

## Astronomy

A department in the College of Natural Sciences and Mathematics offering the B.A., B.S., M.A., and Ph.D.

### ■ The Review Process

This was a standard AQAD review. Reviewers were:

Douglas Richstone, chair (University of Michigan)  
Jacqueline Hewitt (Massachusetts Institute of Technology)  
Lee Mundy (University of Maryland)  
Donald Schneider (Pennsylvania State University)

### ■ Main Issues

The review team keyed many of its comments to the Large Millimeter Telescope (LMT) project (a \$100 million partnership between UMass Amherst and the government of Mexico) which, it noted, provides “an unparalleled opportunity for international scientific leadership and visibility.” For the next half-decade or so the LMT will be the most sensitive telescope in millimeter wavelengths in the world, creating a window in which the Astronomy department should be able to achieve prominence and distinction previously unattainable. To capitalize on this opportunity the department should:

- Hire a prominent senior faculty member to “act as a broad scientific leader of and advocate for” the LMT effort.
- Consider joining with one or more U.S. partners to broaden financial and intellectual resources for the project.
- Increase the visibility of the LMT project through workshops, conferences, publications, etc.

The team had also been asked to comment on the Department’s plan to focus future development on three research areas (LMT science, computing, and optical observational astronomy). The first two were seen as emerging from existing strengths. The team suggested that expansion into optical observational astronomy should be deferred for a few years until access to a major optical telescope might be secured by swapping access to the LMT.

The undergraduate program was seen as good, especially in terms of the use of instructional technology in large lecture sections. The team expressed concern, however, that loss of faculty and continuing high levels of service instruction have eroded the quality of the undergraduate astronomy major. The graduate program was also seen as strong, with concerns raised about communication, morale, and the overall departmental environment, especially for women.

The team identified several challenges: a “strong, immediate need for additional support for computer hardware and software;” a “somewhat uneasy or gloomy feeling in the department,” more pronounced among women than men; and a need to improve mentoring and communication and formalize departmental decision making.

## ■ **Results of the Review**

The Dean concurred with the team's assessment of the department's strengths, and made several specific responses to suggestions made:

- Endorsed the call for a senior hire, ideally with research interests aligned with the LMT.
- Expressed support for departmental efforts to raise visibility and awareness of its achievements.
- Described a plan to restructure computing support for the College as a whole.
- Committed to increased attention to issues related to departmental climate, communication, and decision making.