africa.

Historically, cacao cultivars have been categorized into three groups: The Forester group grown in Brazil and Africa accounts for the lion’s share of commercial production; the Criollo group — purported to be the source of some of the finest chocolate — is grown in the Caribbean, Venezuela, Ecuador and Papua New Guinea; and the Trinitario group, which is a hybrid of the two. There is local and regional variation among these groups, and combining their beans adds rich complexity and depth to chocolate’s flavor.

But all is not perfect in cacao land, and factors in both the consumption and production of chocolate have raised red flags for the confectionary’s future.

Increased wealth in countries such as China and India has given rise to new and emerging markets for our favorite treat. Also putting pressure on production is an increased preference for dark chocolate, which contains a higher percentage of cacao.

Cacao trees prefer rich, well-drained soil, heat and humidity. The latter two, as those of us who aspire to grow fruit trees in Mid-Missouri well know, are come-hither invitations to fungi.

The fungal disease frosty pod rot has devastated crops throughout Latin America since 1978. And another fungal infection, witches’-broom, was discovered in Bahia, Brazil, in the late 1980s and has reduced production by 80 percent. Because cacao is largely grown by small family farmers who do not have the means or time to seek out disease-resistant varieties and replant — it takes two to five years for a tree to produce fruits and as long as 10 years to realize a tree’s true potential and sufficiently propagate it — production has decreased. Farmers are replacing their cacao trees with other crops or giving up and moving to town.

And, according to the 2007 Report of the Intergovernmental Panel on Climate Change, Africa, which has so far dodged the aforementioned fungal diseases, might experience a 50 percent reduction in rain-fed crops, including cacao, by 2020.

But science and education are fighting back. Cacao’s genome was sequenced in 2010 so that gene variants in fungus-resistant plants can be identified and desirable traits in newly developed varieties can be instantly confirmed. But, as Ed Seguine of Seguine Cacao Cocoa & Chocolate Advisors shouts out to the cacao industry, these efforts must not sacrifice flavor in favor of drought and fungal resistance!
I had the considerable pleasure of hearing Seguine speak at the University of Missouri last spring. An expert on chocolate flavor with more than 30 years of tasting experience, Seguine likens the experience of eating chocolate to that of a symphony, and he is doing everything in his power to sustain the refrain.

Additionally, a $40 million program administered by the World Cocoa Foundation is working to educate and improve the livelihoods of Africa’s 200,000 cacao farmers, and breeders such as frosty pod expert Wilbert Phillips-Mora have discovered flavorful, disease-resistant varieties in Central America.

For an in-depth look into the issue of chocolate’s peril, you can view Mark Schatzker’s November 2014 Bloomberg Pursuits Magazine article, “Chocolate: Can Science Save the World’s Most Endangered Treat?” — the source of some of the previous information — online at bloomberg.com.