

Education

France's *grandes écoles* accused of elitism

Physicists in France have backed government plans to open up the country's elite *grandes écoles* to more students from poorer backgrounds. The government wants to allow up to 30% of students to be given free scholarships in an attempt to broaden the social mix of the student body. The physicists say this would not lead to a lowering of standards.

There are about 200 *grandes écoles* in France, which are private bodies that exist outside the mainstream public university system. They educate pupils to degree level, although the number of scholarship students has fallen from about 29% in 1950 to just 15% now. However, the *Conférence des Grandes Ecoles* (CGE) – an association that represents about 70% of the *grandes écoles* – said in December last year that it disapproved of formal quotas and called for the entrance exams to continue to be the same for everyone.

French president Nicolas Sarkozy has since declared that the government has no intention of imposing quotas for admission, but that he would like to see a

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“diversification” of admission procedures to widen the social basis of students admitted to the *grandes écoles*. Many critics say that students from lower-income families are discriminated against by the exacting entrance exams, which test not only knowledge of a specific field but also the general cultural knowledge of candidates.

Jean Dalibard, a condensed-matter physicist at the *Ecole Normale Supérieure* (ENS) in Paris, says that it is self-evident that the *grandes écoles* should look for the best students, but that some flexibility in entrance exams will not result in a lowering of standards. He cites the *Ecole Polytechnique*, an engineering school in Paris where he teaches, as an example of what can be achieved. “A big effort has been made to enlist foreign students, and the exams are different than those for French students,” he says. “The *Ecole Polytechnique* now admits 100 foreign students per year. It is an enrichment to have these 100 foreign students, and nobody protests.”

Alexander Hellemans

Funding

US standards lab funds new research centres

A dozen US research institutions have won grants totalling \$123m from the National Institute of Standards and Technology (NIST) to build new laboratories or extend existing research facilities. The funds, from the American Recovery and Reinvestment Act, will be used to develop new measurement technologies as well as improve environmental-monitoring techniques. The institutions – 11 universities and one non-profit organization – beat off competition from 155 other institutions for the funds.

One winner is the Laboratory for Advanced Quantum Science at the University of Maryland, which gets \$10.3m towards a total budget of \$15.6m to create environmental controls for clean air, low vibration and electromagnetic interference. “This new laboratory will be part of a larger physical-science complex,” says Maryland physicist Steve Rolston, who is also co-director of the NIST/Maryland Joint Quantum Institute whose work the new lab will support. “We’re trying to explore how to use quantum mechanics to do more for measurements in terms of better sensors,



Up to standard
The Laboratory for Advanced Quantum Science at the University of Maryland will get \$10.3m to provide better measurement standards.

quantum information and quantum computation,” says Rolston.

Meanwhile, the University of Pittsburgh will receive \$15m to help it build 13 new experimental-physics laboratories for research into new nanoscale measurement technologies and novel electronic and telecommunication devices. Other winners include the University of Nebraska, which qualifies for half the \$13.8m cost of a nanoscience-metrology facility, and Georgetown University in Washington, DC, which gains \$6.9m towards the cost of the Institute of Soft Matter Synthesis and Metrology.

Peter Gwynne
Boston, MA

Sidebands



ESO/NAOJ/NRAO/W. Gardner

ALMA sharpens its vision

The first three antennas belonging to the Atacama Large Millimeter/submillimeter Array (ALMA) based in northern Chile have been linked together for the first time, allowing astronomers to begin taking high-resolution images of the universe. When fully complete in 2012, ALMA will consist of 66 antennas, each 12 m in diameter, which will be built at an altitude of 5000 m in the Chilean Andes. ALMA will provide unprecedented sensitivity and resolution at millimetre and submillimetre wavelengths that will allow astronomers to study a range of phenomena, including planetary and star formation, the emergence of early galaxies and galaxy clusters, and the creation of organic molecules in space.

Moroccan solar-thermal plant planned

Morocco has confirmed plans to create a 2 GW solar-thermal energy project by 2020. The project will involve building five separate plants around the country, each of which will consist of an array of mirrors to focus sunlight onto a heating element. The hot element will then boil water to power steam-driven electricity-generating turbines. Morocco hopes that the plant will account for about 40% of the country's electricity needs by 2020, and the government estimates that it will cost some \$9bn. It claims that the solar-energy project will mean it can decrease oil imports by about 12% a year, saving the country \$500m. The project will add to Morocco's other renewable-energy projects, which include two 140 MW and 300 MW wind farms.

Thailand plans 'science city'

The Thai government has announced plans to build a \$150m “science city”. The city will be based in the southern state of Chon Buri, about 100 km south-east of Bangkok, and built on a former industrial estate. Kanlaya Sophonphanit, Thailand's science minister, says that the science city will be the country's main centre for science and technology education, and be the focus for the nation's R&D. The government is expected to appoint an advisor soon to set the scope and possible industry connections for the project.