

Graduate Degree Programs

The Department of Astronomy offers the M.A. and the Ph.D. degrees in astronomy and offers the Ph.D. in astrophysics jointly with the Department of Physics. Students normally spend the first two years taking astronomy and physics graduate courses and exploring possible research projects. During their third and subsequent years, students undertake dissertation research with guidance from a faculty member. Median time to Ph.D. is six years.

Ph.D. in Astronomy

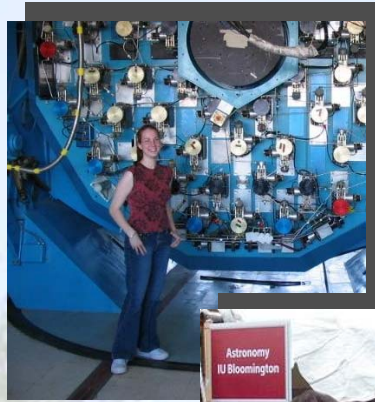
- A minimum of six courses from the astronomy core sequence and sufficient coursework to complete the minor requirements for a related field, e.g., physics, scientific computing, mathematics, chemistry, or geology.
- A written qualifying examination in astronomy.
- A predoctoral candidacy seminar.
- A doctoral dissertation and final oral defense.

Ph.D. in Astrophysics

- Four courses from the astronomy core sequence, four specified courses from the physics core sequence, and other astronomy and physics courses selected in consultation with the graduate advisory committee.
- Half of the written qualifying examination in astronomy and half of the written qualifying examination in physics.
- A predoctoral candidacy seminar.
- A doctoral dissertation and final oral defense.

M.A. in Astronomy

- Three courses from the astronomy core sequence and other astronomy and physics courses selected in consultation with the graduate advisory committee.
- An oral examination.
- A thesis or other demonstration of research accomplishment.



Astronomy Graduate Program



WIYN 3.5-m telescope located at Kitt Peak near Tucson, AZ.

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Astronomy Department
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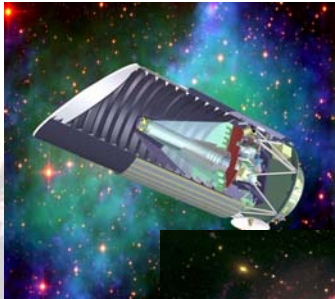
Email: astdept@indiana.edu
URL: www.astro.indiana.edu



DEPARTMENT OF ASTRONOMY
INDIANA UNIVERSITY
College of Arts and Sciences
Bloomington

Research Opportunities and Facilities

Students and faculty in the Astronomy Department conduct research on a broad range of theoretical and observational topics. Graduate students have access to several optical telescopes, excellent computing resources, and active instrumentation laboratories. Students often collect data with the WIYN telescopes; IU is a founding member of the WIYN consortium, which operates 3.5m and 0.9m telescopes at Kitt Peak. In addition to these premier facilities, the Department operates 16" and 50" robotic telescopes in the nearby Morgan-Monroe State Forest, as well as three teaching and outreach telescopes on the Bloomington campus. Departmental computing resources include workstations for data reduction, analysis, and hydrodynamics simulations plus two specialized GRAPE6 computer systems for N-body dynamics. Students also have access to "Big Red," which is one of the fastest university-owned supercomputers. Instrumentation activities include R&D studies for the Supernova Acceleration Probe and construction of high dispersion spectrographs for the WIYN and Morgan-Monroe State Forest telescopes.



Astronomy Faculty



Haldan N. Cohn (Professor, Ph.D. Princeton University 1979) studies the dynamics of globular clusters and interacting binary stars using Fokker-Planck and GRAPE6 N-body simulations and observations with ground and space-based observatories.



Constantine P. Deliyannis (Associate Professor, Ph. D. Yale University 1990) explores stellar interiors, stellar evolution, Galactic chemical evolution, and big bang nucleosynthesis through study of the relative abundances of the light elements.



Richard H. Durisen (Professor, Ph. D. Princeton University 1972) investigates star and planet formation through large-scale, multidimensional computer simulations of fluid and particle systems.



Phyllis Luger (Professor, Ph. D. Harvard University 1982) studies the dynamics of globular star clusters and interacting binary stars using the Hubble Space Telescope, Chandra X-ray Observatory, WIYN telescope, and computer simulations.



Stuart L. Mufson (Professor, Ph. D. University of Chicago 1974) studies high energy astrophysics, cosmic ray neutrino physics, and searches for dark energy.



Catherine Pilachowski (Professor and Daniel Kirkwood Chair in Astronomy, Ph. D. University of Hawaii 1975) explores the evolution of stars and the Milky Way through the study of the compositions of stars.



Katherine Rhode (Assistant Professor, Ph. D. Yale University 2003) studies the origin and evolution of galaxies by quantifying the ensemble properties of their globular cluster systems.



Liese van Zee (Associate Professor, Ph. D. Cornell University 1996) studies the evolution and star formation history of galaxies, including stellar population models and elemental enrichment.