



MU News Bureau

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ST. LOUIS POST-DISPATCH

Missouri State takes on Mizzou: 'We want to be the undergraduate choice for Missouri.'

By Ashley Jost St. Louis Post-Dispatch

SPRINGFIELD, Mo. • Missouri State University President Clif Smart has a clear goal.

“We want to be the undergraduate choice for Missouri. That’s our focus,” he says.

And his plan might be working. The Springfield, Mo., school has seen steady, continuous enrollment growth for 18 of the past 20 years. With more than 23,500 students last school year — 85 percent of them Missouri residents — Missouri State is the second-largest public university in the state.

Much of that growth is from the St. Louis region, where the school has snagged up 20, 30 and even 40 percent more students by county this year than four years ago, with St. Charles County showing the largest recruitment gains.

A fifth of Missouri State’s students now come from the St. Louis area.

Arguably, the school’s most recent gains have come at the expense of the University of Missouri-Columbia, whose enrollment has sunk following racial discord and leadership upheaval in 2015.

And in Smart’s view, it’s a recruitment rivalry that benefits the state.

“Students are shopping and picking the school that fits them best,” he said. “(Mizzou is) our major competitor. We’re going to try to sell that this is the best place in terms of cost, quality, student services, residence hall and sports — and so are they. That’s a great thing; it’s a free market.”

Affordability is perhaps Missouri State's biggest pitch.

The projected cost for a full-time undergraduate who takes 15 credit hours each semester is \$7,306 total for the fall and spring semesters. That includes fees for things like the campus gym, sustainability efforts and a student group that brings events to campus.

Among 12 public universities in the state, the Springfield school is the fifth-least expensive for in-state undergraduates and second-least expensive for in-state graduate students, based on tuition alone.

But Smart said the school's appeal also has something to do with its size when compared to its largest direct rivals.

"They talk about the smaller campus feel, the friendliness, the interaction with faculty and programming," Smart said. "Those are all important things as we close the gap in what going to the University of Missouri-Columbia is like and what going to the University of Arkansas is like versus what's going on here."

And yet, the appeal of being small is at odds with the booming student enrollment at Missouri State, which now must manage its growth or risk becoming a victim of it. The school, which is largely white, also faces the challenge of becoming more diverse.

It's a feeling

Andrew Nolan, 20, feels at home at Missouri State.

The soon-to-be junior, a vocal performance major, said he loves the excitement and the opportunity that comes with the "big city." He's from Mountain Grove, a small town an hour east of Springfield.

"It's charming because it's a little city of its own," Nolan said about the campus. He lives in student housing and works downtown at the popular 24-hour bakery Hurts Donut Company to pay for the "reasonable" gap in tuition and fees that he said isn't covered by scholarships.

He considered Mizzou, which also has a music program, but something about Missouri State “seemed better.”

That’s common when asking students, “Why Missouri State?”

It’s far enough to get away from home, but close enough to reconnect with family on the weekends.

Jaggar Deeds, 24, of Republic, Mo., enrolled as an undergraduate because he could afford it while continuing to work at Bass Pro Shop. He checked out Mizzou and the University of Missouri-Kansas City, but being able to live at home and save money made him choose Missouri State.

He has stayed, drawn to the chance to get his master of business administration degree, plus a second master’s in health promotions.

“It’s a big campus with a small, private campus feel,” he said.

For rising freshman Joseph “JT” Schuman, 19, of Chesterfield, the Mizzou legacy ran deep.

Schuman’s mom, dad, uncle and cousins all were Mizzou Tigers. He grew up at Memorial Stadium, wearing black and gold.

Earlier this summer, Schuman showed up in Columbia, sat through freshman orientation courses, built his schedule and even got his student ID card.

“He was so excited about going to Mizzou,” Tom Schuman, JT’s dad, said. “He got his ACT (score) up to get in, and he did. Then we’re driving back and I ask him, ‘What’s wrong?’ He tells me something isn’t right.”

JT Schuman calls it a “happiness feeling” that wasn’t there, and said that he would have regretted it. He visited Missouri State and the University of Central Missouri in Warrensburg and made up his mind.

Why Missouri State? “There’s just something about the environment here,” he said. His dad noted that the “feel” is more “down to Earth,” which fits his son well.

Managing growth

Smart and other Missouri State leaders point to 2005 as a turning point, when the campus changed names from being a directional school, Southwest Missouri State University, to simply Missouri State University.

“That has been hugely important for us,” the college president said. “Our foundation has more than doubled, grants have more than doubled. It’s just been a different game with recruiting students, international students and faculty. The whole profile of the university has changed.”

Branding is a major effort for MSU. Everything on campus is branded. The bottom of the campus pool sports the bear logo. One of the three bear statues on campus has its own Twitter account. Signs along the street let passers-by know they’re in Maroon Nation.

The campus has also orchestrated a construction boom, focused most heavily on modernizing existing buildings.

Off campus, meanwhile, developers are racing to add units for a student body that’s craving additional housing.

Bryan Magers, a developer who has been in the Springfield market for more than 30 years, is putting the finishing touches on Bear Village.

Bear Village is a 664-bed, seven-building apartment complex just west of campus. Room size varies from studios to four-bedroom, dorm-like suites. The last few buildings aren’t quite finished, but the complex is about 88 percent filled, with 40 spaces on hold for international students.

And every part of Bear Village screams luxury. Granite countertops, magazine-worthy decorations and furnishings, a pool equipped with a volleyball net and lounge chairs in the water. Magers is working on adding a dog park and a pavilion with multiple barbecue grills.

Magers opened the first building in 2012. Since then, other national developers such as Aspen Development Corp. and Denver-based Beacon Student Housing have joined in. They see potential not just with Missouri State, but with Drury and Evangel universities, plus Ozark Technical Community College.

“The more students that live near campus, the better the feel of the campus,” Smart said. “They’re more likely to walk to campus for concerts, speakers and events.”

It prompts a question, though: With construction on and off campus and a growing enrollment, does Missouri State’s appeal threaten its success?

Smart laughs a little at that idea.

“We’re not worried about it,” he said. “We’ve always tried hard to be true to who we are, and we’re going to work hard not to lose that feel as we grow — moderate pace growth.”

That tempered approach applies to on-campus student housing.

Smart wants to avoid what he sees as mistakes made at Mizzou, where multiple national developers added off-campus units even as the university poured money into on-campus dormitory upgrades and construction. [Mizzou has since had to mothball some of those dorms](#) because of falling enrollment.

Missouri State maintains just 4,100 beds, leaving about three-fourths of students to seek off-campus housing.

“I think, on the whole, we want to be very prudent on not overbuilding, not going too fast,” Smart said. “We’re kind of the tortoise in this race — slow and steady wins the prize. That’s kind of our growth plan.”

An experience not shared

As the Missouri State campus grows, however, the ratio of students of color has remained low.

Of the more than 23,500 students enrolled at Missouri State last year, 918 were African-American, 771 were Hispanic and 343 were Asian. Additionally, 775 students identified as being of more than one race.

University demographics for the 2016-2017 school year

Data provided by the schools does not add up to 100 percent of total enrollment because of international students, as well as some students who chose not to identify their race. But 80 percent of the students on campus are Caucasian.

Rising senior Jordan Ewing feels the gap.

Ewing, a Jennings native, picked Missouri State because of the distance from home and the sizable financial aid package. But staying hasn't always been easy.

"I don't see a lot of students of color when I walk around, not on campus or in this city," he said. Ewing sometimes regrets not going to a historically black school. The faculty and other students in the anthropology and sociology departments where he's double-majoring are among the reasons he stays.

