

ronment. Having to move repeatedly. The grant grind. Sexual harassment. These are some of the reasons that female physicists and astronomers leave academia, according to an ongoing survey launched in early March.

The survey asks why people left, whether they felt gender discrimination, and how happy they were before and after leaving academia. By press time, some 75 women from all rungs on the academic ladder had filled out the survey.

The most interesting trend, says survey author Sherry Towers, a postdoc in particle physics at Fermilab, "is that women who left academia after doing at least one postdoc appear to be far more unhappy with the field upon leaving than women who leave academia immediately after finishing their PhD." None of the respondents, she adds, said they left academia because they felt they couldn't match the performance of their male peers. (Read the responses or participate in the survey at http://www-d0.fnal.gov/~smjt/survey_response.html.)

Posting the survey responses on the World Wide Web "gives people a chance to look at what's going through other people's heads," says Towers.

"Leaving academia is often seen as a failure, and the culture of physics academia strongly discourages people from even talking about the fact that they might be considering alternate career paths."

Among the survey's flaws, says Towers, are that "the responses are voluntary, so you don't know if they are just some unhappy tiny fraction of people, or the norm. And you don't know if men leave for the same reasons that women complain about—they couldn't see balancing work and family, no role models, isolation, discrimination." What's more, given that the survey was advertised on list servers for women in physics, it's unlikely to reach those who have not kept close ties with the field. Towers says her next step will be a more statistically rigorous survey, of both women and men, that would "look at whether there are career dissatisfactions that are gender dependent."

For her part, Towers is job hunting—outside of academia. "Having two or more kids, in my subfield, is often the kiss of death to your academic career if you are a woman," she says. "So it looks like I'll leave academia this summer. I don't want to leave. I adore physics."

Toni Feder

Argonne Finds New Director In-House

On 18 April, after a nationwide search, Argonne National Laboratory got a new director from within its own ranks. Robert Rosner, an astrophysicist, had served for three years as the lab's chief scientist and associate director for physical, biological, and computing sciences. Rosner succeeds Hermann Grunder, who had held the directorship since 2000. "It's time to make space for younger people who have a lot of good ideas," says Grunder. "Bob will make sensible decisions whatever the circumstances."

As Argonne's new director, Rosner says the biggest challenge for him and the staff will be fulfilling under a tight budget the laboratory's 20-year strategic plan for science and technology. Rosner was key in developing the strategic plan after joining the lab in 2002. Argonne, a US Department of Energy



Rosner

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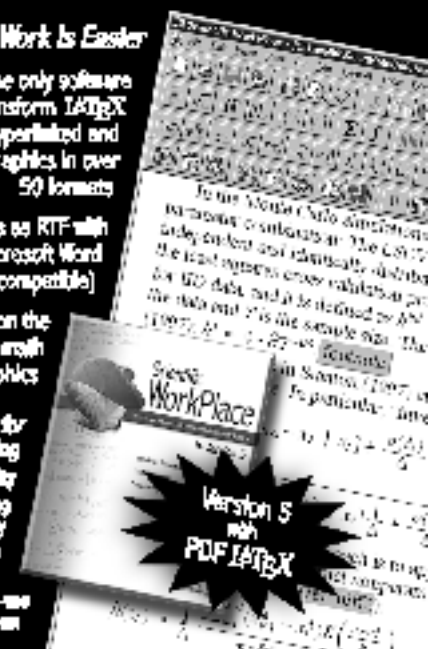
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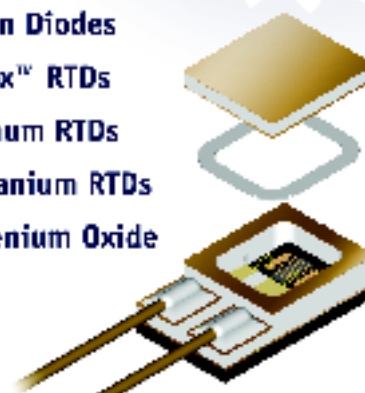
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Dance for Physics



All dance is about time, space, and light," says Mark Baldwin, who, as artistic director of Rambert Dance Company, choreographed Constant Speed, a dance inspired by the concepts of special relativity and Brownian motion. The dance was commissioned by the UK's Institute of Physics in celebration of Einstein Year, as the World Year of Physics 2005 is known in some countries. It opens in London on 24 May.

At the start of Constant Speed, "the dancers are dressed in white. In the end, they are all colors, as if pushed through a prism," says Baldwin. The dance is "packed full of movement," he adds. "Imagine the hips are some kind of molecule that is out of control, so the body can lunge in all directions. It's a driving, muscular piece."

The dance is "hanging what we hope will be an important piece of art on a scientific stimulus," says Jerry Cowhig, head of IOP Publishing. "We never wanted anything pedagogical, but merely for it to be inspired by Einstein. It's meant to be abstract and expressionist."

At the same time, IOP hopes the dance will raise the profile of physics and of the institute. That may be aided by Rambert's traditional discussions at schools and after performances. In this case, IOP will include an educational leaflet and physicists will join Baldwin and the performers for the discussions. With dance audiences, says Cowhig, "we are hitting new targets."

