

Astronomy brings Ariz. economy \$250M a year

By Betty Beard

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The sun, moon, stars and all the galaxies are showering Arizona with about \$250 million in benefits a year.

That's the estimated annual economic boost that the astronomy, planetary and space science fields bring to the state from salaries, purchases, tourists, visiting scientists, and construction, according to a study released by the Arizona Arts, Sciences and Technology Academy.

Bob Millis, director of Lowell Observatory in Flagstaff, said researchers ordered the study to show the economic importance of these sciences and to encourage lawmakers to keep the fields strong in the wake of heavy competition from other states and South America and from threats like urban light pollution.

"The motivation was that all of us in the field have been aware that Arizona is a leader in astronomy and space sciences, but we really did not have any tangible measure of that in terms of the dollars these enterprises bring to Arizona," said Millis, who led the project's oversight committee.

These sciences also bring fairly good-paying jobs, with annual pay of \$50,000 and more, Patrick Burkhart, president of the academy, said. "These are the kinds of industries that you can grow. These sorts of disciplines are, in fact, high-paying jobs. They are technology jobs. They are engineering jobs." A 2003 study by the Battelle Memorial Institute and the Morrison Institute for Public Policy at Arizona State University identified space sciences as being among the state's six key core competencies that could be strengthened to generate more high-paying jobs.

Space sciences and optics were included in an area called communications that also included electronics, computer modeling and simulation, chemistry and materials.

The \$47,500 study of the astronomy impact, done by the University of Arizona's Economic Business Research Center, looked specifically at benefits in the 2005-2006 fiscal year. It identified \$252.8 million in impacts, about 200,800 visitors and about 3,300 direct and indirect employees.

Burkhart, said it is believed to be the first study of its kind that looked at the statewide impact of such sciences. Since the Lowell Observatory was built in Flagstaff in 1896, Arizona has seen almost 30 observatories built in the state, mostly on Kitt Peak in southern Arizona. The state already has about \$1.2 billion invested in instruments, land and facilities and another \$635.7 million is under construction, according to the study.

That includes the \$120 million Large Binocular Telescope under construction at Mount Graham in southeast Arizona, the \$42 million Discovery Channel Telescope under construction about 40 miles south of Flagstaff and a smaller, \$3 million project at Lowell, Millis said.

When those are done, Millis said Arizona will have three of the five largest telescopes in the continental United States.

The study recommends:

- The Arizona Department of Commerce, Arizona Aerospace and Defense Commission and the academy develop a plan to invest in and leverage Arizona's competitive research assets in the field.
- Those groups should work with the state's federal delegation to ensure stable, continued funding for the sciences and to seek additional funds for the National Optical Astronomy Observatory, National Solar Observatory, U.S. Geological Survey and U.S. Naval Observatory.
- Research leaders and scientists should form a new group to more effectively compete for federal funds.
- State, local and tribal leaders should revise existing laws to reduce light pollution.