The University of Missouri System is paying just shy of $500,000 for its expansive consulting contract with the National Center for Higher Education Risk Management for help creating policies and training for Title IX practices systemwide.

Under the yearlong contract, which went into effect in mid-July, the National Center for Higher Education Risk Management is to be an adviser for the university and the system’s sexual assault and mental health task force.

The task force was created by UM System President Tim Wolfe earlier this year and charged with taking inventory of resources on system campuses, investigating campus policies and possibly finding areas for improvement.

The National Center for Higher Education Risk Management, a Pennsylvania-based law and consulting practice that represents 35 schools across the country, asked for a flat $495,000 fee, which is broken down by services provided in the contract. The flat fee covers the cost of expenses, including several dozen on-site visits from the firm’s administrators.

In addition to acting as a consultant for policy development, the center also is responsible for helping the university develop Title IX training for investigators and mandated reporters, which is all faculty, staff and students across all four campuses and the system.

Title IX, a provision in the Education Amendments of 1972, prohibits sex discrimination in education. That extends to instances of sexual violence, which the U.S. Department of Education views as a form of sexual harassment.

According to the contract, $150,000 of the fee covers consultation, and the remaining $345,000 covers on-site training and prevention and education efforts. Those efforts include focus groups and the center’s help developing the Spring 2015 campus climate survey.

Documents received via a records request show the university has paid the firm’s $40,000 retainer fee as well as the first $165,000 installment. A second installment at the same price is
due next month. The final two installments — one due Dec. 31 and the second due July 1 — are $82,500.

The university paid an additional $10,000 for consultation specifically related to mental health. The contract shows that each campus will receive five hours of phone consultation time from the center at $500 per hour.

National Center for Higher Education Risk Management President Brett Sokolow said that the UM System’s contract is “among the biggest contracts” the center has. Considering the UM System is four universities and the system combined, Sokolow said they are paying “less per service than other universities.”

UM System Spokesman John Fougere said the contract with the center is too unique and comprehensive to compare with other advisory contracts.

“President Wolfe decisively indicated several months ago that, as our state’s land-grant public higher education institution, it was imperative that our four campuses set a national example concerning how we address the societal issue of sexual assault, and that we would provide additional resources including funding from the UM System budget, to meet that commitment,” Fougere said in an email.

Sokolow commended the UM System’s effort to tackle the Title IX training and policy issues from the system level down, as opposed to having the campuses implement the efforts individually.

“Without that system-level guidance, it’s way more difficult,” he said.
The Forum on Ferguson, hosted by MizzouDiversity, will be open to the community. It begins at 6 p.m. Tuesday in Room 7 of MU’s Hulston Hall. The forum is intended to foster respectful conversation, explore the historical context of Brown's death and examine the role of the media.

The forum will include experts from community leaders and MU's schools of law and journalism. Zakiya Adair, an assistant professor in MU's Department of Women's and Gender Studies, will moderate the discussion.

"My hope is that this serves as a catalyst for continuous dialogue for the University of Missouri's campus and Columbia," Adair said. "I think this event will provide a space for respectful and informed dialogue on racism and sexism."

The event will be live-streamed at the Forum on Ferguson website so those who cannot attend will be able to listen in.

Forum on Ferguson will occur one month after Brown's death, which provides the opportunity to give a 30-day report.

Adair said when difficult dialogues such as this occur; it provides a space for change.

"Informed people can be powerful agents for positive change in a society," she said.

---

**Washington University lands top spot in U.S. News ranking**

Washington University in St. Louis ranked at No. 14 in the U.S. News & World Report's annual ranking of the top national universities, which was released on Tuesday.

According to the report, Washington University, with total enrollment of 14,032, had a Fall 2013 acceptance rate of 15.6 percent, an average freshman retention rate of 97 percent, and a 6-year graduation rate of 94 percent.
Saint Louis University and the University of Missouri in Columbia tied for the 99th spot on the list.

Other local institutions that made the national list included:

- Missouri University of Science and Technology in Rolla, coming in at No. 138
- Maryville University of St. Louis, at No. 156
- Southern Illinois University-Carbondale, at No. 189

Princeton University topped the list once again, with Harvard University, Yale University coming in at the No. 2 and 3 spots, respectively, and Columbia University, Stanford University and University of Chicago all tied for the No. 4 spot.