He recalls a class during which there was a discussion about how people of color felt about a particular issue, and Ewing was the only person of color in the class. When he shared his opinion, a white man in the class stepped out because "he couldn't handle hearing my experience," Ewing said.

He also recalls being called racial slurs by someone driving by while he walked home one night.

"I didn't have any perceptions (about Springfield or Missouri State) before coming here," Ewing said. "My parents raised me to experience different personalities and cultures. But it's a culture shock coming from a classroom full of black students and going to a school where I'm frequently the only one there."

Jayla Battle, who will be a junior, has had a different experience.

Battle is from Manchester, and said her time as a student of color has been “welcoming.” It’s hard for her to hear that some of her peers don’t share her experience.

It’s an issue that concerns the college’s president.

Smart knows that racial strife could quickly undo the other gains at Missouri State. But he said the school has taken steps to avoid the kind of [upheaval seen at Mizzou in 2015](#), including a revamped effort to hire diverse faculty and staff. He said there’s an ongoing recruitment plan to bolster diversity among the student population.

On that point he expresses a level of confidence that also takes a dig at the state’s flagship school.

“Can something catastrophic occur? Can someone videotape one of my faculty members going off on journalists irrationally? Yes,” Smart said, referencing an incident in which [Mizzou assistant professor Melissa Click was infamously filmed denying media access](#) to student campus protesters. “But you’ve just got to believe you can manage through that kind of crisis without losing 35 percent of your incoming class.”

When a group of predominantly African-American students at Missouri State came to Smart and other administrators in 2015, shortly after the Mizzou protests, he said, they had a conversation about building a better climate on campus.

“That’s not to say everything is perfect. It’s not,” Smart said. “But our goal is that every student from every background, from the most progressive to the most conservative, feels at home and part of the Missouri State family.”

THE ST. LOUIS AMERICAN

Michael Middleton is 2017 Lifetime Achiever in Education

By Rebecca Rivas Aug 17, 2017

Michael Middleton said it was just in his bones to be a lawyer.

“Growing up in Mississippi in the ‘50s, that was when the movement was happening,” said Middleton, current interim president of Lincoln University and former interim president of the University of Missouri system.

“I saw lawyers making things happen. I could talk, and I could reason. I wasn’t a big guy, so I wasn’t cut out to be a fighter.”

The long-time professor and administrator at the University of Missouri said he gets his soft-spoken, gentle-mannered way from his father’s ancestors, who have a legacy of being Episcopal priests.

“I got this mix of a sort of subdued, calm priesthood and civil rights lawyer going for me,” Middleton said.

Put that personality in the middle of internationally watched nonviolent protests over racial disparities at Mizzou in the fall of 2015, and the results were what many had hoped.

“It was a time of great challenge for the university,” said St. Louis attorney Maurice B. Graham, who is the chairman of the University of Missouri Board of Curators. “Clearly Mike was the right person at the right time to take over the leadership of the university. He was retired, but the university Board of Curators sought him out and told him, ‘Your university needs you.’”

Middleton replaced then-university president Tim Wolfe, who stepped down following months of racial tension on the campus. During the Homecoming parade of 2015, African-American students locked arms in front of Wolfe’s car and recited historic examples of discrimination on campus and recent incidents of racism. Rather than listening to the students, Wolfe attempted to drive around them and didn’t protect them when parade attendees, who weren’t students, tried to harass them.

After that incident, students demanded that Wolfe resign through various means of nonviolent protest. One student, Jonathan Butler, went on a hunger strike, and some Mizzou football players refused to play in solidarity.

Even before Middleton came out of retirement, he was acting as a mediator between the students and the administration, as he had both groups' respect.

"He probably is among the best example of courage, grace and class that I've ever met," Graham said. "During the time he served as interim president, he was the spokesperson for the university and traveled throughout the country and state restoring the confidence in the university in those who had heard about the incidents of the fall of 2015."

On September 23, Middleton will receive the Lifetime Achiever in Education Award at the St. Louis American Foundation's Salute to Excellence in Education Scholarship and Awards Gala. The proceeds from the event, held at the America's Center, benefit the Foundation, which distributed more than \$700,000 in minority scholarships and grants last year.

Mississippi to Mizzou

Born in Jackson, Mississippi, Middleton entered Mizzou as a freshman in 1964 and was among about 150 African-American students on campus.

"I learned it wasn't much unlike what our students were protesting in 2015," Middleton said. "I was isolated."

The black students and progressive-minded people tended to stick together, he said. He, along with charter members of Alpha Phi Alpha Fraternity, Inc. Zeta Alpha Chapter, founded Mizzou's Legion of Black Collegians in 1968.

"It wasn't unusual at all to have someone shout the N-word out of a passing car," Middleton said. "That happened all the time. It wasn't unusual not to be called upon in class or to be called upon only to speak for all black people. It was better than it was in Mississippi, so I kind of adjusted fairly well."

Middleton went on to graduate from the university's law school in 1971 and went to work as a trial attorney in the Civil Rights Division of the Department of Justice.

"That was probably my most exciting time," he said. "I litigated with some of the best lawyers in the country. I had the FBI doing investigations for me. It was fantastic. Nothing beats standing up in a courtroom with the United States of America as your client."

He litigated lawsuits against Jackson, Mississippi and Philadelphia to force them to integrate their fire departments and city employment. He took on discrimination cases against the airlines next.

"I had some good cases where I believe I made an impact," he said.

He went on to hold director and general counsel positions within the Equal Employment Opportunity Commission in Washington. Then in 1985, he joined the Mizzou law faculty, becoming the first African-American professor at the university's law school.

"It's always good to see former students who are now seasoned adults with responsible positions," Middleton said.

Beginning in 1997, he served as the interim vice provost for minority affairs and faculty development at Mizzou. A year later, accepted the position of deputy chancellor, where he "combined being a lawyer with being a university administrator."

"I served under two great chancellors," he said. "I had a good amount of influence."

Chancellor Emeritus Brady Deaton, whose tenure ran from 2004 to 2013, whole-heartedly agreed.

"He was invaluable to me," Deaton said. "His trust was without question. He did everything and had total integrity in everything he's touched at the university. He has the ability to negotiate across a wide range of people and get things done."

Between being a law professor and administrator, Deaton said that Middleton has touched a "tremendous range" of people.

"He's certainly had an influence on me," Deaton said.

Middleton said he was "very disappointed" when he saw the protests erupt on the campus of his alma mater.

"I had hoped that we made some progress," Middleton said.

During the 17 years he was deputy chancellor, he helped lead the university to increase its black student population and establish some "good programs," he said. Under his guidance, the university established black studies and gender studies programs and built the Gaines/Oldham Black Culture Center.

"But changing that culture that I experienced back in the '60s is a long-term project that requires a significant amount of resources and intentionality," Middleton said. "And you have to get everyone on board. People figured that I could do it alone, so I never had the kind of resources that I need to really address the problem."

However, as interim president, he feels that he finally had the power to do so. He was able to direct resources to the four campuses, gather data, form an analysis and design new programs, he said.

"As president, you have a little more power," he said. "We have a system in place now that will hopefully resolve those problems and make the system a lot better than it was."

While struggling to bring stability back to the university system, Middleton was also serving as one of the co-chairs for the Missouri Supreme Court's Commission on Racial and Ethnic Fairness. As a response to the Ferguson unrest, the commission is tasked with addressing barriers to access and justice, eradicating bias, and increasing diversity in the judicial system and legal profession.

