

Teaching offers best entrance
into India's science world – p8

Russia Nowhere near world class – p7

Autonomy Ranking shows France's
universities lag behind – p5

Member states oppose Iter 'shadow budget'

Eight nations want fusion project kept within Framework

THE EU'S MOST POWERFUL member states have rejected a European Commission proposal to create an external, long-term budget for Iter, the France-based fusion research project.

Laurent Wauquiez, France's research minister, and seven colleagues sent an open letter to the research and budget commissioners on 16 November, saying in a statement that it would be "absurd" for the funding not to be channelled through the EU. "The proposal goes contrary to current practices, and also against the principle of transparency," says the letter, which was also signed by the research ministers of Finland, Germany, Italy, the Netherlands, Spain, Sweden and the UK.

A Brussels-based German diplomat put the member states' position more starkly. "We don't want any shadow budgets," he told *Research Europe*. "An external budget would set a dangerous precedent for dealing with Commission problems by taking these budgets away from Commission control."

All countries that signed the letter are traditional net payers, meaning they pay more money into the EU than they get out. The diplomat says these countries are worried about losing control of the budget. Their rejection of the Commission plan will put pressure on the rest of the EU research budget if, as looks increasingly likely, it has to absorb Iter's burgeoning costs.

The Iter project has seven international members, one of which is the EU and all its member states. As host of the project, the EU pays more than half of the project costs, which were estimated in a July 2010 review at up to €15 billion. Since France agreed to host the project in 2005, the EU's expected contribution has grown from €2.7bn to €7.2bn, the amount that the Commission now wants to place in a separate pot.

In June, the Commission suggested putting Iter in a budget outside the EU's multi-annual financial framework, which is decided by the European Parliament and the member states, and managed by the Commission.

A spokesman for the Commission's research directorate said that the separate budget would suit the

by **Inga Vesper**

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30-year-long Iter project better than its current position within the Euratom budget, which, in turn, is part of the EU's growth and competitiveness budget, which includes most research funding. "The multi-annual framework works in seven-year cycles. This is not flexible enough for projects of this nature, which are very long in duration and involve a lot of international partners," the spokesman said.

The European Parliament is in two minds about the idea. The budget committee is still considering its position, but Herbert Reul, a German Christian Democrat MEP and chairman of the Industry, Research and Energy committee, says he opposes the Commission's proposal. "I'm not aware of any previous examples. There are, of course, flexibility mechanisms in the budget, which have been used in the past, for example in case of catastrophes," he says. "But the Commission's proposal is problematic, because it threatens the long-term coherence of the EU budget. It's unlikely the Commission will get this through."

The letter warns that the ongoing budget fights around Iter could be seen as a sign that the EU is disengaging from international, strategic projects. The Commission spokesman denied this, saying: "We are very committed to projects of this nature, and that is exactly why this proposal has been made."

However, Steven Cowley, the director of the UK's Culham Centre for Fusion Energy in Oxford, which hosts the Joint European Torus, a project that is contributing to preparations for Iter, says that continued uncertainty over EU funding for Iter will upset the project's other partners. "There is a danger that all this to-ing and fro-ing will affect relations, particularly with the partners from emerging economies," he says. "China, India and South Korea will not take kindly" to any further delays in the project, he says. Japan is already considering Iter as a source for future spending cuts

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Budget clouds darken

Iter letter signals tough EU funding round to come

It was always unlikely that member states would be wildly keen on the European Commission's suggestion that they find a fresh source, outside the Euratom budget, for the billions of euros of cost overruns on the Iter fusion research project. So we're not surprised at the thrust of the letter, which eight research ministers have sent the Commission warning that the idea is unacceptable (*see News, page 1*). More surprising, perhaps, is that ministers chose to go public with such searing criticism of non-Euratom funding, one even describing the proposal as "absurd".

