

Not all Galaxies are the Same: What a Galaxy's Appearance Tells Us about its Life History

2nd Annual F. K. Edmondson Astronomy Public Lecture

Martha P. Haynes

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Cornell University



Sunday, Dec 7, 4:30pm
Swain West 119

Public Lecture Intended for a
General Audience

NGC 3628



M64



Abstract: Galaxies come in a remarkable variety of shapes and sizes; some are red and some are blue. Exotic names describe some of them: the “Tadpole”; the “Black Eye”; the “Whirlpool.” Additionally, while some galaxies inhabit the rich clusters of galaxies and have many thousands of neighbors, others exist in virtual isolation in the “field.” During the course of their lifetimes, galaxies in such different environments are subjected to very different interactions with their neighbors and surroundings. In this talk, we will discuss what we can learn about a galaxy’s life history from its appearance today.

Martha P. Haynes



Martha Haynes is known for her research on the structure of the universe and galaxy evolution. For her research, she uses observational data from a variety of telescopes and instruments, including both imaging and spectroscopic data from the optical, infrared, and radio regions of the electromagnetic spectrum. In 2005, she began the Arecibo Legacy Fast ALFA Survey (ALFALFA) to search for gas-bearing galaxies over 7000 square degrees in the sky. The results of the ALFALFA survey have led to extensive studies of the distribution of galaxies in the local universe and to insight into the dominant physical processes that effect galaxy evolution.

Martha Haynes earned her Masters (1975) and PhD (1978) from Indiana University. Following postdoctoral and research associate positions at Arecibo Observatory, she was assistant director at Green Bank for NRAO from 1981-83. She then moved to Cornell University, where she has remained ever since. She earned the Henry Draper Medal in 1993 and was elected to the National Academy of Sciences in 2000 and elected Fellow of the American Association for the Advancement of the Sciences in 2000. She has served on numerous national and international advisory committees and was interim president of Associated Universities, Inc from 1998-99.

Previous Edmondson Lecturers:

2013: David Morrison



The annual F. K. Edmondson Astronomy Public Lectures were established to honor the memory of Professor Frank Kelly Edmondson, a faculty member of the Department of Astronomy at Indiana University from 1937 until his retirement in 1983, and as Chair of the Department from 1944 until 1978. Professor Edmondson is remembered not only for his contributions to the study of asteroids through the Indiana Asteroid Program, but also for his dedication and service to Indiana University and to the astronomical community. The Edmondson Lectures are endowed in honor of Professor Edmondson by his family and friends.

Galaxy images obtained with the WIYN 0.9m telescope, courtesy of L. van Zee. Picture of Arecibo Observatory from [www. tripadvisor.com](http://www.tripadvisor.com) Pictures of M. P. Haynes are from astro.virginia.edu/rood_photos/nrao50 and astro.cornell.edu/~haynes.