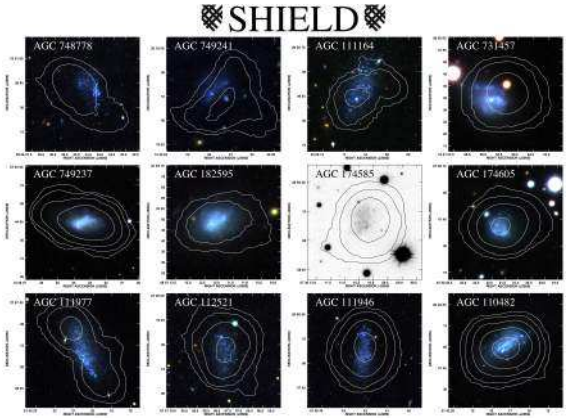
Macalester astrophysicist receives grant to study mysterious galaxies

St. Paul, Minn. – In the world of astrophysics, the evolution of galaxies remains one of the great, unsolved mysteries. Macalester Professor John Cannon has received a grant from the National Science Foundation (NSF) for over $295,000 to try to discover how a certain curious type of galaxy changes over time.



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Cannon and Macalester students will try to characterize the gaseous and stellar components of extremely low-mass dwarf galaxies, which is critical to understanding the processes by which gas is converted into stars in shallow gravitational potential wells.

“As an observational astronomer, I’ve always been interested in the smallest and least massive galaxies, and in how they differ from larger and more massive ones,” said Cannon. “This NSF grant is an opportunity to explore a sample of extreme galaxies in detail. Macalester students will play important roles in all aspects of this work.”

The project will conduct a comprehensive, multi-wavelength survey of 12 extremely low-mass galaxies selected from the ALFALFA (Arecibo Legacy Fast ALFA [Arecibo L-band Feed Array]) catalogue. The cornerstone of the survey is deep atomic hydrogen (HI) spectral line imaging of all 12 galaxies with the recently expanded Karl G. Jansky Very Large Array (VLA), an NSF-funded facility. A rich suite of supporting observations with various facilities (including the GALEX satellite, the Hubble Space Telescope, the Spitzer Space Telescope, the WIYN observatories, and the Kitt Peak National Observatory) will allow the exploration of multiple science themes that are critical to understanding galaxy evolution.

Macalester students will conduct forefront research, present their findings at topical and national meetings, and have the opportunity to publish in the astrophysical literature.

Macalester College, founded in 1874, is a national liberal arts college with a full-time enrollment of 2,035 students. Macalester is nationally recognized for its long-standing commitment to academic excellence, internationalism, multiculturalism and civic engagement. Learn more at macalester.edu (http://www.macalester.edu/).

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