But this is not just about fiscal rectitude, it is about visible fiscal rectitude. The research ministers are not just taking a clear stand against new and additional funding sources; they want to be seen to be doing so. It is in this climate of self-flagellation, unfortunately, that the Commission will unveil detailed plans for its next seven-year research and innovation programme, Horizon 2020, on 30 November.

The EU budget process, which sets spending on a seven-year cycle, is prolonged, by national standards, but this is intended to lend stability to the process. The seven-year budgets are not inviolable; at the weekend, the EU reached a deal to increase its 2012 spending by just under two per cent—€20 billion less than was agreed in 2006 when the budget for 2007-13 was, allegedly, 'set'.

But the present situation shows how the seven-year cycle can have unexpected repercussions. The 2014-20 budget is going to be brought together at the most austere time possible, when nations are thinking only of the need to cut spending, and before either economic growth or inflation have time to erode debt and allow the case for public investment in research, or indeed anything else, to emerge.

It is in this climate that Máire Geoghegan-Quinn's research directorate must make the case for Horizon 2020. We already know the directorate's proposal will contain some good ideas, including simplification of procedures for participants, more support for the European Research Council, and the orientation of other research programmes to address grand challenges. However the danger remains that the thrust of the proposal may not be selective enough for the current budget climate. The €80-billion-proposal will have to make room for pet projects such as the European Institute for Innovation and Technology, and the Iter letter suggests that space may have to be found in it not just for Iter but also for Galileo and other cash-strapped megaprojects. At the same time, the 'backloading' on the current, €53-billion-Framework 7 programme means that research could end up with little, if any, real increase in support during Horizon 2020.

The Commission will try to wrestle more money out of the member states, as will the Parliament, which now has extensive budgetary powers. But neither arm really has the muscle to do this, if last weekend's austere 2012 budget deal is anything to go by—the member states mean to show their own electorates that they can stand up to both.

All the signs are that the next budget round will be tighter than could have been envisaged even a few months ago. That points to some far tougher research spending choices for the Commission than ever before.

elsewhere

"To understand fraud, we should think about how it begins and escalates, not how it ends."

Jennifer Crocker, a social psychologist at Ohio State University, in the US, says academic pressure and attitudes must be taken into account when universities want to tackle fraud. *Nature*, 9/11/11.

"This was certainly a challenge, but I am pleased with the result."

Budget commissioner *Janusz Lewandowski* says he is satisfied with the €80-billion Framework Programme proposal for 2014-20, which will be published on 30 November. *Public Service*, 14/11/11.

"Probably the agriculture and cohesion funds would have to diminish a bit for research."

Spanish member of the European Parliament *Maria da Graça Carvalho* has concrete ideas of where the Parliament's proposed €100 billion for the next Framework Programme should come from. *EurActiv*, 10/11/11.

"There is no guarantee of success in the job market if countries don't have the right innovation-friendly policies in place to back them up."

Androulla Vassiliou, the education commissioner, says increasing spending on science and engineering graduates must go along with appropriate spending on innovation. *Science Business*, 03/11/11.

"This is certainly something we should be worried about."

Karlheinz Töchterle, Austria's science minister, says government efforts to cut costs mean a scheduled €1 billion for higher education may not materialise. *Die Presse*, 15/11/11.

"The new IDEX proposal didn't seem compatible with our wider project to become a world-class scientific and technological university."

Benoît Legait, interim director of the Paris Ecole des Mines, explains why his institution decided to pull out of an inter-university project to build a shared campus with the French government's IDEX fund. *L'Usine Nouvelle*, 7/11/11.

decade

"We must still find the right modalities to transfer money to other themes."

Council of Ministers adviser *Hugues Dumont* says Priority Eight, the part of Framework 5 that anticipated future research needs, is nearly ready to be taken apart in Framework 6.

Research Europe, 15 November 2001

what's going on

Budget commissioner warns EU grantees that money could run out...