**U.S. Science Suffering From Booms And Busts In Funding**

by RICHARD HARRIS and ROBERT BENINCASA

September 09, 2014 3:03 AM ET

NO MU MENTION

Ten years ago, Robert Waterland got an associate professorship at Baylor College of Medicine and set off to study one of the nation's most pressing health problems: obesity. In particular, he's been trying to figure out the biology behind why children born to obese women are more likely to develop the condition themselves.

Waterland got sustaining funding from the National Institutes of Health and used it to get the project going.

But, after years of success in this line of research, he's suddenly in limbo. His NIH grant ran out in 2012 and he hasn't been able to get it renewed.

"We're in survival mode right now," he says.
His research can't move forward without funding. And he has plenty of company. Nationwide, about 16 percent of scientists with sustaining (known as "R01") grants in 2012 lost them the following year, according to an NPR analysis. That left about 3,500 scientists nationwide scrambling to find money to keep their labs alive — including 35 at the Baylor College of Medicine.

The root cause is plain, and it's not just about a current shortage in funding: The NIH budget shot steadily upward from 1998 to 2003. That spawned great jubilation in biomedicine and a gold-rush mentality. But it didn't last. Since 2004, the NIH budget has decreased by more than 20 percent. (That's not counting the hefty two-year bump the budget got from stimulus funds via the American Recovery and Reinvestment Act of 2009.)

Grants are the lifeblood of university research. Scientists rely on that steady stream of cash to hire staff, buy equipment and run the experiments. Their results help propel innovation, medical advances and local economies. Academic research is a major reason the United States remains a leader in medicine and biotechnology; but the future is uncertain.

"If I don't get another NIH grant, say, within the next year, then I will have to let some people go in my lab. And that's a fact," Waterland says. "And there could be a point at which I'm not able to keep a lab."

He notes that the hallway in his laboratory's building is starting to feel like a ghost town, as funding for his colleagues dries up. He misses the energy of that lost camaraderie.

"The only people who can survive in this environment are people who are absolutely passionate about what they're doing and have the self-confidence and competitiveness to just go back again and again and just persistently apply for funding," Waterland says.

He's applied for eight grants and been rejected time and again. He's still hoping that his grant for the obesity research will get renewed – next year.

Baylor College of Medicine is suffering more than most. Its NIH funding dropped from a peak of $252 million in 2002 to $184 million in 2013. But there are many other schools in the same fix. The University of Virginia, for example, regarded as one of the top public universities in the nation, watched its NIH funding shrink from a peak of $159 million in 2005 to $110 million in 2013.

Take Dan Burke, a professor of biochemistry and molecular genetics, who is one of about 30 scientists at U.Va. who lost their sustaining grants between 2012 and 2013. Until that point, he'd had continuous funding since 1987 to conduct studies about the basic mechanics of DNA. He has had to fire his lab staff and is planning to close his lab.
It seemed like great fortune when the NIH budget soared more than a decade ago.

"Unfortunately, lot of research institutions and medical schools were hogs to the trough," Burke says. "They hired a lot of people and built a lot of buildings with the expectation that that would continue. And when that flattened off, and started losing money to inflation, the institutions were essentially bloated."

His institution sought to cash in on those boom times. U.Va. doubled the amount of biomedical laboratory space on campus between 2007 and 2013 — from 233,000 square feet to 416,000 square feet. Funding for some of that expansion was supposed to come from the grants that its scientists garnered.

The university touted plans to add 700 new scientists and support staff to fill these labs. Instead, last year U.Va. eliminated more than 300 jobs — many held by highly skilled workers — as funding for biomedical research sank. New labs built to handle dangerous germs and small animals are now lightly used.

"The U.Va. swings in overbuilding or unused space for specialized facilities really have been extremely moderate, compared to the scaling that occurred either at larger institutions or at some of the large private medical centers," Tom Skalak, vice president for research at U.Va. told NPR. To help close the budget gap, the university has raised tuition. (The commonwealth of Virginia now provides only 10 percent of its flagship university's funding.) Skalak defends using tuition to help pay for new laboratories, saying undergraduates can enhance their education by working in a lab.

The University of Virginia's building boom was twice the national average. Nationwide, National Science Foundation data show that universities have expanded laboratory space by 50 percent in the past decade, expecting a funding boom that turned out to be a bust.

