

University of Mississippi

eGrove

---

University of Mississippi News

---

2-22-2016

## UM Biology Professor Receives NSF CAREER Award

Edwin Smith

Follow this and additional works at: <https://egrove.olemiss.edu/umnews>

---

### Recommended Citation

Smith, Edwin, "UM Biology Professor Receives NSF CAREER Award" (2016). *University of Mississippi News*. 5198.

<https://egrove.olemiss.edu/umnews/5198>

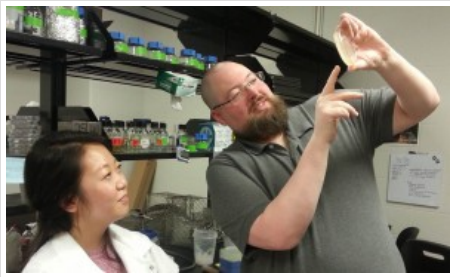
This Article is brought to you for free and open access by eGrove. It has been accepted for inclusion in University of Mississippi News by an authorized administrator of eGrove. For more information, please contact [egrove@olemiss.edu](mailto:egrove@olemiss.edu).

## UM Biology Professor Receives NSF CAREER Award

Patrick Curtis is the third faculty member in a year to receive the prestigious funding

FEBRUARY 22, 2016 BY EDWIN SMITH

FaTvLiErCStPrSt



UM biologist Patrick Curtis examines bacterial specimens with one of his students.

OXFORD, Miss. – They say good news comes in threes, and for the third time in 12 months, a University of Mississippi professor has received a Faculty Early Career Development Award from the **National Science Foundation**.

Patrick Curtis, assistant professor of biology, is the university's seventh CAREER award recipient in the last eight years. Sarah Liljegren, associate professor of biology, got the award in November and Jarad Delcamp, assistant professor of chemistry and biochemistry, was given a similar award in June 2015. This marks

the first time three UM faculty members were selected in the same academic year.

Curtis' research on "Investigation of Conserved Global Regulatory Systems Using Cross-organism Comparison" will be funded for \$ 767,103. His award begins in March and runs through February 2021.

"A model bacterium, called *Caulobacter crescentus*, has been studied for over 50 years," Curtis said. "For a bacterium, it has a complex life cycle that is governed by these complicated intracellular signaling systems.

"What my research has shown is that a related organism, *Brevundimonas subvibrioides*, has the same life cycle, lives in the same environments and has the same signaling components. But some of them appear to work in a different way. This grant is to explore why these parts are working differently when there really isn't any reason that they should."

Using the developmental bacterium, Curtis and his team are studying dimorphic life cycles where, after division, the two resulting daughter cells have differing description and cell-cycle life styles.

"We are studying epigenetics in bacteria, which has hardly been touched, so we are hoping to be one of the pioneers in the field," Curtis said. "People may not like to think about bacteria, but they are, by far, the most abundant life form on Earth and impact our lives in innumerable ways.

"We are also studying a basic biological question that even most biologists take for granted: how does one cell become two different types of cells. We know this happens – we observe it all around us – but the mechanics of it are barely understood. We're trying to get at that."

Curtis's award also will support training in bacteriology at UM.

"A major part of the funding will support my two graduate students, Satish Adhikari from Nepal and Lauryn Sperling, who was an undergraduate here working in my laboratory and decided to stay on," he said. "Another huge portion goes to laboratory supplies. Molecular biology is supply-intensive, so we go through a lot.

"The final portion will cover sophisticated genetic techniques, like high-throughput sequencing, RNA-seq and single molecule sequencing for methylation analysis."

Curtis's UM colleagues are excited about his achievement.

"This grant represents a significant investment in a young faculty member, and we couldn't be happier for him," said Paul Lago, UM chair and professor of biology. "His career at Ole Miss has developed nicely, and I believe he will continue to have a significant impact in the department and on biology students at the university for many years to come."

John Kiss, dean of UM Graduate School and also a professor of biology, agrees.