There is a serious risk that the European Commission will run out of money and not be able to meet its obligations to grantees, including scientists, Janusz Lewandowski, commissioner for financial programming and budget, said in a statement on 19 November. The statement was issued on the day the European Parliament and the Council of Ministers agreed a 2012 budget of €129 billion—a 2 per cent increase. This is below the 5.2 per cent increase requested by the European Parliament, which would have taken the budget up to €133bn.

...while research commissioner says humanities will be 'safe' in next Framework

The next EU research Framework Programme will provide adequate funding for the social sciences and humanities, research commissioner Máire Geoghegan-Quinn has said. "Let me assure you that future funding at the European level will provide significant space for social sciences and humanities research," she said on 10 November. In an open letter sent on 28 October, the European Alliance for the Social Sciences and Humanities requested that Horizon 2020 include €5 billion for social and humanities research, which will have received €623 million by the end Framework 7.

'Ask us' before setting up new funds, ministers tell Commission

The Council of Ministers wants to be consulted before the European Commission sets up any new research funding instruments, to avoid duplication. "The Council invites the Commission to consult the member states in a timely manner whenever the Commission considers new instruments," the Council said. During a meeting on 14 November, member states also said that mergers between instruments could be considered to avoid overlap between schemes. These conclusions are expected to be adopted at a Competitiveness Council meeting on 5 and 6 December.

JRC works with academies on environmental risk to Danube

The European Commission's Joint Research Centre has signed a cooperation agreement with academies of science in Bulgaria, Hungary, Romania and Slovakia on the environmental risks to the Danube river basin. The agreement, signed at the World Science Forum on 17 November, is part of the Science for the Danube Strategy in which the commission consults scientists from Danube river basin countries on environmental, agricultural and other challenges facing the region.

Commission fights antimicrobial resistance

The European Commission has launched a five-year plan to tackle antimicrobial resistance in human and animal diseases. The plan includes EU-funded research into new antimicrobials as well as research into alternative treatments; improving health surveillance systems; and preventing the misuse of antimicrobials. A total of €600 million has been awarded to research into antimicrobial resistance in the EU research funding programmes Framework 5, 6 and 7.

EU needs more independent science advice

EU policy is overly influenced by industry, two centre-left MEPs say. France's Corinne Lepage and Bulgaria's Antonia Parvanova, from the Alliance of Liberals and Democrats for Europe group, called for more independent science advice in EU regulatory bodies at a European Parliament hearing on 9 November.

CORRECTION

In our last issue, we interviewed Monica Dietl, director of the Cost office [*RE 331 10/10/11, page 6*]. We used the term "poor countries" in one of her quotes. We would like to clarify that she actually referred to "less experienced countries". The terms were exchanged during editing, and we apologise for the error.

europe

Central Asia is next target for research collaboration

The EU should seize the opportunity to influence neighbouring countries' transitions to science and technology-based economies, a conference heard in Warsaw on 15 and 16 November.

Countries such as Moldova and Uzbekistan have created laws to improve conditions for innovation and are looking to expand collaboration beyond old Soviet ties, the conference EU-Eastern Europe and Central Asia Cooperation in Research and Innovation: The way towards 2020 heard.

Cooperation with Europe in research and education is a high priority for these countries, with Georgia, for example, attempting to align its higher education system with the Bologna process. But so is forging links with Russia, China, India and the United States, warns George Bonas, who coordinates the Framework 7-funded International Cooperation Network for Eastern European and Central Asian countries (IncoNET). "These countries are looking at what's out there, and what advantages they could get, and if we are not there then others do exist."

Bonas told the conference that EU member states should increase bilateral funding with the region and

by Elizabeth Gibney

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explicitly target the European Neighbourhood Policy funding, worth €12 billion in 2007-13, at science and technology.