Then-Supreme Court Chief Justice Patricia Breckenridge said, "His willingness to take a leadership role when the demands on his time were so great underscores his passion that there be fairness and equal treatment for all."

The 2017 Salute to Excellence in Education Gala will be held at 6 p.m. Saturday, September 23, 2017 at the America's Center Ballroom, following a reception at 5 p.m. Tickets are on sale now. Individual tickets are \$85 each/\$850 table, and VIP/Corporate tickets are \$1,500 table. For more information or to purchase tickets, visit www.stlamERICAN.com and click on Salute to Excellence, or call [314-533-8000](tel:314-533-8000).

THE WALL STREET JOURNAL

Mizzou Pays a Price for Appeasing the Left

Enrollment is down more than 2,000. The campus has had to take seven dormitories out of service.

By JILLIAN KAY MELCHIOR

Timothy Vaughn dutifully cheered the University of Missouri for a decade, sitting in the stands with his swag, two hot dogs and a Diet Coke. He estimates he attended between 60 and 85 athletic events every year—football and basketball games and even tennis matches and gymnastics meets. But after the infamous protests of fall 2015, Missouri lost this die-hard fan.

"I pledge from this day forward NOT TO contribute to the [Tiger Scholarship Fund], buy any tickets to any University of Missouri athletic event, to attend any athletic event (even if free), to give away all my MU clothes (nearly my entire wardrobe) after I have removed any logos associated with the University of Missouri, and any cards/helmets/ice buckets/flags with the University of Missouri logo on it," Mr. Vaughn told administrators in an email four semesters ago.

He was not alone. Thousands of pages of emails I obtained through the Missouri Freedom of Information Act show that many alumni and other supporters were disgusted with administrators' feeble response to the disruptions. Like Mr. Vaughn, many promised they'd stop attending athletic events. Others vowed they'd never send their children or grandchildren to the university. It now appears many of them have made good on those promises.

The commotion began in October 2015, when student activists claiming that “racism lives here” sent administrators a lengthy list of demands. Among them: The president of the University of Missouri system should resign after delivering a handwritten apology acknowledging his “white male privilege”; the curriculum should include “comprehensive racial awareness and inclusion” training; and 10% of the faculty and staff should be black.

Two weeks later, a student announced he was going on a hunger strike, and the football team refused to practice or play until the university met the demands. As protesters occupied the quad, administrators bent over backward to accommodate them, even providing a power strip so they could charge phones and a generator so they could camp in comfort. A communications instructor, Melissa Click, appeared on viral video calling for “muscle” to remove a student reporter from the quad. By Nov. 9, both the president and the chancellor of Mizzou, as the flagship Columbia campus is known, had resigned.

Donors, parents, alumni, sports fans and prospective students raged against the administration’s caving in. “At breakfast this morning, my wife and I agreed that MU is NOT a school we would even consider for our three children,” wrote Victor Wirtz, a 1978 alum, adding that the university “has devolved into the Berkeley of the Midwest.”

As classes begin this week, freshmen enrollment is down 35% since the protests, according to the latest numbers the university has publicly released. Mizzou is beginning the year with the smallest incoming class since 1999. Overall enrollment is down by more than 2,000 students, to 33,200. The campus has taken seven dormitories out of service.

The plummeting support has also cost jobs. In May, Mizzou announced it would lay off as many as 100 people and eliminate 300 more positions through retirement and attrition. Last year the university reduced its library staff and cut 50 cleaning and maintenance jobs.

Mizzou’s 2016 football season drew almost 13,000 fewer attendees than in 2015, local media reported. During basketball games, one-third of the seats in the Mizzou Arena sat empty.

The university says its teams’ losing streaks have driven away fans, state budget cuts have strained its finances, and competition from other nearby universities has contributed to its lowered enrollment. But the protests were the truly catastrophic factor, compounding the other difficulties. Administrators saw it coming during the crisis, when they fretted in emails about “a PR nightmare” and “the middle of the road people we’re losing.” The past three semesters have validated their worst fears.

This phenomenon isn’t limited to Mizzou. Private institutions like Yale and Middlebury aren’t covered by public-records laws, so they can conceal the backlash. But when public universities have released emails after giving in to campus radicals, they have consistently shown administrators face the same public outrage.

Virginia Tech received numerous phone calls and more than 100 angry emails last year after it disinvited Jason Riley, a columnist for this newspaper, from speaking on campus. “While we can respond to the people who write to us, we cannot dispel the negative impression created by the

media against the president, the university, the dean and the college and the department,” one administrator woefully told his colleagues.

Virginia Tech administrators also noted that news of the debacle reached millions on [Twitter](#), where the reactions were “overwhelmingly negative toward the university and higher education in general.” Once again, a frustrated public vowed to yank support. Universities have consistently underestimated the power of a furious public. At the same time, they’ve overestimated the power of student activists, who have only as much influence as administrators give them. Far from avoiding controversy, administrators who respond to campus radicals with cowardice and capitulation should expect to pay a steep price for years.

MISSOURIAN

UPDATE: Seven employees laid off from UM system

BY SUMAN NAISHADHAM AND TYNAN STEWART

Three full-time and four part-time positions in the UM System have been eliminated, the Office of Human Resources announced Thursday.

The employees worked for the Employee Assistance Program and the Healthy for Life program, according to Jill Pollock, chief human resources officer.

The cuts, which will save the university an estimated \$1 million, will not affect operations, said Christian Basi, director of the MU News Bureau.

Basi stated that existing staff members will temporarily face additional responsibilities in order to preserve services at both programs.

The Employee Assistance Program helps UM System employees manage stress in their personal and professional lives. It provides confidential counseling on issues including personal

relationships, health problems, financial pressures and legal issues. The Healthy for Life program offers wellness programs.

According to the statement, both programs will continue. The university said that it plans to enhance the Healthy for Life program later this year, but has not provided any further details at this time.

The Employee Assistance Program's office at 102 Parker Hall on MU's campus was closed Friday afternoon. A notice attached to the door asked employees in need of the program to contact the Human Resources Service Center.

Basi said Human Resources, representing the Employee Assistance Program, will handle calls and respond with a "plan of action" in a few business days.



[Here's How Colleges Are Celebrating the Eclipse](#)

By NICK ROLL

On Monday, a total solar eclipse will occur across stretches of the U.S. -- a natural phenomenon that last happened in 1979. Some people will have better views of the eclipse than others, however, as the path of the eclipse and the resulting view are limited to certain areas where it can be viewed in its totality.

Colleges and universities are finding a range of ways to celebrate, drawing on everything from research to pizza.

The Penn State University Department of Astronomy and Astrophysics is handing out glasses to students and the public to make sure everyone can see watch the eclipse safely.

A professor at Saint Louis University is inviting the public to help with his eclipse-related research on Monday. The public is invited to shoot video of "shadow bands" -- streaks of shadows that appear just before and after the totality of the eclipse -- to help with scientists' pursuit of figuring out what causes them.

The National Aeronautics and Space Administration will broadcast its eclipse live stream from the College of Charleston, where it will base its headquarters for eclipse operations for the day.

The University of Missouri at Columbia, which is near the area where the totality of the eclipse can be viewed, will give out free viewing glasses, slices of pizza and water to students with a valid university ID.

Volunteer State Community College is welcoming the public to its Gallatin, Tenn., campus -- which is in the area that will see a total eclipse -- by hosting a daylong event with science exhibits for kids, live eclipse narration and food and beverages for sale.

Benedictine College, also located in the path of the total eclipse in Atchison, Kans., is hosting community events, and an astronomer from the Vatican will address the crowd in a video recorded for the eclipse.



