Understanding the Universe: Where It's Been and Where It's Going

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CURRENT RESEARCH

How studying galaxy evolution can provide phenomenal insights

The Universe is a highly dynamic place - as it ages the existing galaxies also age, while new galaxies begin to form. Galaxies used to be smaller in the distant past, forming stars at a higher rate, containing more gas than they have today. Additionally, the so-called supermassive black holes at the centers of galaxies once shined brighter than they do now - they used to accrete more material and be more active. There are also many more 'quiescent' or 'dead' galaxies today - galaxies that have stopped forming stars altogether, and we don't know why. Questions of why these changes have happened point to the bigger question of how they affect humanity here on Earth; what about our very own Milky Way, that harbors our planet? Dr. Alison Coil, at the University of California, San Diego, asks the big questions such as "How are galaxies changing as the Universe expands, and How are galaxies and the stars and black holes in them influencing each other as time goes by?" As she aims to understand different aspects of galaxy evolution, so that we may better understand our place in the Universe on a much larger scale.

Since the beginning of time, stars have played an important role in our lives. To some, they were a compass; to others, they were a metaphor. To most, they've been a mystery - frontiers unbroken with limitless possibilities, an inspiration that makes us wonder: "Why are we here, and How did we get here? Who am I, and What part do I play in the bigger scheme of things?" Furthermore, the stars are not as we see them, and there is much more to the picture, more than our eyes can see. In our 21st century space exploration age, when we understand that we don't just go to space but that we are already in space,...

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AFFILIATION

University of California, San Diego

EDUCATION

- B.A., in Astrophysics, 1997 , Princeton University
- M.S., in Astrophysics, 2001 , University of California, Berkeley
- Ph.D., in Astrophysics, 2004 , University of California, Berkeley

AWARDS

- Hubble Postdoctoral Fellowship, 2005
- Sloan Research Fellowship, 2010
- Hellman Faculty Fellow Award, 2011
- NSF CAREER Grant, 2011
- Ingrid and Joseph W. Hibben Chair in Space Science and Education, 2014

RESEARCH AREAS

Environment, Atmospheric / Space, Space

FUNDING REQUEST

Your contributions will support the annual $250K necessary for the continued research of Dr. Alison Coil at the University of California, San Diego. Donations will help cover personnel, travel, computing, and publication charges. Studying the Universe on these large scales is extensive work that requires dedication; by donating, you will help find answers to crucial questions that are paving the road ahead and propelling humanity.