R&D spending remains well below 1 per cent of GDP in the region, but countries such as Kazakhstan and Azerbaijan have recently found themselves oil-rich. Energy, agriculture and water research are all fields that could be relevant to both the EU and EECA countries, says Ruzumboy Eshchanov, the rector of Urgench State University in Uzbekistan.

According to IncoNET's White Paper, published at the event, barriers to collaborating with EECA countries include the lack of international mobility; little protection for intellectual property; the lack of a common ethical standards; and low levels of industrial research.

While twinning of institutions and mutual learning exercises help remove such barriers, the "soft diplomacy" of EU experts helping EECA countries review their science and technology policies can also provide a route to implementing more recommendations, says Bonas.

Auditors unhappy with Framework checks

The European Commission should beef up its advance checks of Framework Programme spending, the European Court of Auditors has said.

In its report on the Commission's 2010 accounts, the Luxembourg-based Court of Auditors says the Commission's ex-ante controls over research spending, undertaken in advance of spending, are only "partially effective". In particular, the Commission's simplified desk checks are not sufficient to spot potential high-risk payments ahead of time, the Court writes. The report urges the Commission to use auditing methods developed by the directorate general for information society as a model to improve its controls.

The Court adds that audit certificates issued by external auditors for Framework Programme cost claims—now only mandatory for applicants who receive more than €375,000 from Framework 7—are not reliable. The Court of Auditors examined a sample of 33 cost claims with such a certificate and detected errors in 27 cases, including 14 "significant" ones.

The Commission responded to the report's findings saying that it had already launched a "formal feedback process" to improve external auditing, urging funding recipients to inform their auditors

by Tania Rabesandratana

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about the Commission's requirements.

According to the auditors' report presented on 10 November, about 1.4 per cent of EU research funding was misspent in 2010. Errors occurred mostly when the European Commission reimbursed costs that were not eligible or not calculated correctly.

Last year's error rate was 3.2 per cent: that was above the tolerated error threshold of 2 per cent. But the two figures cannot be compared directly because the Court of Auditors changed the composition of its policy groups. In 2009, research was grouped with energy and transport, but it is now audited under the €9-billion chapter Research and Other Internal Policies, together with education, information society, and enterprise.

Generally, the Commission has a "positive attitude" and "takes into account the vast majority of the Court's observations and recommendations", said Ladislav Balko, member of the Court of Auditors in charge of research spending. On the whole, research accounts appear more reliable than other areas of EU spending. Cohesion, energy and transport were the worst offenders in 2010, with an estimated error rate of 7.7 per cent.

France's universities trail rest of Europe in EUA autonomy rankings

France's universities are among the least 'autonomous' in Europe, according to a report by the European University Association.

The study, published on 15 November, (*see News in brief, below*) attempts to measure how much freedom universities have from their governments, for instance to borrow money, promote staff, select students or design degree programmes. The score card ranks 28 national higher education systems in four categories. France comes in 16th position in terms of organisational autonomy, 22nd for financial autonomy, 27th for staffing autonomy, and in last place for academic autonomy.

France's universities cannot decide on overall student numbers or admission criteria, as any student who has completed secondary education can start any mainstream bachelor degree. Danièle Hérin, president of University Montpellier 2, says that France's universities have little flexibility to open new study programmes. Her university, for example, can only submit degree proposals for government accreditation once every four years.

