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Key to unlocking new dimensions close, physicist says

Renowned scholar shares mysteries of universe at Lawrence University

By Susan Squires
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APPLETON — Have you ever wondered why a magnet trumps Earth's gravitational pull in a contest over a paperclip?

Maybe, physicist and Harvard University professor Lisa Randall theorizes, the magnet's strength comes from an invisible fifth dimension, and she may soon know whether she's right.

In 2007, a machine called the Large Hadron Collider will begin hurling protons against each other with enough force to dislodge other particles. It records the number of particles that emerge from the collision. If any vanish, their disappearance could point to a fifth dimension.

"The secrets of the universe are about to unravel," Randall told her audience at Lawrence University, where she appeared Thursday as part of the university's Convocation Series.

Randall's book, "Warped Passages: Unraveling the Mysteries of the Universe's Hidden Dimensions," was included on the 2005 New York Times list of 100 notable books.

Randall's book – which incorporates references to "Alice in Wonderland" and "The Princess and the Pea" -- attempts to make concepts like mass and relativity accessible and relevant to the general public. Writing the book, she said in an interview before she spoke, was "one of the first times in my life I could actually talk to my friends about what I was doing."

Nonetheless, much of her presentation at Lawrence, in which she discussed concepts like "warped geometry," "string theory" and "supersymmetry," was not for the uninitiated, and some of her audience made early exits.

Understanding physics, she acknowledges, requires effort.

Many Americans, she said, don't have the educational foundation they should have.

"People teaching science have to understand math better," she said. "Teaching math and science separately just makes it more confusing."

Sophomore Laura Berger clapped enthusiastically when Lawrence associate professor of physics Jeffrey Collett, by way of introduction, mentioned that Randall was the first female physics professor to earn tenure at the Massachusetts Institute of Technology and the first woman tenured in theoretical physics at both Princeton University and Harvard.

"She has often been the only woman in a field women have been shut out of," Berger said.

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