

University of Mississippi

eGrove

University of Mississippi News

2-13-2020

Universal Communicator

Abigail Meisel

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

Recommended Citation

Meisel, Abigail, "Universal Communicator" (2020). *University of Mississippi News*. 6450.
<https://egrove.olemiss.edu/umnews/6450>

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.

Universal Communicator

Astrochemist Ryan Fortenberry breaks down the chemistry of the cosmos

FEBRUARY 13, 2020 BY ABIGAIL MESEL

[Fa](#) [Tv](#) [Li](#) [Er](#) [C](#) [S](#) [M](#) [Pr](#) [St](#)



Ryan Fortenberry

OXFORD, Miss. – “Science should be explained like campfire stories,” said Ryan Fortenberry, **University of Mississippi** assistant professor of astrochemistry, a subspecialty that explores chemistry in outer space. “Any science concept can be talked about in everyday language.”

Fortenberry wants to reduce jargon in scientific prose, as evidenced by his piece in the February 2020 issue of **Scientific American**, “The First Molecule in the Universe.”

In it, he traces the discovery of a new molecule found in space, helium hydride – molecular formula HeH+ – which scientists believe is the first compound ever formed in the universe.

The bonding of helium and hydrogen atoms once was thought impossible by chemists, but in space, radically different temperatures and pressures create unpredictable reactions. The discovery of HeH+ calls into question accepted truths about chemistry overall.

“By studying chemistry in environments so very alien compared with Earth ... we can find molecules that challenge our usual notions of how atoms interact and bring us to a deeper chemical understanding,” Fortenberry wrote. “Ultimately we hope to learn how chemistry led to the ingredients that ended up in the planets in our solar system and eventually enabled life.”

Fortenberry entered the nascent field of astrochemistry through a back door. He’d known from a young age that he wanted to write about science, and to do that knowledgeably, he felt he needed a graduate degree, so he entered the Ph.D. program in chemistry at Virginia Tech.

“The program was way outside my comfort zone, and I wanted to quit,” Fortenberry said. “Then I came across a research fellowship offered through the Virginia Space Grant Consortium that introduced me to astrochemistry.

“Discovering this specialty changed my life and gave me a reason for sticking out graduate school.”

As a researcher, Fortenberry explores the interaction of light with molecules in space. He uses supercomputers to predict ultraviolet, visible, infrared, and microwave fingerprints of various chemical compounds.

To crunch the numbers for his research, Fortenberry counts on the high-end computers in the **Department of Chemistry and Biochemistry** and at the **Mississippi Center for Supercomputing Research**. The center provides sophisticated technical resources to Mississippi’s public colleges and universities.

He has published his findings in more than 100 peer-reviewed journals and stands as comfortably in the esoteric realm of the *Journal of Chemical Physics* as he does in *Scientific American*, ground zero for unpacking new concepts in science and technology for laymen.

“Dr. Fortenberry is not only an exceptional scientist, but also a gifted communicator who can readily explain complex scientific concepts in ways that both students and the general public find easy to understand,” said Greg Tschumper, chair and professor of chemistry and biochemistry.

Fortenberry, who has published a book about science writing, “Complete Science Communication: A Guide to Connecting with Students, Scientists, and Journalists” (Royal Society of Chemistry, 2019), would like to teach a journalism class for Ole Miss students.

“We are entering an era when understanding complex topics, like the science behind climate change, will be important for everyone to grasp,” he said. “The only way to do that is through clear communication.”

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.

“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](#)
