

## DEPARTMENT OF ASTRONOMY



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 2021)

116 Undergraduate majors

23 PhD students

### Professors and Researchers

16 UMass professors

6 FCAD professors

5 Postdocs and research fellows



### Program

- Research begins in the first semester and involves at least two different research projects
- 9 required courses (including 2 electives) provide a comprehensive background in modern astrophysics
- Qualifying (comprehensive) exam at the end of the 2nd year
- Structured mentoring to help students achieve their career goals

### Telescopes and Resources

- Partner in the 50-m Large Millimeter Telescope (LMT) in Mexico
- Partner in the WIYN 0.9-m optical telescope
- Access to advanced computational facilities
- Continuum and heterodyne instrument labs
- Part of the Five Colleges Astronomy Department (FCAD)
- Involved in Subaru Prime Focus Spectrograph (PFS) project
- Faculty with joint affiliations at the Cosmic Dawn Center in Copenhagen and Tsinghua University in Beijing

### Statement on Diversity and Inclusion

*The Department of Astronomy at the University of Massachusetts strongly values diversity and inclusion at all levels and is committed to provide opportunities to all. Towards the goal of being a community that reflects the diverse makeup of our society, the Department, in its graduate admission proceedings, will strive to increase the admission of students from historically underrepresented groups in Astronomy, aiming at aligning with national population averages. The Department will continue to be a welcoming beacon of scholarship for all.*

## 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



## Areas of research

Research areas cover the X-ray, UV, Optical, IR, (Sub)mm and Radio regimes

Computational probability and statistics (big data)

Simulations of the formation and evolution of galaxies

Large scale structure

Galaxies and their environment: structure of dark matter halos and properties of galaxy clusters

Chemical evolution of the ISM and the circumgalactic enrichment

Resolved star formation: star cluster formation and the initial mass function

Exoplanet, brown dwarf, and circumstellar disk imaging and spectroscopy

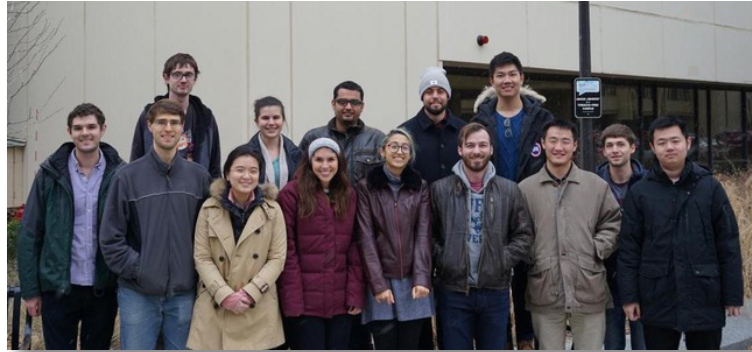
Star formation and feedback: examining high-energy sources of the ISM

Coevolution of galaxies and supermassive black holes

Astronomical instrumentation

## Five-College Area

- Low cost of living 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 and music 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
- Graduate School fellowships
- Massachusetts Space Grant Consortium (MASGC)
- Spaulding-Smith Diversity Fellowships: Awarded to historically underrepresented minority students in science PhD programs at UMass Amherst. The fellowship provides full funding for the student's first and last year of the PhD program and a community of like-minded individuals on their science PhD paths. Students are assigned a mentor within the fellowship and participate in an orientation with helpful graduate school tips and emphasis on diversity roles and experiences in academia. In addition, there are travel grants for fellows and monthly family dinners to promote a continued support network throughout the PhD journey.
- 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. The recipient of Young Fellowship will receive: travel funds to attend a scientific conference, a stipend for purchase of laptop or other research-related expenses and exemption from TA duties in the first semester.

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