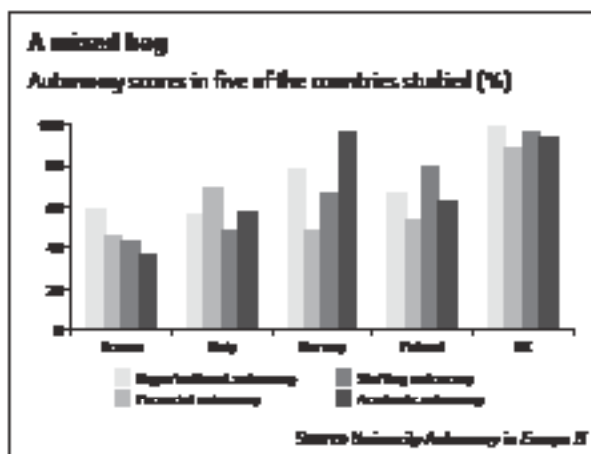
France's centre-right research minister Laurent Wauquiez says the country's scores are low because the national reform of the universities has yet to take effect. The reform law was adopted in 2007 and the universities have been given more autonomy in waves since 2009. "Universities still have to take full ownership of their new competencies," Wauquiez said in a written statement to *Research Europe*. Hérin says: "The ministry has been wise not to rush the reform. Our personnel have to adapt; in particular, learning to manage a payroll takes time. But now we have to go further."

But Emmanuel Saint-James, researcher at University

by Tania Rabesandratana trnews@ResearchResearch.com

Paris 6 and president of campaign group *Sauvons La Recherche*, says France's scores are actually a positive sign because autonomy, as defined by the report, isn't a desirable goal in the first place. "The term 'autonomy' is a politicians' buzzword. The opposite of autonomy is dependence and obviously nobody is in favour of dependence," Saint-James says. "Higher education is not a marketable activity that has to compete against other countries," he adds.

Wauquiez concedes that France's "specific" approach to higher education entails some level of state oversight. "Autonomy is our goal, but it shouldn't mean sacrificing our republican vision," he says. "Autonomy must be part of a well-defined national framework."



scorecard in brief UK most autonomous

The UK is ranked in the top three on all four university autonomy scorecards published by the EUA.

But the division between highly autonomous universities in northern European countries and less autonomous universities in the east and south is not as marked as might have been expected, says report author and EUA official Thomas Estermann. For example Poland and the Czech Republic score more highly than Estermann expected.

More autonomy on staffing

Not all countries have the same degree of autonomy in the four dimensions measured: organisational, financial, staffing and academic autonomy. European universities generally enjoy more autonomy in terms of staffing than in other areas, but salaries are often restricted by

external authorities. "This can act as a considerable obstacle when seeking to attract talented academic and administrative staff in a competitive international environment," the report argues.

Strings attached

Not only has the economic crisis led to cuts in university budget, but public money increasingly comes with strings attached, the EUA study says. Funds "are increasingly subject to restrictions placed on their allocation, or accompanied by more stringent accountability rules. This has given public authorities greater steering power over universities," the authors said.

Autonomy in maps

At the end of January 2012 the European University Association will make the autonomy score card data available in an interactive, visual format on a public website.

interview karin metzlaff

Heard it through the grapevine

Next year's Fascination of Plants Day will tell everyone about the vital roles plants play in our lives. **Inga Vesper** asked Karin Metzloff, executive director of the European Plant Science Organisation, how she has managed to launch this global initiative just by spreading the word.

Why a whole day devoted to fascination of plants?

During the European Plant Science Organisation's general meeting on June 2009 we, for the first time, asked our members what we should do in addition to our current activities. The feedback was that outreach and public dialogue would be the most important things. Because we have limited capacities we said this has to be a bottom-up activity under the umbrella of EPSO. The chemical ecology Max-Planck-Institute in Jena, Germany, the Swiss Federal Institute of Technology Zurich and the John Innes Centre in Norwich, UK, then formed a working group, and they came up with the Fascination of Plants Day.

And how did you set it in motion?

There was already a Plant Conservation Day on 18 May, so we contacted the organisations involved in that and they had no problem with us doing this together. At our general meeting this year all our members were in favour of doing this for the first time in 2012. So we hired a graphics designer who developed our corporate design and a web master to put up a professional website. Everything else is voluntary contributions from our members.

graphics designer who developed our corporate design and a web master to put up a professional website. Everything else is voluntary contributions from our members.

Who is participating, and what's happening on the day?