In absolute terms, there is still a lot of money for biomedical research — the NIH budget is about $30 billion a year. But with the doubling and subsequent decline in funding, supply and demand are completely out of whack.

"It's an unstable system," says Paula Stephan, a labor economist at Georgia State University. "It really depended on funding growing and growing and growing. And so we need to find some way for it to reach equilibrium."

Many scientists hold out hope for a simple solution: more money. But the current U.S. Congress has no appetite to spend more — even on health research that has broad, bipartisan public support.

So a group of leading scientists is trying to figure out how to repair the hobbled biomedical enterprise without a cash infusion.
"We have to remember that this is a fragile system," says Dr. Harold Varmus, who was head of the NIH when the funding doubled; he now runs the National Cancer Institute. "'Do no harm,' the doctor's mantra, is very applicable here," he says. Varmus is helping to organize a major summit meeting on this funding crisis, to be held later this year.

"We have a system that has worked well in the past, that has made the U.S. the leader in biomedical research worldwide," Varmus says. "And while I don't think we've lost that yet, we do see a rising tide in lots of places."

By The Numbers: Search NIH Grant Data By Institution

by ROBERT BENINCASA, RICHARD HARRIS and ALYSON HURT
September 09, 2014 3:03 AM ET

Editor's Note: The following interactive charts help illustrate a series of stories we’re featuring on the radio and in Shots this week by Richard Harris on National Institutes of Health funding of scientists. You can hear his audio pieces on Morning Edition and All Things Considered throughout the week.

Funding for the National Institutes of Health soared between 1998 and 2003, which created a gold-rush mentality in biomedicine. But it didn't last. Since 2004, the NIH budget has dropped by more than 20 percent (not including federal stimulus money).

As a result, universities have been left with empty laboratory space, increased competition for research dollars and an inevitable downsizing as some scientists leave the profession. Search the interactive below the first chart to see how individual institutions have fared:

Cargill Launching Data-Analysis Service for Farmers

Will Challenge DuPont, Monsanto in Bid to Advise on Planting, Fertilization, Pesticides

Cargill Inc. is developing a software service that guides farmers on how to plant crops, a foray that pits the agricultural conglomerate against a host of rivals seeking to harvest reams of data to sell "prescriptive planting" technology in North America.

Cargill began selling the service in two U.S. states this summer and plans a broader push over the next several years as it seeks to help farmers produce larger crops and navigate weather shifts, officials said.

The tool, called NextField DataRx, will compete with data-analysis services from companies including Monsanto Co. and DuPont Co., which seek to apply new number-crunching techniques...
to the age-old variables of raising crops, including soil content, seed type and temperature fluctuations.

"We're trying to help farmers maximize their [return on] investment and the output of their farm," said Steve Becraft, crop-inputs manager for Cargill's AgHorizons division, which sells farm supplies like seed and pesticides as well as advisory services to farmers in the U.S. and Canada.

Cargill—a buyer of corn, soybeans and other crops that is among the world's largest grain traders and processors—estimates the new service could help farmers increase the bushels they harvest from each acre of corn by 5% to 10%.

The service will help farmers pick seeds best suited to the nuances of their land, drawing from a database detailing performance of seed companies' products in various types of soil and environmental conditions. It can gauge how many plants a particular field can support and the pesticides best suited to fend off insects and fungus, Cargill says.

The service evaluates about 250 different variables to tailor farming strategies to swatches of farmland as small as 60 by 60 feet, said Mr. Becraft.

Cargill declined to specify how much it charges farmers for the service, which it introduced in Minnesota and South Dakota this year.

Seed companies and independent software firms have bet big on prescriptive-planting technology, with some backers saying the push could be as important as the development of mechanized tractors of the 20th century and the rise of genetically modified seeds in the 1990s.

Biotech seed maker Monsanto last year spent $930 million to buy Climate Corp., a San Francisco-based startup that models weather risks to farms. St. Louis-based Monsanto aims to build the unit into a broader data-services business.

Rival DuPont, based in Wilmington, Del., this year struck an agreement with the University of Missouri and the U.S. Department of Agriculture to develop deeper soil-content analyses that DuPont will integrate with its high-tech offerings. DuPont has estimated its data services could generate as much as $500 million a year in revenue over the coming decade.

