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Weaving a tale of scientific discovery, adventures in cosmology, and the hunt for dark matter, Dr. Katherine Freese explores just what exactly the universe is made out of in

THE COSMIC COCKTAIL

Three Parts Dark Matter

“Freese tells her trailblazing and very personal story of how the worlds of particle physics and astronomy have come together to unveil the mysterious ingredients of the cosmic cocktail that we call our universe.”

— **Brian Schmidt, 2011 Nobel Laureate in Physics,
Australian National University**

What is dark matter? Where is it? Where did it come from? How do scientists study the stuff when they can't see it? According to current research, our universe consists of only 5% ordinary matter (planets, comets, galaxies) while the rest is made of dark matter (26%) and dark energy (69%). Scientists and researchers are hard at work trying to detect these mysterious phenomena. And there are none further ahead in the pursuit than Dr. Katherine Freese, one of today's foremost pioneers in the study of dark matter.

In her splendidly written new book **THE COSMIC COCKTAIL: *Three Parts Dark Matter*** (Publication Date: June 11, 2014; \$29.95), Dr. Freese tells the inside story of the epic quest to solve one of the most compelling enigmas of modern science—what is the universe made of? Blending cutting-edge science with her own behind-the-scenes insights as a leading researcher in the field, acclaimed theoretical physicist Katherine Freese recounts the hunt for dark matter, from the predictions and discoveries of visionary scientists like Fritz Zwicky—the Swiss astronomer who coined the term "dark matter" in 1933—to the deluge of data today from underground laboratories, satellites in space, and the Large Hadron Collider. Theorists contend that dark matter consists of fundamental particles known as WIMPs, or weakly interacting massive particles. Billions of them pass through our bodies every second without us even realizing it, yet their gravitational pull is capable of whirling stars and gas at breakneck speeds around the centers of galaxies, and bending light from distant bright objects. Freese describes the larger-than-life characters and clashing personalities behind the race to identify these elusive particles.

(more)

Many cosmologists, including Freese, believe we are on the verge of solving the mystery. **THE COSMIC COCKTAIL** provides the foundation needed to fully fathom this epochal moment in humankind's quest to understand the universe.

“As one of the pioneers in the hunt for dark matter, Freese weaves together tales of her own adventures in cosmology with the broader history of this historic quest. Her book elegantly conveys both the underlying science and the excitement of discovery.”

— **David Spergel, Princeton University**

“Katherine Freese has long been a major player in the quest to discover dark matter's identity. She tells her story with an insider's perspective—the perspective of the dark matter hunter.”

— **Dan Hooper, author of *Dark Cosmos: In Search of Our Universe's Missing Mass and Energy***

About the Author:

Katherine Freese is the George E. Uhlenbeck Professor of Physics at the University of Michigan. She is one of the world's leading researchers into the mystery of dark matter. She splits her time between Ann Arbor and New York City.

THE COSMIC COCKTAIL

Three Parts Dark Matter

Katherine Freese

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