We decided it should not just be our members themselves. So botanical gardens, garden centres, companies, pharmaceutical organisations, policy people and schools are all welcome to open their doors. So far we will have exhibitions, experiments, theatre performances, a painting competition, hands-on experiments and scientific discussions. In the UK for example, Kew Gardens will have a special open

day, and there will also be some TV programmes made on the day. And in Germany, the plant science department at the Forschungszentrum Jülich will do some hands-on science experiments for the public.

Twenty-three countries are already involved, plus Australia, New Zealand and Japan. Can more join?

It is just starting now that more and more countries will join in. Just recently we had a

meeting with The Chinese Society of Plant Physiology, where we presented the idea and got a good reception. The Brazilian Society of Plant Physiology is discussing it, they want to join in as well. And just last week a representative from Tübitak, the Turkish research council, visited me, and she will offer Turkish scientists to join the event. It is actually more up to us now how fast we can follow up those who are interested, because you could really spend all day on nothing else but this.

Many scientists frown on public relations. What is your strategy to overcome their resistance?

We need the next generation to become interested not only in plant science, but in science altogether. I see this in my own children, at school their science lessons are often quite serious and difficult, so they are not actually interested in the sciences. But plant science is fascinating, there are many things that plants can do that people don't realise, for example they cannot run away so they have developed a lot of mechanisms to defend themselves. They find nutrients, they find the light, they find out what's happening around them, and we want to show that to people. Also, people want to care about the environment, so we want to discuss with them what they can do, and what we can do as scientists.

Initiatives such as this usually cost millions of euros. But you've made it happen by just paying a web designer and spreading the word. Do you think the rapid growth of the initiative might attract some funders in time?

The interest we've seen so far shows that these bottom-up activities have a lot of potential. Scientists can do a lot, but they need policy to make it happen. It would be good if for example the European Commission, or some industries and research councils would really get involved and if possible, support it financially. But it is a bit short notice for them now, I guess.

For more information see <http://www.plantday12.eu/>

European Plant Science Organisation

- * Founded in 2000 to represent European plant science
- * Represents 204 research institutes and departments in 29 countries
- * Lobbies the EU and national politicians on plant science funding
- * Achieved the establishment of a European Research Area Network on Plant Genomics in 2004
- * Started the first European Technology Platform on plant science with EuropaBio in 2004
- * Next EPSO conferences take place in Germany in 2012 and Greece in 2013

Wrong road to Harvard

Despite making some of the right moves, says **Tatiana Kastueva-Jean**, Russia is unlikely to achieve its higher education goals.

Russia dreams of its own Harvard; or several, given the country's size. It's a matter of national prestige and economic importance. To have internationally recognised leaders can boost higher education and help improve human potential at a time of demographic decline.

But a May 2010 report from the National Bureau of Asian Research identified a Russian "education mirage": that it was well-placed in terms of the number of higher degrees conferred and average years of schooling completed, but weak in international patents and number of articles cited, and prone to low labour productivity.

The international indicators seem contradictory. The latest OECD figures put Russia among the biggest emerging players in international education, with almost 4 per cent of the world's international students. But not even the Moscow or Saint Petersburg state universities appears in the last top 200 *World Universities Ranking*.

One of the Russian government's answers is to create a network of leading "federal universities" by merging existing state institutions within the regions. Two pilots were created in 2006 in Rostov-on-Don, southern Russia, and in Krasnoyarsk, Siberia. Six more have been created more recently in Kazan, Arkhangelsk, Yakutsk, Kaliningrad, Vladivostok, and Yekaterinburg. Federal status carries extra government funding: each university will get about €119 million for the first five years. In a speech at Novosibirsk University in April 2010, Prime Minister Vladimir Putin said the government expects a return on its investment, including patents for inventions and the creation of small productive enterprises. This strategic mission to integrate education with research and innovation exceeds the traditional view of a university. But the authorities hope local excellence will boost global competitiveness to take at least two federal universities into the top 200 by 2020.