## Follow us on social



## Campus Briefs

### Donations Sought for 25th Annual Books and Bears Program

OXFORD, Miss. – The University of Mississippi is asking the community to help spread a little joy this holiday season by donating to the 25th annual Books and Bears program. Donations such as toys, books, dolls, bicycles and other children's play items are being accepted through Dec. 14. All donations will be collected and sorted

[Read the story ...](#)

### More Posts from this Category

## Thank You To Our Donors

### Mississippi Excellence in Coaching Fellowship Aims to Build Leaders

OXFORD, Miss. – Twenty-five inaugural recipients of the Mississippi Excellence in Coaching Fellowship – a program hosted by the University of Mississippi School of Education in partnership with the Mississippi Association of Coaches and the Mississippi High School Activities Association – are expected to increase their impact on student-athletes and their communities. The coaching fellowship

[Read the story ...](#)

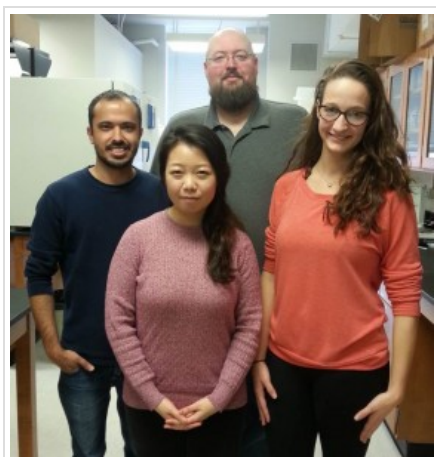
### More Posts from this Category

## Ole Miss In the News

### Clarion-Ledger: New Essay Collection Tells the Story of Meredith's Enrollment

Essays celebrate 60th anniversary of James Meredith's enrollment at University of Mississippi By Lauren Rhoades Oct. 1 marks the 60th anniversary of James Meredith's 1962 enrollment at the University of Mississippi as the school's first African-American student.

"This award places Dr. Curtis among the top young scientists in the United States," Kiss said. "He is clearly a leader in the field of microbiology, and I am very proud to have him as a colleague."



UM biology professor Patrick Curtis makes time for graduate students in his laboratory.

Curtis said he is appreciative of the research support NSF has provided throughout his career.

"Two years ago, I was a reviewer for an NSF grant panel and it was a very disheartening experience simply because I saw so many really great grants that I knew would not get funded, not because they weren't worthy, but because science funding in this country is at the lowest it's been since before World War II," Curtis said.

"I wondered how my grant could ever compete with grants from people that lead their fields and have 25-plus years' experience. For some time after getting the news, I wondered if I had hallucinated the whole thing. I actually still wonder if it's real or I'm still dreaming."

The NSF CAREER program started in 1996.

Previous UM recipients are Tamar Goulet, associate professor of biology, in 2008; Nathan Hammer, associate professor of chemistry and biochemistry, in 2010; Emanuele Berti, associate professor of physics and astronomy, in 2011; and Amala Dass, associate professor of chemistry and biochemistry, in 2013.

Liljegren, Delcamp, Hammer and Dass all have had previous funding under Mississippi's NSF EPSCoR Research Infrastructure Improvement (RII) Track-1 Grant. These attest to the effectiveness of that grant in helping to develop research competitiveness within the State of Mississippi.

"CAREER awards are the most prestigious NSF awards for early-career faculty who integrate research and education in a very substantial way," said Alice Clark, UM vice chancellor for research and sponsored programs. "They do not just fund a specific project, but are investments in the nation's most outstanding faculty members in science and engineering.

"The fact that UM faculty have received three CAREER awards in a calendar year is a bold testament to the quality of our teacher-scholars."

These awards are external validation of the growing research excellence of the science departments within the university's College of Liberal Arts, said Lee Cohen, dean of the college.

"These awards also exemplify the kind of success that can be achieved when you have a helpful and encouraging faculty who are willing to assist their colleagues via mentoring," Cohen said. "It is my understanding that UM's previous NSF Award winners have been generous with their time and have been supportive in sharing the knowledge that they have regarding this highly competitive process, which I think is wonderful."

Curtis earned his doctorate in microbiology from the University of Georgia and a bachelor's degree in microbiology and genetics from Purdue University. He also was a postdoctoral researcher at Indiana University.

Courses he teaches at UM include General Microbiology, Bacterial Physiology and Prokaryotic Development. Curtis has written more than a dozen peer-reviewed journal articles.

Goals of the NSF CAREER program include providing stable support for five years to allow the career development of outstanding new teacher-scholars in the context of the mission of their organization and building a foundation for a lifetime of integrated contributions to research and education. Success rates vary across NSF divisions/directorates and competition years, but the rate in biology generally is between 10 percent and 15 percent.

For more information about the UM Department of Biology, visit <http://biology.olemiss.edu/> or call 662-915-7203.

FILED UNDER: [BIOLOGY](#), [COLLEGE OF LIBERAL ARTS](#), [NEWS RELEASES](#)

"James Meredith: Breaking the Barrier," a collection of essays edited by UM professor of journalism Kathleen Wickham, honors this historic milestone with

[Read the story ...](#)

[More Posts from this Category](#)