Cargill, of suburban Minneapolis, represents a formidable new competitor. Its $134.9 billion in fiscal 2014 sales ranked it as the largest U.S. agricultural firm and the country's largest privately held company. The 149-year-old company has long advised farmers on farming strategies and the best time to sell grain. In 1996, Cargill began sampling soil and experimenting with applying different amounts of fertilizer to various fields, depending on how many nutrients the ground already held, Mr. Becraft said.

NextField DataRx represents a more information-intensive version of Cargill's advisory service, incorporating historical weather data, satellite imagery and farmers' own information.
The prospect of handing over years' worth of details on their farms to big agricultural companies has troubled some farmers. Some groups, such as the American Farm Bureau Federation, have voiced concern that seed companies could steer farmers to particular seeds and sprays, or recommend higher planting rates, to sell more products. Officials for DuPont and Monsanto have said they don't use farmers' information to price seeds and that farmers retain ownership of their data.

Still, those perceptions could give Cargill an advantage, according to Mike Boehlje, professor of agricultural economics at Purdue University in West Lafayette, Ind.—because Cargill's main business isn't developing and breeding seeds and other agricultural products. "They may have a better chance shaping those perceptions that they're independent," he said.

Cargill's role as a grain buyer could pose different questions for farmers, including the prospect that Cargill could use crop information gathered by the service to inform its grain-trading operations. So far Cargill is alone among major U.S. grain traders, such as Archer Daniels Midland Co. and Bunge Ltd., in rolling out its own data-analysis service.

Mr. Becraft said Cargill hasn't developed a trading strategy around such data and would seek farmers' permission if the company wanted to do so in the future.

COLUMBIA MISSOURIAN

Residents at violence forum ask for extracurricular programs, accountability by city officials

Monday, September 8, 2014 | 10:16 p.m. CDT; updated 7:33 a.m. CDT, Tuesday, September 9, 2014

BY SHIVIA HARDIMAN

COLUMBIA — Columbia residents called for more extracurricular youth programs at Monday night's forum on violence.

More than a third of Columbia Public Schools students are at the poverty line or below it, said David Thomas, a retired educator and a member of the Mayor's Task Force on Community Violence, which organized the Let's Talk CoMo: Violence forum. These youth are the most likely group to commit crimes, he said.
"Crime is always a juxtaposition of two cultures: privilege and neglect," said Carl Kenney, an MU journalism adjunct instructor and one of the forum's four panelists. The others were Mayor Bob McDavid, Kansas City Mayor Sly James and Darlene Grant, an assistant principal at Battle High School.

Monday's forum at the Columbia/Boone County Department of Public Health and Human Services, was the first of three this week.

Residents spoke about mentor programs, alcohol and drug abuse and gang violence. The central concern, though, was what tangible steps are city leaders taking to curtail the number of young people on the streets.

Mary Ratliff, president of the Missouri NAACP, wanted to know how this task force differed, if at all, from one set up in 1996, which she said did not follow through with residents' recommendations.

Thomas assured Ratliff that there will be a permanent task force to handle residents' recommendations. In an interview after the forum, Thomas said the current task force will submit its recommendations Nov. 15 to the Columbia City Council. The council will then commission a permanent task force to carry out those recommendations.

"Groups like this will help make sure our report doesn't go on the shelf," Thomas said at the forum.

After the initial remarks, the forum broke into four smaller groups to discuss elements of public safety: crime prevention, intervention, enforcement and community re-entry from prison.

The groups came to the consensus that the community needs more mentor programs and more activities to give young people a sense of purpose and a reason not to cut school.

"A person's behavior tells us what they need," Grant said.
One program mentioned specifically was the Missouri High Steppers. Although the organization has been around for more than 25 years, the group still struggles to find a space to practice, Grant said.

The task force collected all written recommendations from the forum to include in its Nov. 15 report.

The next forum will focus on soliciting parents' opinions, and it will be held at 7 p.m. Thursday at the Progressive Missionary Baptist Church, 702 Banks Ave. The final gathering will focus on young people, and it will be held 6 p.m. Friday at the Columbia National Guard Armory, 701 E. Ash St.

College savings on the rise as plans average $20K

By ANNE FLAHERTY

WASHINGTON (AP) — The good news is that Americans are saving more than ever for college. The bad news is that the average amount still isn't enough to cover one year at a four-year public university.

In a report released Tuesday, the College Savings Plans Network found that the average college savings or prepaid tuition account is now worth about $20,671 — almost double what these "529" accounts were worth during the dog-days of the recession.