It is too early to evaluate the project's impact, but there are threats to its success. In his book *The Challenge of Establishing World-class Universities*, World Bank higher-education expert Jamil Salmi explains three essentials: a concentration of talent, abundant resources and appropriate governance. As yet, Russia's new federal universities do not meet these requirements.

First, low salaries prevent them from recruiting top professors and researchers. The average teacher's age is 50 to 52. The proportion of masters students is

only 2 to 3 per cent—compared with 35 to 60 per cent for world-leaders—most recruited internally. Stipends for PhD scholarships are €36 a month. The number of foreign students—1 to 3 per cent, say the universities—compares with Harvard's 19 per cent and 18 per cent at Cambridge.

Second, the average spend per student in the Ural Federal University, for example, is about \$3,500 (€2,600) compared with an average \$30,000 in the United States and \$14,000 in the OECD countries. Only the Far Eastern Federal University is promised a new campus: on Russky Island in 2012. Over half of federal university revenue is to come from student tuition fees; that from R&D is low and there are no endowments so far.

But the biggest concern is governance and autonomy. The federal universities are formally autonomous institutions. There are promising changes, particularly at senior management level: the "new" rectors are now professional managers from outside; and each university has a Council of Trustees. But that has much less influence than do the rectors, politically appointed by the President himself.

Autonomy does not leave the universities free to make strategic decisions or allocate resources. They have no say in budget management, admissions rules or appointment policy, nor can they set the amounts of salaries or scholarships. The same bureaucratic procedures and administrative rules apply as to other institutions. Some constraints, such as the prohibition on using their extra funding for R&D, seem absurd. Investment in equipment is clearly preferred over investment in human capital. Governance is inflexible and the bureaucracy formidable.

So, on the surface, higher education reforms undertaken by Russia correspond to trends in most countries: mergers, autonomy, increased funding, creation of indicators of performance, and investment only in the most promising "points of growth". But if these universities' development programmes are ambitious, the means to achieve them are weak and constraints abound. The Russian authorities cannot overcome inertia and old-fashioned reflexes. Increased funding alone is unlikely to speed Russia into an "educational great power", even though higher education is becoming the dividing line between dynamic emerging countries and those making limited progress.

More to say? Email comment@ResearchResearch.com

Tatiana Kastueva-Jean is a research fellow at the French Institute of International Relations, Paris.

'Universities' development programmes are ambitious, but the means to achieve them are weak, constraints abound.'

view from the top pramath sinha

Go East, young person

India presents such a huge opportunity for western higher education institutions that it is almost the next frontier. The government of India's target is to lift the tertiary gross enrolment ratio from 10 per cent of university-age citizens attending universities to 30 per cent in the next 10 years. That means 50 million Indians will need higher education, filling 1,000 more universities and 50,000 extra colleges.

Educating such numbers is not something we can do on our own. So institutions here and elsewhere in the West need to understand that they have a real opportunity to help educate Indians and, in the process, generate substantial financial surpluses to fund research both in India and elsewhere.

There has never been a better time to partner with India. Only 362 of India's 21,000 higher education institutions are proper universities. Of those only 10 are private universities and 23 are central universities, so the vast majority are funded by individual Indian states. There is a huge lack of the sort of high-quality research universities that exist in the West.

That's why global collaboration is so important. My view of its power was formed as I helped found the Indian School of Business, now a stand-alone, philanthropic business school for 500 students. Its main international partners are, in the US, the Wharton Business School at the University of Pennsylvania and the Kellogg School of Management, Chicago, and, in the UK, the London Business School. It also has links to the MIT Sloane School and Tufts University, both in Massachusetts, US. By 2008 the ISB was ranked 12th in the Financial Times global MBA rankings.

