The Department of Astronomy is an independent, active, and vibrant department that offers undergraduate and graduate instruction at a public University in New England. The Department is active in a broad range of observational and theoretical astrophysics and we seek to challenge and enhance our understanding of the cosmos that we live in.

UMass is a member of the Five College Astronomy Department (FCAD) alongside Amherst College, Mount Holyoke College, Smith College, and Hampshire College. As a result, students have access to a broad array of FCAD resources.

Students (Fall 2016)

100 Undergraduate majors
25 PhD students

Professors and Researchers

17 UMass professors
6 FCAD professors
5 Postdocs and research fellows

Program

- Research begins in the first semester
- Currently, there are no preliminary exams and one two-hour qualifying (comprehensive) oral exam in the third year
- Part of the Five Colleges Astronomy Department (FCAD) consortium, which provides the ability to interact with individuals across all five colleges

Telescopes and Facilities

- Part owner of the 50-m Large Millimeter Telescope (LMT) in Sierra Negra, Puebla, Mexico.
- Full partner in the WIYN 0.9-m telescope
- Access to advanced computational facilities
- Continuum and heterodyne instrument labs

The Benefits at UMass

Graduate students are part of the GEO Union and receive exceptional benefits, such as:

- Excellent health insurance, including coverage for vision/dental
- Health/wellness reimbursement for gym fees
- Childcare assistance
Studies and classwork (as of 2016)

Guaranteed funding if accepted
Two different research projects in first and second year
TA duties the first year
10 courses provide a comprehensive background in modern astrophysics

Areas of research

Research areas cover the X-ray, UV, Optical, Sub-mm, IR, and Radio regime
Simulations of the long-term evolution of galaxies after their formation
Large scale structures
Interaction of galaxies with their environment: structure of dark matter halos and global properties of galaxy clusters
Chemical evolution of the ISM and the circumgalactic enrichment
Resolved star formation: star cluster formation and the initial mass function
Star formation and feedback: examining high-energy sources of the ISM
Coevolution of galaxies and supermassive black holes
Astronomical instrumentation

Five-College Area

- Low rental cost in the local area
- Located near Boston and other regions with a high density of research institutions
- High visibility/opportunities to promote your research
- Beautiful scenery/hiking
- Skiing in nearby Vermont
- Lively arts scene

Grants and Fellowship Opportunities

Travel grants are available for conferences every semester, and students have access to the following potential funding:
- FCAD travel fellowships
- Massachusetts Space Grant Consortium (MASGC)
- Northeast Alliance for Graduate Education and the Professoriate (NEAGEP)

Judith S. Young Memorial Fellowship

Judith S. Young was a pioneer in radio astronomy and professor at UMass Amherst, and this award for exceptional women applicants serves to honor her legacy as a scientist and pillar of the community. Among her many accomplishments are pioneering observations of extragalactic molecular gas and construction of the UMass Sunwheel observatory. The recipient of Young Fellowship will receive the following:
- Travel funds to attend a scientific conference
- Stipend for purchase of laptop or other research-related expenses
- Exemption from TA duties in the first semester

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