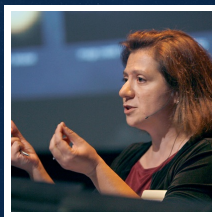


Understanding the Past, Present, and Future of Nature's most Exotic Objects



Vicky Kalogera

E.O. Haven Professor, Physics and Astronomy Director, Center for Interdisciplinary Exploration and Research in Astrophysics

CURRENT RESEARCH

Novel data-driven ideas and STEM learning and engagement

Dr. Vicky Kalogera, of Northwestern University, is an astrophysicist who hopes to understand the formation and evolution of exotic compact objects, like black holes and neutron stars. By using the laws of physics to build computational models, she is able to show what happened in the past and furthermore to describe why the universe is the way it is today. It is her firm belief that the best way to predict our future is by thoughtfully understanding our past; thus, through her study of some of the most powerful events in the universe, she is making sense of our universe's past, present, and future. Such research is likely to lead to powerful applications that are currently unforeseeable but can benefit the global community; Dr. Kalogera's computational and applied math research can lead to technology development that can benefit other data-intensive fields of science and engineering as well as big-data industry. Dr. Kalogera's passion for innovative solutions and her efforts to reach novel understandings of our universe inspires her work in bringing this excitement to STEM K-12 education: she works on offering professional development to school teachers and engaging school students in STEM education and research.

Dr. Kalogera focuses on the area of compact objects, remnants of stellar lives once stars run out of nuclear fuel, which includes black holes, neutron stars, and white dwarfs. In studying these objects, Dr. Kalogera hopes to discover their origins and thus, their evolutionary history and future. Because understanding cosmic mysteries is a core driver of human curiosity, Dr. Kalogera also uses her passion for astronomy to inspire the public and children to engage in the sciences, understand the...

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AFFILIATION



Northwestern University

EDUCATION

- Ph.D., in Astronomy, 1997 , University of Illinois at Urban-Champaign
- B.S., in Physics, 1992 , University of Thessaloniki, Greece

AWARDS

- Simons Foundation Fellow in Theoretical Physics, 2012
- Fellow of the American Physical Society, 2009
- Selected as one of Astronomy Magazine's "Top 10 Rising Stars of Astronomy", 2008
- Award for Excellence in Mentoring Undergraduate Research, Weinberg College of Arts and Sciences, Northwestern University, 2008
- David and Lucile Packard Foundation Fellowship in Science and Engineering , 2002

RESEARCH AREAS

Technology, Computational Sciences / Mathematics, Materials Science / Physics, Women in STEM

FUNDING REQUEST

Your contributions will support the continued research of Dr. Vicky Kalogera, of Northwestern University, as she studies the evolution of our universe and excites younger generations to pursue science and engineering. Donations will fund the necessary \$600K-1M required each year for research personnel and high-performance computing resources. In choosing to donate, you will play a role exploring the mysteries of our universe and igniting the curiosities of students. Donations can also be directed towards Kalogera's STEM education efforts that affect schools in the Chicago urban areas as well as making resources available to teachers across the nation.