

NEWS

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Building a model institute

Arizona State University is combining energy, innovation and expertise in STEM education (science, technology, engineering and mathematics) to develop a groundbreaking new institute that will produce a community of highly qualified middle school math and science teachers.

The National Science Foundation (NSF) has awarded ASU a five-year, \$1.25 million Innovation through Institutional Integration (I3) grant to develop The Modeling Institute, a collaboration of the university's most cutting-edge research in STEM education and teacher preparation.

A multidisciplinary team of ASU researchers will drive the project under the auspices of the Center for Research on Education in Science, Mathematics, Engineering and Technology (CRESMET) housed within the Mary Lou Fulton Institute and Graduate School of Education. The project integrates some of the university's most successful NSF-sponsored STEM education initiatives to maximize ASU's impact on K-12 education locally and nationally.

ASU reshapes teacher education

The restructuring of ASU's colleges of education and the recent award of a \$33.8 million federal grant to the College of Teacher Education and Leadership (CTEL) are but two milestones in the university's effort to improve the quality of America's K-12 education system.

Through the restructuring, CTEL has assumed responsibility for all ASU undergraduate and graduate programs on all campuses that lead to teacher certification. At the same time, the Mary Lou Fulton Institute and Graduate School of Education is focused on producing knowledge, new ideas and concepts, technically confident policy analysis, and graduate students in specialized fields.

The restructured College of Teacher Education and Leadership has one purpose – to produce the finest teacher possible, from throughout the university by every means necessary.

And the Nobel award goes to ...

Elinor Ostrom, a research professor at Arizona State University, has won this year's Nobel Memorial Prize in Economic Sciences, a prize she shares with Oliver E. Williamson of the University of California at Berkeley.

Ostrom, who holds research positions at ASU and Indiana University, is one of three faculty members at ASU to be a Nobel Prize recipient and the second in economics. Edward C. Prescott won the 2004 Nobel Prize in Economic Sciences and Leland "Lee" Hartwell won the 2001 Nobel Prize for Physiology or Medicine before joining the ASU faculty this fall.

At ASU, Ostrom is the founding director of the university's Center for the Study of Institutional Diversity. The center, established in 2008, is nestled in the School of Human Evolution and Social Change in ASU's College of Liberal Arts and Sciences. Ostrom is widely known for her study of institutions – conceptualized as sets of rules – and how they affect the incentives of individuals interacting in repetitive and structured situations.

Future is bright for ASU Fulbrights

Arizona State University is the second-highest public research university in the nation for winning student Fulbright grants, according to rankings just released by the *Chronicle of Higher Education*. A record 18 ASU students are studying in 16 different countries this year.

ASU also is one of the top producers of faculty Fulbright Awards, ranking 10th in the nation with four faculty members selected to teach and conduct research abroad this year. Both the University of Arizona and Northern Arizona University also have four faculty Fulbright Award recipients.

Building a broad network of strong international relationships is part of the global engagement mission of ASU. The university encourages students and faculty to pursue exchange abroad, in order to foster collaboration and build global perspective.

ASU students are especially successful at winning overseas study grants, partly because of ASU's emphasis on global studies and foreign languages, and also because of the strong support of faculty mentors.

Award shines light on innovation

The Global Student Entrepreneur Awards (GSEA) released its second annual ranking of universities that are home to the most student entrepreneurs. Arizona State University ranked

second with 31 student entrepreneurs. Babson College ranked first with 54.

GSEA, a program of the Entrepreneurs' Organization, is the world's premier competition for students who own and run businesses while attending a college or university.

"University-based entrepreneurship is critical not just to students, but also to cities and nations that seek to foster innovation, job growth and economic development," said Kevin Langley, the Entrepreneurs' Organizations chairman elect.

In 2006, ASU was designated a leading entrepreneurial university. The Ewing Marion Kauffman Foundation awarded a \$5 million grant to ASU to extend access to entrepreneurship education.

Fighting cancer with physics

Instead of killing cancer cells, researchers at Arizona State University will use the laws of physics to figure out how to control them. And, rather than treating cancer as a disease and seeking a cure, ASU scientists will view cancer cells as physical objects and study them the way a physicist would, using simple variables such as temperature, pressure and force.

That fresh approach is behind a new research center at ASU – one of 12 Physical Sciences-Oncology Centers receiving some of \$22.7 million in funding this fiscal year from the National Institutes of Health's National Cancer Institute. Each center will bring a non-traditional approach to cancer research with the goal of developing new methods of arresting tumor growth and metastasis.

"What is new about this initiative is that it is going to be tackling the root causes of cancer on a conceptual level," says Paul Davies, a theoretical physicist, cosmologist and astrobiologist who is leading the ASU cancer initiative.

"Cancer cells are, after all, physical objects," he says. "Instead of thinking: 'Oh let's throw all these chemicals at them and see if we can kill them,' let's think of them as physical objects in the body or in isolation and study them in that way as a physicist would. We look at the forces that act upon them, look at their mechanical properties, their electrical properties, how they cluster, how they act as communities."