Called a 529 after a section in the federal tax code, these investment accounts are popular because the money grows tax-free and withdrawals aren't taxed so long as the money is used for college expenses.
The group, which tracks the state-sponsored savings plans, attributes the increase to several factors including a healthier stock market and improved economy, as well as greater consumer awareness of 529 plans and a growing concern among parents of the cost of higher education. According to the report, contributions to 529 plans jumped from $16.5 billion in 2009 to $22.5 billion.

At the same time, the $20,671 figure still wouldn't cover a single year at most schools. The average cost for a four-year public school, including room and board, is about $18,391 a year for in-state students and $31,701 for those from out of state.

Betty Lochner, chair of the College Savings Plans Network, said the latest finding is still good news because any amount saved is money that won't need to be repaid with interest.

"The steady increase of total assets, account size and contributions in 529 plans, are positive signs that Americans recognize saving for college as a long-term commitment and investment," Lochner said in a statement accompanying the group's report.

Overall, the group found that college savings and prepaid tuition plans have climbed steadily since 2008, when the country fell into a recession following the crash of the housing market. That year, the average college savings account dropped to $10,690. The nation had $104.9 billion in assets managed under the savings plans at the time.

As of June this year, the average savings account almost doubled to $20,671 with total assets topping $244 billion. The group noted a particularly sharp increase in the first half of this year: Between January and June, total assets in 529 plans grew by about $17 billion.

**Gavin King receives Innovation Award for building first 3-D force microscope**

King’s interest in science stemmed from tinkering with toys as a child.

By Stevie Myers

An MU faculty was among a team that received the Innovation Award from the Microscopy Society of America for work in developing the first 3-D microscope that allows scientists to study cell membrane proteins.
After three years of work, Gavin King, associate professor of physics and astronomy, and his team received the award. The team created an atomic force microscope, which uses a sharp needle to make a "topographic map" of a molecule by dragging it across the surface.

King compares this needle to the way a blind person would read Braille.

“A blind person would put their finger on a paper and read the bumps as they scan their finger across,” King said. “Basically, we do the same thing, except instead of using our finger, we use a really sharp needle. We take that needle and we put it on a surface with molecules of interest and as the needle goes over the molecule, we see the deflection on the needle go up and down — then we can measure that.”

Conventionally, a force microscope can only read one-dimensional motion by bouncing a laser off the back of the needle. King’s lab has built a microscope that is capable of “watching the lateral dimensions at the same time as the vertical to encapsulate the full three-dimensional space that the needle could be potentially reflected into,” he said.

The microscope isn’t just a mechanical device, but also a set of electronics and software, built from scratch.

King said his interest in science stemmed from tinkering with toys as a child.

“I think that growing up I was always curious about things,” King said. “I would like to take things apart and try to figure out how things worked. If someone had a new, fancy toy, the first thing I would like to do was take it apart and try to figure out how it works. That sometimes got me into trouble.”

King said he was first inspired to enter the scientific field after realizing he could combine his childhood passion with physics.

“It wasn’t really until I was an undergrad that I made the connection between my childhood interest in taking things apart to physics, which is one of the most fundamental of the sciences,” he said. “You take nature apart and try to figure out how it works. It basically wasn’t until then that I was like, ‘Hey, if I study physics, I can combine this cool science with what I actually just do for fun.’”

Another member of the team is Krishna Sigdel, a research associate in the physics and astronomy department who has been working in King’s lab since June 2011.

Sigdel also received the Innovation Award for working on the microscope.

“It is really great to be awarded by this very prestigious award from Microscopy Today,” she said. “We are thrilled to have received this award and being able to join in the renowned group of microscopy innovations.”
Both Sigdel and King said it is difficult to tell where this new technology will lead, since they are still in early stages of research.

“At this stage we are focusing on the fundamental research related to membrane protein studies,” said Sigdel. “I believe that this innovation will be able to get new insights into fundamental issues which is lacking in the field at present.”

King said the life of an academic scientist is rather nomadic. After studying in five states and receiving his doctorate at Harvard, King said he has enjoyed his time at MU.

“I like it here; it’s a really nice place to do work,” he said. “I like the physics department because there’s already a big effort on the ground here to study biophysics. Something that is special here at MU is that we have a significant biophysics effort in the physics department.”