ASU College of Liberal Arts & Sciences
ARIZONA STATE UNIVERSITY

# PHYSICS FLASH

News from the Department of Physics / Vol.2, No. 1

**ASU Physics**
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## In the news…

**ASU Physics welcomes five new staff members** to the department: Ebony Allensworth, Carrie Martin, Sheryl Gick , Jessica Pauls and Nicholas Vaidyanathan. Their hires were a result of organizational changes as well as the filling of existing vacancies.

Allensworth will work to support the development and growth of Nanoscale Science and Materials Physics efforts within the department. This is one of three new positions created to localize support within large research efforts in the department. Allensworth has extensive business experience in the private sector and joins colleagues Jill Kolp and Sunny Thompson who coordinate the Center for Biological Physics (CBP) and Cosmology & Particle Astrophysics efforts, respectively.

Ebony Allensworth

Carrie Martin

Martin will serve as General Studies Program Coordinator and front office manager. With over 4000

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# ASU physicist organizes Latin American symposium on nuclear physics

This past December, physicists from around the world met in Santiago, Chile to attend the VIII Latin American Symposium on Nuclear Physics and Applications. For organizing committee chairman, ASU Physics' Professor Ricardo Alarcon, the event held special meaning both professionally and personally. Alarcon's alma mater, the University of Chile, hosted the symposium and his former Ph.D. advisor Professor Jack Rapaport was honored at the opening ceremony. Rapaport is former Distinguished Professor of Physics and current Professor Emeritus at Ohio University and arguably one of the most prominent experimental nuclear physicists from Chile.

ASU Physics' Professor Ricardo Alarcon speaking at the VII Latin American Symposium on Nuclear Physics & Applications

With more than 150 scientists and students representing 22 different countries, participants in the week-long symposium had an opportunity to enjoy a momentous scientific program that included plenary, parallel, and poster sessions. Thanks to the support of local and regional organizations, financial aid was extended to about 50 participants – mostly students - from Latin America.

This year's conference continued the series initiated in Caracas, Venezuela (1995, 1997), with subsequent meetings in San Andrés, Colombia (1999), Ciudad de México, Mexico (2001), Santos, Brazil (2003), Iguazu, Argentina (2005), and Cusco, Peru (2007). Alarcon chaired the organizing committee of the 2007 Cusco meeting as well.

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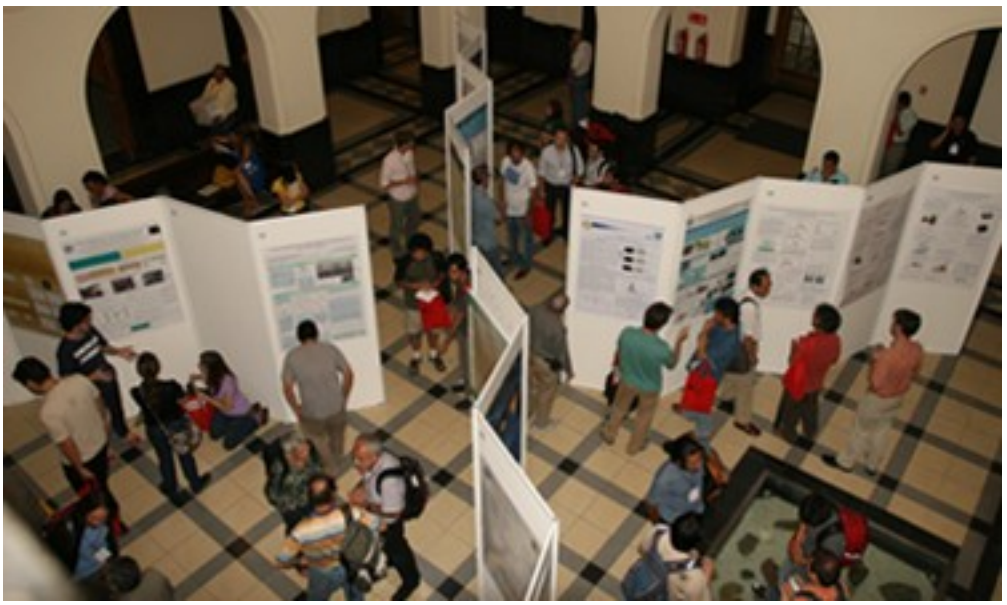
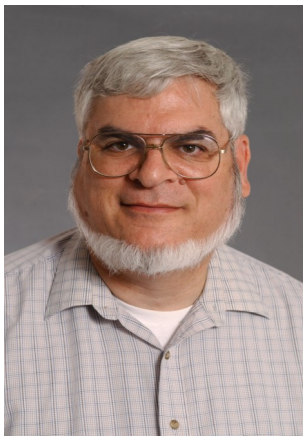


Participants attend the poster session during the week-long symposium

# ‘Seven Samurai’ astronomer leaves mark on ASU Physics

On December 26, 2009, ASU faculty lost an admired colleague and students lost an effective, dedicated teacher. Professor David Burstein passed away in December after struggling with Pick’s disease, a rare neurodegenerative disease that causes progressive destruction of nerve cells in the brain. Burstein received his Ph.D. from the University of joined the Department of Physics and Astronomy in the fall of 1982 as an assistant professor, was promoted to associate professor in 1988 and to professor in 1994. In 2006, ASU astronomers moved from the department to the newly-formed ASU School of Earth and Space Exploration.

Professor Burstein had a full and productive life teaching, mentoring, and researching at ASU. He taught a variety of graduate and undergraduate astronomy courses with an emphasis on general studies courses for students outside the physical sciences. In 2003, he co-authored *21st Century Astronomy,* an introductory astronomy text. He had a connection with students that was rooted in patience and a love of science.



