

checks at the lab. By the end of this year, all employees at federal facilities, including contract workers, must undergo the checks required by Homeland Security Presidential Directive 12. NASA's version of HSPD-12 is unduly invasive and "is an invitation to an open-ended fishing expedition," says JPL physicist Robert N. Nelson, one of the plaintiffs.

NASA is requiring all its employees to disclose where they have lived; their school, medical, bank, and criminal records; previous employment; and illegal drug use over the past five years. Employees also have to waive their privacy rights and give permission to the government to obtain additional information about them from other sources. While other NASA employees are grumbling, JPL's are the only ones with pro-bono legal representation.

According to William Jeffrey, who headed NIST when that organization set the standards for HSPD-12, only a fingerprint and a few other details are required as a background check. "There is no requirement for the review of the financial or medical history of any federal employee or contractor," he wrote in response to a query from Representative Rush Holt (D-NJ), who had been contacted by the JPL scientists. Jeffrey's letter also states that NASA Administrator Michael Griffin has wide discretion in how he implements HSPD-12. "Some other agencies have elected to do nothing at all in response to HSPD-12," Nelson says.

By 5 October all 5000 JPL employees must start the security checks or be fired

three weeks later. "We will miss those folks who do not comply with the order," Griffin told JPL's staff in June. **PKG**

Europe's S&T jobs. The science and technology sector in the European Union has grown more than 30% over the past five years, with education providing the bulk of new jobs, according to a recent European Office of Statistics report, *Highly Qualified Workers in Science and Technology*.

Of the 214 million people employed in the EU's 27 member countries, 74.9 million, or 35%, now work in S&T occupations. Of those, 34 million are highly qualified, that is, they hold a master's degree or higher or work as a professional or technician in an S&T field, the report says. Luxembourg and Denmark have the largest percentages of their employed populations working in highly qualified positions in S&T, each with about a quarter. The sector is growing fastest in Cyprus and Poland, a result, the report says, of "several activities [by the EU and the individual governments] to increase the involvement of young people in science." In contrast, Germany saw a 2.6% drop from 2001 to 2006 in the number of highly qualified S&T workers aged 25–34. More than half of the highly qualified workers in Ireland, Finland, and Switzerland work as scientists and engineers. The report is available online at http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1073,46587259&_dad=portal&_schema=PORTAL&_product_code=KS-SF-07-103. **PKG**

web watch

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<http://blog.khymos.org>

In his blog **Khymos**, Martin Lersch describes and illustrates his experiments in the field of molecular gastronomy, the application of physics and chemistry to produce culinary innovations. Among his experiments are marsh-mellowed bananas, carbonated grapes, and foamed strawberries.



<http://www.galaxiki.org>

Jos Kirps has applied the wiki concept of community-based editing to create **Galaxiki**, a fictional online galaxy that users can fill with their own stars, planets, and moons.



<http://www.worldmapper.org>

Worldmapper, a multidisciplinary project, combines topical data from various countries and creates global maps. In each map, the countries' areas are expanded or shrunk according to the quantity plotted. The example

here shows national R&D expenditure.

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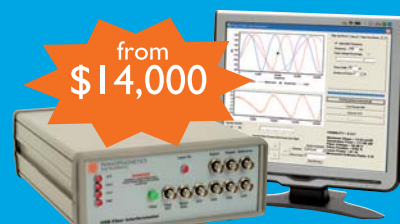
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