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August Science Cafe Focuses on Lightning Flash Observations

Monthly science forum begins fall in Lusa Pastry Café's new West Jackson Avenue location

AUGUST 14, 2013 BY EDWIN SMITH



Photo by Robert Jordan

OXFORD, Miss. – How lightning is created and how it gets from the clouds to the ground is the subject of this fall's first installment of the Oxford Science Café, a free monthly science forum organized by the **University of Mississippi Department of Physics and Astronomy**.

The presentation, titled "Lightning Strikes Twice ... at the Same Time!" is set for 6 p.m. Aug. 20 at Lusa Pastry Cafe, 2305 West Jackson Ave. Maribeth Stolzenburg, a UM research associate

professor of physics and astronomy, will discuss her research into lightning and its origins. The program is open to the public, and all ages are invited.

"In this talk, I will show lightning data acquired with a video camera running at 50,000 frames per second," Stolzenburg said. "At this speed, many processes of the flashes are visible, from the initiation within the cloud all the way to activity occurring after the return strokes have connected to ground."

Stolzenburg's 30-minute presentation will also show luminosity bursts during the initial breakdown in a cloud visible more than 25 kilometers away and the early development of "leaders," which are electrically conductive channels of partially ionized gas that travel away from a region of dense charge. Negative leaders propagate away from densely-charged region of negative charge, and positive leaders propagate from positively-charged regions.

"Negative leaders travelling toward the ground often split, forming branches in a tree-like pattern," Stolzenburg said. "Although these leaders travel too fast for the human eye to see approaching, the video camera can capture many features of the downward leaders before the flash reaches the ground."

Leaders often split, forming branches in a tree-like pattern. A variety of luminous activity immediately following some return strokes will also be displayed and discussed by Stolzenburg.

Between 2010 and 2011, the UM atmospheric physics group undertook two data collection campaigns in east-central Florida with the goal of developing a better understanding of how lightning forms and spreads through storms. Multiple instrument types were to investigate flashes around the **NASA Kennedy Space Center**.

Stolzenburg received her master's and doctoral degrees from the University of Oklahoma and her bachelor's degree from State University of New York at Albany. Her research interests are atmospheric electricity and mesoscale meteorology.

The Science Café began three years ago and was held in **Lusa Pastry Café** on North Lamar Boulevard before the business opened its second location on West Jackson Avenue.

For more information about Oxford Science Cafe programs, go to <http://www.phy.olemiss.edu/oxfordsciencecafe>.

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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

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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

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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

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