Eclipse fans travel thousands of miles

By RYAN KORSGARD

If you think it's extreme to fly 800 miles from [Houston](#) to Missouri to see a total eclipse for just over two minutes, then consider this. Chris Kitt flew more than 8,000 miles, from New Zealand, for a good view.

"We did 14 hours from Auckland to Houston. And then we've done a couple of days in Houston. Went to NASA and now we're just two hours from Houston to St. Louis," Kitt said.

Kitt was not the only one flocking to the line of totality. **It crosses right through Columbia, Missouri, the home of the University of Missouri at Columbia. The school planned three days of activities. Some estimated the city of more than 100,000 that could temporarily double its population for the eclipse.**

“I think it’s once in a lifetime. I have friends that are like ah ... why is everyone making a big deal about this? I, for one, probably won’t see it again in my lifetime and two that the community can come together and do lots of activities and celebrate,” resident Kim Stewart said.

The big question along the line of totality is the weather. Will the clouds clear and allow this part of the country to see total darkness in what would otherwise be the brightest part of the day?

“I expect a very good, total eclipse. Really good. I’ve been to America before. Just not this part of it you know. Now he hopes to see something that few Americans have ever seen,” Kitt said.

T COLUMBIA DAILY TRIBUNE

MU director of astronomy Angela Speck consumed by eclipse

By: Rudi Keller

Stardust has a magical appeal for poets.

Hoagy Carmichael’s [1927 song](#) of that name has been recorded more than 1,500 times. [Hello Poetry](#) has a seemingly endless page of entries online devoted to it.

And in 1969, [Joni Mitchell](#) wrote “we are stardust, we are golden, we are million year old carbon” in her ode to the music festival at Woodstock.

Angela Speck, the University of Missouri’s director of astronomy, is [StardustSpeck on Twitter](#) and when she’s not cheering for the public to look up at 1:12 p.m. Monday to see the total solar eclipse, she studies the stuff that poets prize.

“My work is on determining what dust forms, trying to understand why that sort of dust forms and then what is the knock-on effect once you’ve got that sort of dust,” Speck said.

Unfortunately, she said, she’s neglected that research.

“I really haven’t done any of my own research for quite some time,” Speck said. “It will be a relief to get back to it.”

For more than three years, Speck’s time has been consumed by the eclipse. She is a co-chair of the American Astronomical Society’s Solar Eclipse Task Force. In November 2015, she [predicted Columbia should prepare for 400,000 visitors](#). The estimates have fallen but she still expects the city to double in population or more on Monday.

That number of visitors would be almost double the largest crowd to see a football game at Memorial Stadium.

“I’m exhausted. I am so exhausted,” Speck said. “I am excited. I am waiting for it to come but I would like it to be tomorrow. I want to see it. It is going to be awesome.”

Just for the record, the total solar eclipse on Monday will be the first visible in the continental United States since 1979 and the first to cross the continent since 1918. At Broadway and Providence Road in Columbia, the eclipse will begin at 11:45 a.m. as the moon and sun begin to come into alignment. It will reach totality at 21 seconds past 1:12 p.m. The sun will be covered by the moon for 2 minutes and 36 seconds, covering the land in darkness. The eclipse will conclude at 2:40 p.m.

Speck grew up in Yorkshire, England, and attended Queen Mary University in London for undergraduate studies and received her doctorate from University College London.

Speck’s interest in space began in her childhood, her parents said. Alan Speck, visiting for the eclipse, said he recalls a ride with a friend to Queensbury one day.

“It was one of those days when the moon was in the sky at daylight and she explained to us the physical properties as to why the moon was shining in the daylight sky,” he said. “She was 5 years old.”

Her mother, Wendy Speck, attributed the interest to watching a lot of science fiction movies.

Angela Speck said her ambition at that age was to be an astronaut.

“It was post Apollo but before the Voyagers were launched,” she said. “The space mission stuff was still kind of big. I have no recollection of why but I said this is what I am going to do.”

Speck’s career trajectory veered off course for space travel into research and teaching. And it is almost a random occurrence that she’s on the MU faculty. She and her husband Alan Whittington applied at several universities.

She was hired as a spousal accommodation when Whittington, now chair of the geology department, was hired.

“We both got offered jobs, but Mizzou was the place where we both got to be faculty,” Speck said.

Much of Speck’s time is spent alternately warning that huge crowds would flock to see total eclipse and debunking ridiculous claims and predictions.

“Actually an eclipse day is no different from any other day, in terms of what the sun and the moon are doing,” Speck said. “They’ve got it in their head that this is doing something weird to the earth. No, not really.”

There is an eclipse of the sun almost every year, somewhere on earth, Speck said. But the occurrence of a total solar eclipse at any particular location is rare.

The area today called Boone County has not experienced a total solar eclipse since July 7, 1442, and will not see another until June 3, 2505. The next total solar eclipse visible in Missouri will cross the Bootheel on April 8, 2024.

During a news conference for NASA, Speck was asked if animals needed special protection from the eclipse. She replied that animals don't look at the sun when it is not in eclipse and she didn't expect that to change.

"'You're sure we don't need to protect animals?'" she [recalled being asked](#). "I'm like 'yeah, I am pretty sure.' If you have got a beastie that is particularly sensitive, they don't like it when you switch the light off in the house, then they probably won't like it when the sun gets in the way."

An internet search on Speck's name reveals 430 entries in Google's news category. She's a colorful speaker and journalists love a good quote.

"Eclipses are usually in places that are hard to get to," Speck [told Wired](#), "just because most of the planet is places that are hard to get to."

She told Space.com that the crowded conditions could resemble a zombie apocalypse. "There will hopefully be less bloodshed, but zombies don't need regular food, or sleep, or toilets," Speck said.

Her sons, 10 and 13, haven't taken much notice of their mother's celebrity, she said.

"They have had a couple of 'my mom is talking to my class,' moments," she said.

On Monday, Speck will do color commentary for KMIZ-TV's eclipse broadcast. She may just be silent when the big moment finally arrives, she said.

"But I am loud, so there's a good chance I will want to go, 'Ooh, look at that, look at that, look at that.'"

MISSOURIAN

Angela Speck: Astrophysicist and apostle of the solar eclipse

JING REN

It's 6 in the morning, and MU Astronomy Director Angela Speck is already working at her kitchen table.

After boiling two eggs, she sits down, opens Facebook and begins spreading the gospel of the 2017 solar eclipse.

Speck can't contain her enthusiasm for Monday's event, the first total solar eclipse within the contiguous United States since 1979. When a local newscast catches her eye, she shares it on her timeline — one of the ways she, as an astrophysicist, can engage the public in her enthusiasm for science.

The most visible promoter of the eclipse in Columbia, Speck also has been spreading the enthusiasm for it nationwide through scientific societies and public meetings.

In 2014, she helped establish a national task force to develop scientific understanding of the eclipse. At this year's American Association for the Advancement of Science conference at Boston, she gave a public talk alongside other experts.

It is, as Speck says, the only total solar eclipse most Americans will ever see.

By now, her message about the eclipse is well-rehearsed: It will cut a path across the United States from Oregon to South Carolina. If the weather permits, as many as 12 million people along the path will be able to see the totality.

They will also see the solar corona or the sun's outer atmosphere. Baily's Beads is the moment when a sliver around the sun looks like broken beads of light, and the Diamond Ring Effect is the tiny crescent of sunshine that appears about 15 seconds before the moon completely covers the sun.

Outside the path, people will see only a partial eclipse, still an amazing sight, but nothing like the rare total eclipse.

"Columbia lies directly on the path of totality," Speck emphasizes during her speeches.