Constant Speed has received wide attention in the UK press, in part because it is Baldwin's first creation for the 80-year-old Rambert Dance Company. The piece will debut with three other dances from the company's repertoire and will tour the UK for the next year.

Toni Feder



ANTHONY CRICKMAY

Dancers in Constant Speed.

(DOE) research center managed by the University of Chicago, has an annual operating budget of \$475 million and employs about 2700 people.

Rosner points to the increased use by biologists of Argonne's x-ray facility, the Advanced Photon Source (APS), and to stronger ties between the University of Chicago and the lab

as hallmarks of Grunder's tenure. "I am confident that we can replicate this kind of success in other areas within the lab's research portfolio," says Rosner.

Gaining a better understanding of biological systems through microbial genomics and related protein encoding is one of several objectives identi-

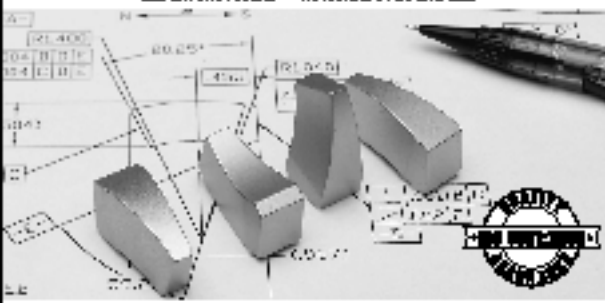
fied under the 20-year plan, and is a major thrust of DOE. The laboratory also plans to expand its nanoscience, computational science, and accelerator programs. Argonne is working with the state of Illinois to build a center for nanoscale materials, studying pathogens in collaboration with the National Institutes of Health, and

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conducting research on transportation and energy efficiency. For example, says Rosner, researchers are using the APS to study complex spray geometry in diesel injectors for research on hydrogen generation, fuel cells, and efficient diesel combustion. Winning a bid to build and operate the \$1 billion Rare Isotope Accelerator is high on the lab's wish list. Next month, DOE expects an advisory committee report reconsidering the priority of RIA in light of current budget constraints.

Cheryl M. Harris

News Notes

Historical physics sites. In an initiative to make the public aware of physics and its significance in US history, the American Physical Society (APS) is placing plaques around the country to mark the sites of important physics discoveries.

Five sites have been selected this year. They are Case Western Reserve University in Cleveland, Ohio, where Albert Michelson and Edward Morley used their interferometer to show that the speed of light is constant; Johns Hopkins University in Baltimore, Maryland, in remembrance of Henry Rowland, who immensely improved diffraction gratings; the Franklin Institute in Philadelphia, to honor Benjamin Franklin for his experiments with lightning and electricity; Washington University in St. Louis, Missouri, where Arthur Compton did the work on x-ray scattering now named

for him; and Yale University, at the site where Josiah Willard Gibbs did his work in thermodynamics.

The APS register of historic sites will be expanded every year. "Once we've got the obvious big ones," says John Rigden, who chairs the historic sites committee of the APS forum on history of physics, "we want to honor more local and recent discoveries too, to let people know that exciting things are still happening in physics."

To nominate sites for inclusion in the APS register of historic sites, send an e-mail to historicsites@aps.org. TF

Science on stage. Now may be the time to write that play you've been carrying around in your head all these years. The University of California, Santa Barbara, is hosting an international competition for scripts about science and technology.

UCSB's Professional Artists Lab and the California NanoSystems Institute launched the competition. Lab founder and director Nancy Kawalek says, "Our goal is to cultivate appreciation and collaboration between science and the arts, develop art that depicts the technological age in which we live, and foster new, imaginative voices and methods of storytelling."

The winner will receive \$10 000, a staged reading of the script with a cast of professional actors, and access to scientific and theater-related advice. Submissions must be postmarked by 15 December 2005. For more information, visit <http://www.cnsi.ucsb.edu/stage>. TF ■

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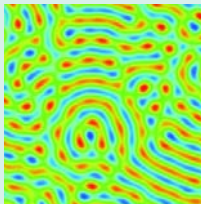
<http://www.nnin.org>

Since March 2004, the NSF-funded **National Nanotechnology Infrastructure Network** has served as a national toolbox for nanoscience. By booking a

visit to any of the 13 labs in the network, researchers can use state-of-the-art equipment that their home institutions might lack. NNIN also provides training, outreach, and software.

<http://www.cmp.caltech.edu/~mcc/Patterns>

Caltech's Michael Cross studies systems far from thermodynamic equilibrium. To illustrate some of the equations that describe such systems, Cross has developed a set of Java applets. You can run the applets from his **Pattern Formation in Nonequilibrium Systems** website.



<http://www.compadre.org>



Teachers, students, and departments are creating online materials for teaching physics. To collect and disseminate those products, five US physics societies have joined forces to form **comPADRE**: Communities for Physics and Astronomy Digital Resources in Education.

To suggest topics or sites for Web Watch, please visit <http://www.physicstoday.org/suggestwebwatch.html>.

Compiled and edited by Charles Day

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