

FOR IMMEDIATE RELEASE

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**Physicist Katherine Freese to Discuss Her Cosmic Cocktail Book on Dark Matter**

**Music by Mick Rossi’s Anti-Matter Ensemble & Spectrum Artists; Art by Gwen Tessier**

Spectrum is celebrating “dark matter hunter” Dr. Katherine Freese’s forthcoming *Cosmic Cocktail* book (Princeton University Press) with two special events blending science, music and art.

10 PM Friday 9 May, Katherine will make a brief presentation as part of a concert given by Anti-Matter, and ensemble led by Mick Rossi. Mr. Rossi has been pianist and collaborator with Philip Glass and Paul Simon for 13 years (and counting). Mr. Rossi will be composing and premiering a dark matter-themed piece for the occasion.

9 PM Sunday 11 May, Katherine will present ideas from her book on dark matter, including historical context and recent work.  She will also discuss (in simple terms) her theory on gravity waves that was published 25 years ago. That theory has recently been corroborated by a major experiment reported this March by a team of astronomers at the Harvard-Smithsonian Center for Astrophysics.

Spectrum house artists will present “Dark Blue Matter” and “Heavy Waves”, two music pieces composed for the 11 May event. Among the performers will be pianist / composer Gabriel Zucker, who has inspired Spectrum audiences with several of his own compositions as well as Charles Ives’ daunting “Concord Sonata”.

In the gallery space at Spectrum, artist Gwen Tessier will exhibit a sculpture based on dark-matter concepts during these events.

About *The Cosmic Cocktail*

The ordinary atoms that make up the known universe--from our bodies and the air we breathe to the planets and stars--constitute only 5 percent of all matter and energy in the cosmos. The rest is known as dark matter and dark energy, because their precise identities are unknown. *The Cosmic Cocktail* is the inside story of the epic quest to solve one of the most compelling enigmas of modern science--what is the universe made of?--told by one of today's foremost pioneers in the study of dark matter.

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 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.

Many cosmologists believe we are on the verge of solving the mystery. *The Cosmic Cocktail* provides the foundation needed to fathom fully this epochal moment in humankind's quest to understand the universe.

**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 divides her time between Ann Arbor and New York City.

**Excitement about *The Cosmic Cocktail*:**

"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**

"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***

"I enjoyed reading this book. Its unique blend of personal anecdote and cutting-edge research is entertaining and refreshing. Freese is a very well-known and respected scholar in the field."**--Juan I. Collar, University of Chicago**