Eclipse path

Nationally, the eclipse will start at around 10:15 a.m. PT on the West Coast and end around 2:45 p.m. ET. In all, it will take about 90 minutes to cross the country, but totality only lasts, at most, 2 minutes and 40 seconds at a given location.

In Columbia, the moon will begin crossing the sun at 11:45 a.m. local time and finish at 2:40 p.m. The totality will begin at 1:12 p.m. and end at 1:15 p.m.

Alan Whittington, Speck's husband and chair of the Department of Geological Sciences at MU, said promoting the eclipse has been more than a full-time job for Speck.

"She has always been very busy," he said. "She is not someone who is very comfortable with not being busy."

As the organizer of the American Astronomical Society Solar Eclipse Taskforce, Speck has helped the organization hold workshops, publish journal articles and attend national science meetings to spread information about the eclipse.

She has also worked with NASA's Heliophysics Division to share information about the eclipse and coordinate with them to avoid possible duplication of their work.

“We want as many as people to come to the path to see it, while at the same time, we want to get everybody who cannot get there to watch the partial eclipse safely,” Speck said.

Astrophysicist, teacher

Originally from the United Kingdom, Speck did her undergraduate studies at Queen Mary University and completed her doctorate in astronomy from University College, both in London. After doing a year of postdoctoral research at University College London, she moved to the United States in 1999 to continue her studies at the University of Illinois at Urbana-Champaign.

She came to MU in 2002 as a visiting assistant professor and became a professor in the Department of Physics and Astronomy and the director of astronomy.

Her research focuses on the study of infrareds and stardust, but Whittington said she is open to scientific perspectives from different fields.

“You cannot take the sky from me” is the way Speck described her passion for astrophysics. “The sky is always there,” she said. “I can always be there no matter what else happens.”

On her personal website, she writes about her teaching philosophy: “We must convey the importance of cutting-edge science to a recession-burned public, while also ensuring that our new generations of professional scientists are equipped for the changing technologies and modes of research.”

Spreading enthusiasm

Sarah Poor, a junior in the Physics Department at MU, said Speck stands out especially because of her support for female physics students. Poor does research with Speck on stardust, using astronomical data to determine the chemical makeup of the dust surrounding a particular star.

One day, Poor said she came into Speck’s office for their weekly research meeting on the verge of tears.

“I had had a terribly busy week and was feeling as though the weight of world was on my shoulders, and I was not strong enough to keep it up much longer,” Poor recalled.

She said Speck spent the entire meeting consoling her. “She told me her own experiences as a student and a teacher to make me feel like I was less alone.

“Angela reminded me that it is easy to feel as though your peers are always outperforming you, but you must always remember that everyone is battling their own demons,” Poor said.

“Physics is not a science that anyone can master in a day. It takes a lot of practice.”

Speck believes people should appreciate science, even if they are not scientists.

“You don’t have to be a winemaker to appreciate wine or an artist to appreciate art,” she said.

“Neither do you need to be a real scientist to appreciate the world of science.”

Committed extrovert

Speck’s own extroverted personality stands out in a crowd. She often dyes her hair an unusual hue, and the door to her office is full of colorful stickers and posters.

One reads: “Well-behaved women rarely make history.”

A fan of The Wicked Witch of the West from “The Wizard of Oz,” she identifies herself as a “wicked witch” on her Facebook page. She is active on social media, not just to promote the eclipse, but also to express her opinions on matters of social justice.

“Every inequality is incorrect,” Speck said in a Facebook post about the dozens of headstones vandalized in May at a Jewish cemetery in University City.

This is Speck: Highly devoted to what she believes and does, and unabashed about it.

As her student Poor puts: “It is hard not to love someone with a PhD who also wears galaxy leggings.”



Mizzou astronomy director's goal: Everyone 'looking at the sky' Monday

Astronomer prepared for eclipse since day 1 at University of Missouri

By EMILIEE SPECK

Almost immediately, the Great American Eclipse became part of Dr. Angela Speck's role when she started at the [University of Missouri 15 years ago.](#)

Having just missed a total solar eclipse in Great Britain to come teach at the university in Columbia, Missouri, it became obvious the 2017 eclipse was going to be a big event there.

The sun, isn't part of Speck's area of study, but outreach is a passion of hers and she was up to the task. News 6 spoke to the astronomer ahead of her talk, open to the public, at the Life Sciences Building on campus discussing the research that will happen during the eclipse.

The university is involved in several scientific studies during the eclipse, including Citizen Kate, which examines the sun's corona, and a NASA-funded atmospheric study led by students.

Speck, whose enthusiasm for space science pours out of her, was sporting Katy Perry's Hayley star sandals and a galaxy-patterned skirt for her talk. Dozens of people were at the auditorium sporting their Missouri-inspired eclipse T-shirts and cued up with questions for their local expert.

"This is just one of those opportunities to really reach out to the public, so, to me, it was always a no-brainer," Speck said about organizing one of the largest gatherings for the eclipse.

Speck, the director of astronomy at University of Missouri, is also a chair member of the American Astronomical Society's task force responsible for the national planning for the Great American Eclipse. She said she had been bugging AAS for years to start planning for the eclipse. Finally, they gave her the green light and asked her to lead the effort.

The task force made up of a dozen people made up of solar physicists, outreach experts and eclipse chasers.

If the sky is clear, the campus could host up to 200,000-300,000 people for the event, which falls on the first day of the fall semester at the university.

Columbia will experience 2 minutes and 37 seconds of full-moon-like darkness that will start at 1:12 p.m.

But Speck's mission goes beyond the Columbia campus, her goal: "I want everybody in the entire country looking at the sky on Monday," she said. "Whether you are on the path of totality or not you're going to see a partial eclipse."

No matter the number, Speck has made it her mission to get everyone outside staring at the sun on Monday. Part of that goal, is making sure people are prepared to safely watch the eclipse without fear.

"There is a lot of scare mongering and people seem to think that somehow it's dangerous," Speck said. "Apart from wanting to look at the sun, that's the only danger."

Speck, who has become the local authority on eclipse glasses has a fool proof method for making sure the glasses actually block out the sun's harmful rays, but still allow a person to watch the eclipse. Put the glasses on, walk up to a bright light bulb and if you don't see anything, the glasses should be fine.

"You may see some brown vagueness," Speck said, but beyond that nothing else should come through solar eclipse glasses if they are safe.

While News 6 was on campus Saturday, students were stopping by the bookstore picking up tiger-stripped eclipse glasses by the handful for \$2 a piece. It was the one place along the path of totality that had not sold out of glasses ahead of the eclipse.

Still, Speck said she expects the glasses to sell out ahead of Monday afternoon for totality, but she doesn't want anyone to miss out. Pinhole projectors or watching the NASA live stream are available for free.

"Everybody can see this with minimal spending," Speck said. "To me, if I don't pull in the entirety of the public then I'm doing something wrong."



MU professor hosts presentation to preview fun surrounding the Eclipse

By: Michael Rizzo

Watch the story: <http://www.komu.com/news/mu-professor-hosts-presentation-to-preview-fun-surrounding-the-eclipse>

COLUMBIA – Angela Speck, the director of astronomy at the University of Missouri, gave a presentation titled, "Doing Science in the Dark: What Scientists Study During Eclipses," to a full room in the Monsanto Auditorium Saturday Morning. The event attracted such a large crowd that it was live streamed to about 50 more viewers sitting in the main corridor of the Bond Life Sciences Center.

Speck said this presentation is a bit different than the ones she has been giving for years now.