Professor David Burstein

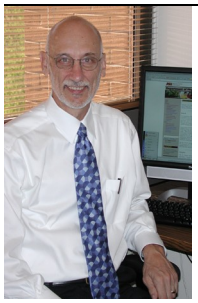
Burstein’s service to ASU is equally noteworthy. He served on numerous department, college, and university committees throughout his tenure. He was very involved with ASU’s Academic Assembly including serving a term as President.

As a researcher, Burstein’s legacy is extensive. His publications are highly cited and he was a sought-after speaker and visiting professor throughout his career. He especially noted for his work as one of the “Seven Samurai”, a group of astronomers who discovered that the universe was expanding unevenly.

He is survived by his wife, Gail Kelly Burstein; his two children: Elizabeth Browne and her husband, Eric, of Tucson; and Jonathan Burstein and his wife Kathy, of Delray Beach, FL; and two-year-old grandson, Andrew David Burstein.

## MAKE A DIFFERENCE …with ASU Physics

**Please consider supporting ASU Physics’ students, research, and programs. For more information, visit our website or call 480.965.6794.**



From the Chair…

## Collaborating to build a new Materials Graduate Program

Arizona State University has a rich and strong tradition in materials research. It is internationally known for expertise in high resolution electron microscopy, and the John M. Cowley Center for High Resolution Electron Microscopy is still the buzz on campus. The Cowley Center’s faculty are developing plans for the installation of two new aberration corrected microscopes. ASU Physics’ also recently hosted the Cowley Distinguished Lecture which featured Professor Dirk Van Dyck. Professor Van Dyck is Chair of the Department of Physics at the University of Antwerp and an internationally recognized leader in the field.

As nanoscience and nanotechnology become crucial to advancing our economy, the role of electron microscopy will become ever more important. The state-of-the-art facilities combined with the experience of many of the world’s leading microscopists sets the foundation for our students and colleagues to advance a broad range of grand challenge problems from energy materials to nano-electronics, and from nano-photonics to nano-structures for chemical and bio-sensing.

In many ways, nanoscience and materials science are overlapping or at least parallel fields. Combined, these fields have significantly evolved in the last few years. Conferences such as the March Meeting of the American Physical Society and the Fall Meeting of Materials Research Society now have numerous sessions on nanotubes, single sheets of graphite (called graphene) and nanostructures that combine organic and bio molecules. These ‘materials’ are being proposed to address new problems such as clean energy, drug delivery and water purification. I have long said that new technologies require new materials, and I continue to see strong evidence supporting this perspective. Only now the ‘materials’ are typically nanostructures or unique combinations of hard and soft materials.

ASU is now moving to establish a graduate program in Materials. The Materials Graduate Program at ASU will bring together faculty and students who work in the broad field of materials research and who may be themselves in one of many programs across campus. Professor Terry Alford has been named the first Chair of this new Graduate Program, and we extend our congratulations and best wishes to him as he embarks on this new challenge of building a broad materials perspective at ASU.

Robert J. Nemanich
Professor & Chair

## *New staff* (continued from Page 1)

students enrolled in physics courses at ASU each semester, she will coordinate physics classes for non-majors. She has previous experience working in an academic unit both at ASU and at Dixie State College in St. George, UT.

Sheryl Gick

Gick comes to ASU via Purdue University where she worked in business services and project management for 17 years. At ASU, she will lead business operations and work closely with Department Manager Margaret Stuart and Chair Robert Nemanich on fiscal planning for the department.

As Academic Advisor, Pauls will head up advising services for the department. She will also coordinate development of the undergraduate majors program. ASU Physics is experiencing significant growth in its undergraduate program with over 200 majors currently enrolled. With previous advising experience at University of Pittsburgh, University of Kansas, and ASU, Pauls will work with department faculty and administration to enhance the undergraduate physics experience at ASU.

Jessica Pauls

Nicholas Vaidyanathan

Vaidyanathan joins the ASU Physics IT team as the department's web developer. He will be instrumental in creating applications that will support departmental services and educational initiatives. Vaidyanathan is also a PhD candidate in the School of Computing, Informatics, and Decision Systems Engineering with a concentration in Computer Science.

## PHYSICS FLASH WANTS TO HEAR FROM YOU

Please send your comments, questions, and story suggestions to phyflash@asu.edu.

## *Symposium* (continued from Page 1)

The symposium has evolved from a meeting on Nuclear Structure and Heavy-Ion Reactions to the present format, where all major research frontiers of nuclear science are represented with a strong emphasis on the applications of the field and its broad impacts on society in general. The meeting in Santiago covered many topics including nuclear structure and reactions; nuclear and particle astrophysics; the study of matter and the strong force in the framework of quantum chromo-dynamics (QCD); tests of fundamental symmetries and the properties of neutrinos; applications of nuclear physics in medicine, art, archeology, energy, and national security; and advances in nuclear instrumentation and facilities.


Symposium participants outside the School of Engineering at the University of Chile.

The meeting attracted significant local media attention. Nuclear energy is undergoing a renaissance as the global community explores strategies to promote a green future. Nuclear physics will likely continue to be an important part of the on-going discussion.

At the conclusion of the meeting, representatives from Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela formed the Association of Latin America Nuclear Physics and Applications (ALANPA). The objectives of ALANPA are to strengthen ties among the Latin American communities doing pure and applied nuclear research, to educate the scientific community and the general public, to do periodic overall assessments of nuclear science in Latin America, and to discuss - at a multi-national level - future planning of nuclear science activities in Latin America.

Although the 2009 symposium is over, Alarcon's work continues. He is currently editing the proceedings, which will be published by the American Institute of Physics (AIP). He will also lead the next symposium planned for July 2011 in Quito, Ecuador.