"I've been talking about the eclipse for about three years now, most of my presentations have been about what we can see, how busy its going to be, why we need to be prepared, but at this point, we're so close, people don't need that now," she said. "They need to know the cool things that we can do during the eclipse. So I really wanted to do something that was different from the presentations I've been doing for the last three years and that highlighted not just the astronomy but all the different types of science made possible by a solar eclipse."

She said there are a lot of things that go into the eclipse.

"You can learn about the sun, learn about how gravity might shift during the eclipse," she said. "You can learn about how the atmosphere behaves, and you can even learn how animals will behave during the eclipse."

Speck said there are certain things to pay attention to.

"What's really cool are the things you can't see any other time," she said. "So the moon moves in the way, and you see what looks like a hole in the sky, and you've got the corona that's like streamers away from there and this is the only time you can see that. There is no way to fake that."

Speck concluded the presentation with a question and answer session before giving one last piece of advice.

"Everyone should be looking at the sky on Monday."

T COLUMBIA DAILY TRIBUNE

MU research employees go fishing, in the name of science

By: Rudi Keller

Sometimes, during an idle moment at work, an avid angler might wonder how to get paid to go fishing.

The answer, it appears, is to tell the boss it's for science.

Eric Gooding and Brent Mahoney, employees of the University of Missouri's South Farm Research Center, came up with the plan. Their superiors in MU's College of Agriculture, Food and Natural Resources liked the idea so much they are inviting the public to take part. There are instructions for [how to fish the eclipse](#), scientifically of course, and how to report the results.

A tool anglers have used for eons is called the [solunar table](#) and it tells them that fishing should be best on the full and new moon.

An eclipse occurs during the new moon, so it already should be a good day to fish, Gooding said. For Monday in Central Missouri, the tables say the best time for fishing will be the two hours after totality starts at about 1:12 p.m.

The question is whether fishing gets better as the eclipse nears totality because the fish think it is evening and time to move into shallower water to feed. Gooding, an electrician, said there's only one sure result from the experiment.

"At the end of the day, we are going to prove fishing is awesome, one way or another," Gooding said.

The plan began in a discussion of how Bradford and South farms, just southeast of Columbia, would prepare for the eclipse. There will be cameras on animals to record their behavior and cameras on plants to see if they react to the changing light. The university is inviting the public to both locations for the eclipse to learn about the science.

Gooding and Mahoney suggested the idea, said Tim Reinbott, assistant director of the farms.

“They found an article in Nature in 1906, just a little abstract talking about 1905 eclipse,” Reinbott said. “The fish went crazy during that time. They are very interested. They are going to fish before, during and after and just record what they see.”

In a letter published [April 19, 1906](#), A. Mosley wrote that he was on holiday, fishing in Slapton Ley in Devonshire, during a partial solar eclipse on Aug. 30, 1905. Where he was, the sun was more than 80 percent covered.

“All the morning the sport had been indifferent, but as the eclipse neared its maximum the fish suddenly became ravenous, and I took more in that hour than all the rest of the day,” Mosely wrote.

All the other anglers on the water that day had the same results, he wrote. And to Mosely, the reason was pretty obvious.

“The explanation, I presume, would be that the fish imagined night was approaching, and therefore prepared for supper; and as every fisherman knows, the last half-hour, when dusk is gathering, is the time that fish are mostly on the feed, and will readily take any bait,” he wrote.

Mahoney said he found the Nature item. “It kind of got us kick started,” he said.

For Monday’s eclipse, Gooding created a chart to record the location fished and data about each individual. To maintain the scientific validity of the data, each angler is asked to record the fish caught from one hour before to one hour after totality, using live bait with a bobber and a 24-inch lead, fished at the center of the lake.

“We’re using live bait and bobbers so every fish has the same opportunity, so to speak,” Mahoney said. “What we are hoping is that when it goes dark, the fish will go up into shallower water to feed.”

Mahoney and Gooding originally had planned to go together but because their idea grew into a scientific project, they are separating. When they go fishing for relaxation, Gooding likes to fish for bass and Mahoney prefers going after crappie.

Summer isn’t the best time for crappie, Gooding said.

“I’m more of a spring and fall guy,” he said. “Fishing is typically not that good when it gets hot.”

Another variable Monday, as every experienced angler knows, is the weather. Heavy showers with runoff can leave a pond or lake so clouded with silt that no fishing is possible, he said. As a cold front approaches, fishing is usually better than after it passes.

The biggest drawback to the scientific validity of the study will be whether it is a good or bad day for fishing generally, Gooding said.

“We’ve got to get people to fish out of the path of totality,” he said. “If I get enough people to do it, we can show some real results.”

There are also no controls for comparing the fishing results in the locations within the path of totality, Mahoney said.

“What we can’t know is if the fishing would have been good or bad without the eclipse,” he said. “I don’t know if we will prove anything except that it is a good day to go fishing.”



Researchers look into how animals will react during the solar eclipse

By: Stephanie Sandoval

Watch the story: <http://www.komu.com/news/researchers-look-into-how-animals-will-react-during-the-solar-eclipse>

COLUMBIA - Researchers are getting ready for the solar eclipse on Aug. 21. Not only will they be watching the sky, but they will also be watching what's on the ground, including insects, plants and animals.

Director of Field Operations Tim Reinbott said researchers at the University of Missouri South Farm Research Center, including himself, are going to study how the solar eclipse affects plants that typically close up during the evening.

Reinbott also said they are going to have cameras recording how chickens, fish and horses react during the eclipse.

"We are also wondering what happens to insects and birds," Reinbott said. "We are going to have audio recorders near and in wooded areas to measure the changes in sounds."

Reinbott said in total they will have 11 cameras set up.

"We're gonna have several cameras on plants, different types of plants, and what they're doing," Reinbott said. "We're gonna have the cameras on the chickens and the horses. We're also gonna have them on a pond. What happens during the solar eclipse on that pond if we can see the action going on."

Reinbott said they are also going to be studying the light.

"We're also going to measure what happens to the light intensity as well as the light quality, so we can compare that to sundown to see how the eclipse and sundown correlate with one another."

He said they only have one shot to do this right.

"Well this is a once in a lifetime opportunity, and we only have one shot at this," Reinbott said. "So, we're trying to cover all of our basis within the sciences to make sure we are going to backup what we see, and that's why we're doing this as a scientific experiment so that it can be replicated in other eclipses, you know, seven years from now."

He said a big challenge is they don't know what to expect.

"And that's OK too because if the plants don't respond, if the animals don't respond that's new information also," Reinbott said.

A PHD graduate student at MU will be studying how bats react during the solar eclipse.

"We will be setting out Anabat recorders, which are audio recording devices which record at the frequency that bats emit their echolocation calls. So it captures those, we can then download that a computer, put it up on a log graph and look at which species are making calls," Jordan Shroyer said.

Shroyer said a few researchers will also go out to different locations and do visual inspections to see if any bats will fly around during the eclipse. But he said the challenge is not getting distracted by the eclipse itself.

"This is a once in a lifetime event," Shroyer said. "I know I'm going to be watching the eclipse. It's going to be making sure that we enjoy the eclipse while also taking the time to make sure we're participating in our study, which we should be able to do that just fine."

Shroyer said Bats actually have eyesight that's pretty equivalent to ours.

"So, interesting enough people used to say, 'blind as a bat,' in fact people still say that, they actually have eyesight that's pretty equivalent to ours, but they also have echolocation on top of it, which allows them to maneuver pretty well," Shroyer said.

For more Show Me Eclipse Coverage, visit komu.com/eclipse.



The total solar eclipse: a good day to do some science

BY ELI CHEN

Historically, total solar eclipses have been used to make important scientific discoveries. One in 1919 validated Albert Einstein's theory of relativity. Another in 1868 led to the discovery of helium, the second most common element on the planet.

While total solar eclipses have been seen around the world a few times in the last decade, it's pretty rare for one to be visible over large, populated areas, such as the United States. Today, scientists are taking advantage of the opportunity to run experiments that address questions about Earth and the sun that only total solar eclipses can help answer.

Many of the projects encourage participation from nonscientists who plan to observe the eclipse in the path of totality, the area where people will see the moon completely cover the sun.

"Everyone is a scientist at heart," said Margaret Hill, a physics professor at Southeast Missouri State University. "When you look at totality or you look at the eclipse, there are many ways to observe it."

Hill is in charge of one of 68 telescopes involved in the Continental-America Telescopic Eclipse project. Dubbed [Citizen CATE](#), it has recruited people along the path of totality operate telescopes with cameras to capture images of the corona, which is the outer atmosphere of the sun. It can only be seen during total solar eclipses.

There's a lot that scientists don't know about the sun, said Angela Speck, an astrophysicist at the University of Missouri-Columbia.

“For instance, the surface of the sun is 10,000 degrees Fahrenheit,” Speck said, “which sounds hot until you realize that the corona is two million degrees Fahrenheit. So understanding how you get enough energy from the sun to heat the gas up and what mechanism causes that to happen is kind of important.”

Citizen CATE will stitch together the images taken by the cameras attached to the telescopes to create a 90- minute video of the corona.

Another project will observe changes in Earth’s atmosphere that occur during the total solar eclipse. St. Louis is one of 30 sites across the country that will be participating in [NASA’s Eclipse Ballooning Project](#).

Twice this summer, Robert Pasken, a meteorology professor at Saint Louis University, practiced launching a weather monitoring device, called a radiosonde, that measures conditions such as wind speed, humidity and barometric pressure. Pasken and his students plan to launch their weather balloon five minutes before totality happens.

“We [will] get a very nice, rapid snapshot of what’s happening in the atmosphere in this cycle that’s going to occur because of the eclipse,” Pasken said.

Pasken said that the data from the radiosondes and [Ameren Missouri’s network of weather monitoring stations](#) could help provide short-term wind forecasts in small geographic areas, such as within subdivisions and towns. He plans to use that information to help Ameren prepare for potential wind damage to power lines, poles and towers.

He also wants to study shadow bands, mysterious light and dark lines that appear on the ground a minute before and after total solar eclipses.

“Why do those shadow bands form?” Pasken said. “Do they form down low, close to the ground, like a thousand feet? Or are they much higher up like 30- or 40,000 feet?”

One way to see shadow bands is by placing a white sheet on the ground on the path of totality. Pasken encourages observers to photograph them to help scientists understand why they exist.

Scientists also want to know how animals behave during solar eclipses. Researchers have speculated that they might behave the way they do at night. For example, birds may return to their nest to roost and farm animals may retreat into the barn. There is little research on animal behavior during total solar eclipses.

The California Academy of Sciences is encouraging the public to participate in a project called Life Responds, in which they log what they see animals and plants doing during the eclipse into an app called iNaturalist.

Locally, scientists at Webster University and Mizzou are setting up recording devices around Missouri to see how the sounds of bees and other insects change due to changes in light caused by the eclipse.

“They can sense changes in the electromagnetic waves that are associated with the light,” said Nicole Miller-Struttman, a pollinator biologist at Webster University. “[The eclipse] might look quite different to them than a twilight.”

MISSOURIAN

Potential problems discovered with some eclipse glasses

BY ANNIKA MERRILEES NEWS@COLUMBIAMISSOURIAN.COM

Amid the excitement and commotion leading up to Monday’s solar eclipse, many people have assumed they have one essential need taken care of: glasses to protect their eyes.

Maybe not.

Amazon recently recalled some of the eclipse glasses and viewers sold on its website, and Missouri State Parks has issued a notice stating that eclipse glasses and viewers purchased at state parks and historic sites might not be safe to use.

Due to high demand, “the marketplace is being flooded by counterfeit eclipse glasses,” the American Astronomical Society’s website says. The usual benchmark for the glasses is the International Organization for Standardization (or ISO) 12312-2 standard. Unfortunately some manufacturers have realized that they can put an ISO compliant label on substandard items.

The ISO website describes its organization as “an independent, non-governmental international organization” that “has published 21778 International Standards and related documents, covering almost every industry.” ISO 12312-2 covers “filters for direct observation of the sun.”

Missouri State Parks placed its first order of solar glasses and viewers in 2016 and received a safety certification on that order, said spokeswoman Renee Bungart. When supplies started

running low, they contacted the same vendor for another order — this time 25,000 solar eclipse glasses and viewers. They received the order on Aug. 8 and distributed the merchandise to their stores soon thereafter.

The department began receiving complaints from their state parks and historic site gift shops, saying that some of the items were damaged. This alerted suspicion, and drew attention to the fact that the items received in this order were physically different than the items in the first order. On Tuesday, State Parks contacted its vendor to request the safety certification for these glasses and viewers, giving them until Wednesday to provide the documentation.

They still have not received the certification from their vendor. On Wednesday State Parks asked all of their locations to stop selling the glasses and viewers, and released warnings about the products.

Since then, Bungart said that State Parks has distributed a media release, put warnings on its website and social media, and sent emails to 25,000 people subscribed to its email service and all campers registered to stay in its parks this weekend.

Bungart said that the glasses and viewers in question do have ISO compliancy labels printed on them. The suspect glasses and viewers have the name “PMS Promo Mart” printed on the inside, and Bungart said that any of its customers who see that label on their glasses should not use them. Anyone who purchased the glasses and viewers can seek a refund at any Missouri state park, historic site gift store, or online.

Bungart said that everyone should “double-check (their) glasses... regardless of where they obtained them.”

Amazon recently experienced a similar recall. An Amazon representative sent this statement to the *Missourian* on Thursday:

“Out of an abundance of caution and in the interests of our customers, we asked third-party sellers that were offering solar eclipse glasses to provide documentation to verify their products were compliant with relevant safety standards. The offers from sellers who provided this safety documentation remain available to customers.

“The listings from sellers who did not provide the appropriate documentation have been removed and customers who purchased from them were notified last week. Customers can contact Amazon customer service with any questions or concerns.”

The statement indicates that the recalled glasses were not necessarily proven to be substandard, but that Amazon had not received verification that they were ISO-compliant.

Amazon also sent this [link](#) to the American Astronomical Society’s web page “How to Tell If Your Eclipse Glasses or Handheld Solar Viewers Are Safe.”

If you are concerned that your eclipse-viewing device is substandard, or if you want to buy one from a verified manufacturer, you can check the American Astronomical Society’s [list of reputable vendors](#). The AAS says: “if a supplier isn’t on our ‘safe list,’ that doesn’t mean their products are unsafe — only that we have no knowledge of them or that we haven’t convinced ourselves they are safe.”

The AAS website says: “You shouldn’t be able to see anything through a safe solar filter except the sun itself or something comparably bright, such as the sun reflected in a mirror” or “a bright-white LED bulb (including the flashlight on your smartphone).” Even these, they say, “should appear quite dim through a solar viewer.”

The website goes on to say that through a safe solar viewer the sun should appear “comfortably bright (like the full Moon), in focus, and surrounded by dark sky. If you glance at the sun through your solar filter and find it uncomfortably bright, out of focus, and/or surrounded by a bright haze, it’s no good.”

“Filters that are ISO 12312-2 compliant not only reduce visible sunlight to safe and comfortable levels but also block solar UV and IR radiation,” the AAS website says. Furthermore, “your retinas don’t have pain receptors. Only after the eclipse, when you notice blind spots or other vision problems, would you realize” that there was an issue.

A customer service representative from the MU Student Center store told the Missourian that it offers multiple styles of ISO-compliant solar eclipse glasses.

Alicia Isdes of the MU Physics and Astronomy Department said people should be able to find glasses as most major stores, like Walmart and Walgreens, and that people should check for an ISO code before purchasing.

Welding masks

NASA's website says welding masks can be used to view the eclipse, but only if they are of Shade 12 or higher.

“If you have an old welder's helmet around the house and are thinking of using it to view the sun, make sure you know the filter's shade number,” the webpage says. “If it's less than 12 (and it probably is), don't even think about using it to look at the Sun.” Find more information on the [NASA website](#).

Telescopes

A solar telescope or a telescope with a solar filter on the large end of the scope. “Never use small solar filters that attach to the eyepiece (as found in some older, cheaper telescopes),” NASA's website says.

Pinhole projector

A [pinhole projector](#) is a fairly simple craft project, and a relatively risk-free technique for viewing an eclipse.

In a pinch

If you don't have anything else, NASA's website suggests turning away from the sun, holding out one hand with fingers outstretched and slightly apart, and holding the other on top perpendicularly, to make a waffle pattern. “The little spaces between your fingers will project a grid of small images on the ground, showing the sun as a crescent during the partial phases of the eclipse,” the website says.

You can also view the eclipse in the shadow of leafy trees. “You'll see the ground dappled with crescent Suns projected by the tiny spaces between the leaves.”



Can You Photograph the Solar Eclipse With Your Phone or Tablet?

By CALLA COFIELD

The total solar eclipse of 2017 is upon us, and many people are asking: Can I photograph the phenomenon with my cell phone or tablet? With a few caveats, the answer is "yes."

Today (Aug. 21) a partial solar eclipse will be visible from all of the U.S., and a total solar eclipse will be visible along a narrow path running from Oregon to South Carolina. You can watch a livestream of the eclipse on the Space.com homepage, courtesy of NASA.

Here are a few quick tips and suggestions if you plan to photograph the partial or total solar eclipse using your cell phone or tablet.

PARTIAL SOLAR ECLIPSE PHOTOGRAPHY

Tip 1: Use a filter to protect your screen. It is possible to damage your cell phone or tablet while photographing the sun, according to Angela Speck, co-chair of the American Astronomical Society's Solar Eclipse Task Force and the director of astronomy at the University of Missouri.

Speck told Space.com that the extremely bright, glowing ball could burn the pixels in your cell phone or tablet's screen. This could depend on the particular device you have, and how long you focus the camera on the sun.

If you want to protect your screen, put a solar viewing filter or one-half of a pair of solar-viewing glasses in front of the phone camera during the partial eclipse phases. This reduces the brightness of the sun on the screen. Speck advises skywatchers to first remove the device from its case, so that the filter can lay flat against the camera.

Tip #2: Protect your eyes while photographing the partial eclipse. It is possible that viewing the unfiltered sun on your cell phone or tablet screen could damage your eyes if you stare at the screen long enough. This is another reason for using a solar viewer over the camera.

But a more serious threat is the possibility that amateur photographers will inadvertently look directly at the sun while trying to snap a photo. If you point your cell phone up toward the sun, the phone or tablet might not block the bright glowing orb as you attempt to look at the screen.

Thus, you could unintentionally look directly the sun while trying to take a photograph (even if the camera is covered with a solar filter).

To avoid, this use the front-facing camera on your phone or tablet, and lay the device on the ground so it looks up at the sun. With this setup, you (the photographer) have to look down at the ground to see the screen.

To protect your eyes and your device, photograph the sun using a solar filter, and use the front-facing camera so you can look down at the screen.

Most experts suggest that if this is your first total eclipse, you should forget the pictures and just enjoy this incredible view. NASA will capture high-quality images of the eclipse from multiple locations along the path of totality, and those images will look a lot better than what you can capture with your cell phone.

If you do try to catch a picture, remember to take the solar filter off the device during totality. Reattach the solar filter after totality.



Eclipse can fry camera sensors without proper safety precautions

By: Jordana Marie

Watch the story: <http://www.abc17news.com/news/top-stories/eclipse-can-fry-camera-sensors-without-proper-safety-precautions/605896052>

COLUMBIA, Mo. - As mid-Missouri gets closer to the solar eclipse, many people will want to capture the moment on camera. But doing so can be dangerous for equipment without the proper safety precautions.

For smartphones, it's not clear how the sun will affect the camera but experts recommend using an extra set of of eclipse glasses over the camera lens.

If the smart phone lens doesn't get damaged from the sun's rays, there is still the chance the phone can overheat. Pointing the phone at the sun for short periods of time throughout the eclipse should be OK, according to camera experts, but prolonged exposure does run the risk of damaging the camera.

For more high-tech cameras with telephoto lenses, a filter is highly recommended. The filter will protect the camera sensors inside while allowing to capture the eclipse shadows and movement.

"If you don't have the lens filter on there, the light is too bright and it will fry your sensor," Nick Monaghan with Creve Coeur Cameras said.

Pointing a telephoto lens at the sun works much in the same way as a magnifying glass.

"You're magnifying light into one point, taking all of that energy and concentrating it into one spot on the sensor, and you will ruin your camera," University of Missouri photography professor Brian Kratzer said. "When you have a long telephoto lens you're refracting that light down into one specific point and that one specific point is where that sensor is going to get basically cooked."

During totality, it is OK to take the filter off to capture the shadow of the moon in front of the sun.

It's also recommended to always wear your protective eclipse glasses while photographing the eclipse, even if your camera has a filter on it.

"I always tell people don't look through your viewfinder, use the digital screen while photographing the eclipse," Monaghan said.

THE CHRONICLE OF HIGHER EDUCATION

After White-Supremacist Violence, UVa Will Review What Activities Are Allowable on Campus

NO MU MENTION

By CHRIS QUINTANA

In the aftermath of a gathering of white nationalists that at times turned violent, the University of Virginia is reviewing its rules about what can happen on its campus. The university will also hire a contractor to review its current safety infrastructure and more staff members and police officers "to ensure safety and security across Grounds as the semester begins."

The news comes in a [statement from Risa Goluboff](#), dean of the law school, who will serve as chair of a recently announced task force assembled by the university's president, Teresa A. Sullivan.

"Our tasks ahead are short-term and long-term," the statement read. "They are about physical safety and emotional well-being; they are as practical as revising policies and as lofty as

advancing human progress; and they will require us to examine what we need to do within our own community and ask what we can do beyond it.”

Violence erupted at the university last weekend after tiki-torch-wielding marchers — some carrying flags with Nazi imagery — descended on the campus. Several university employees said they were injured in the protests, and [one later suffered a stroke](#).

A 32-year-old woman, Heather D. Heyer, died on Saturday in Charlottesville, home to the University of Virginia, when a motorist plowed into a crowd protesting the presence of white nationalists. James Alex Fields Jr., 20, has been charged with second-degree murder in her death.

[Some have criticized](#) the university’s response to the gathering, and [Ms. Sullivan has previously said](#) that response needed to be examined.

Regarding the review, Ms. Goluboff wrote that the university’s general counsel is already “exploring revisions to our policies regarding activities that can be constitutionally proscribed on our Grounds.”