The ISB has benefited from a global personnel model you may not be familiar with. We began in 2001 by recruiting visiting faculty from around the world instead of permanent faculty. Ten years on, we have 55 permanent faculty members but we have retained the visiting teaching faculty; about 120 teaching staff come through the school each year, freeing the permanent faculty for their research. Postgraduate students can be supervised by visiting faculty. Using visiting faculty also allows you to bring in the 'heavy hitter' teachers for undergraduates.

Undergraduates need to be inspired in the classroom and many of the best researchers are not skilled teachers.

The partner schools' faculties put a great deal of effort into mentoring. Our partners were not able to send us their senior faculty to work in India but by designating them as formal mentors we were able to get them to help in getting research activities going on a long-distance basis with the young faculty pool that we were hiring from some of the top universities around the world. By any criteria we are now the leading institution in this field in India, surpassing longer established organisations.

INDIA'S GOVERNMENT is intent on replicating this achievement. It is to build eight new institutes of technology, our elite technological institutions, seven new management institutions, 14 world-class innovation universities and 16 new central universities. That creates a huge need for faculty and academic expertise. And this is where the opportunities for foreign collaborations will be.

Where's the money to come from? There are two ways of meeting the funding challenge. One is by increasing efficiency through outsourcing. Private companies have very successfully harnessed Indian research talent. So why shouldn't this successful model be replicated in higher education? The costs of higher education in the US and elsewhere are becoming unsustainable. These universities have to consider moving some operations to lower-cost venues in other countries.

The other opportunity is based in the area of teaching and research mentorship, acting as a catalyst to get new institutions up and running, much as the University of Liverpool is doing in China in XJTLU, its joint venture with Xi'an Jiaotong University. Such new institutions will generate huge financial surpluses in India and they are unlikely to know what to do with that money. At the moment surpluses in India's 'for surplus'—not 'for profit'—research universities are being used to open up multiple campuses. That is where collaboration with a western university could help get research activities off the ground.

There is also a new generation of philanthropists in India, which is putting a lot of money into education. Some of it may be available to support research.

More to say? Email comment@ResearchResearch.com

Pramath Sinha is founder and director of the International Foundation for Research and Education, India, and owns India's only higher education magazine EDU. *He was speaking at Research Fortnight's second annual conference, Globalisation: The future of research institutions, on 9 November. A transcript is available at rsrch.co/tsVD1a*

'Educating such numbers is not something we can do on our own. The opportunity is to help educate Indians and generate surpluses for research both in India and elsewhere.'

highlights

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EU FP7 ERC advanced investigator grants

The European Commission Framework Programme 7: Ideas invites proposals for its European Research Council advanced investigator grants. The total budget is €679.98 million [items 4, 7 and 8].

EU Tempus IV higher education programme

The Directorate-General for Education invites applications under the Tempus IV programme. The budget is €78.1 million [item 5].

Diabetes research partnerships

The European Foundation for the Study of Diabetes invites applications for its partnership for diabetes research in Europe grants [item 12].

Dr Josef Steiner cancer research prize

The Dr Josef Steiner Cancer Foundation invites applications for its 2013 cancer research award. Funding is worth up to CHF1 million (€808,382) [item 30].

Science and technology HPC system collaboration

The Science and Technology Facilities Council invites applications to tender for an HPC system collaboration. Funding is worth £21.5 million (€25.06m) [item 31].

deadlines

Deadlines are listed only for European eligibility opportunities.

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europa

EU defence data studies

The European Defence Agency invites proposals for a framework contract for continuous collection and analysis of open source defence and military capabilities data. Funding is worth up to €400,000 over four years. 11.CAP.OP.166. OJ 2011/S 216-351218. CPV: 73200000, 79300000.

Web id: 1165192

Contact: EDA, Rue des Drapiers 17-23, 1050 Brussels, Belgium

Email: procurement@eda.europa.eu

Tel: +32 2504 2975

Deadline: 5pm, 15 December 2011 [1]

EU business surveys

The Directorate-General for Economic and Financial Affairs has issued a call for proposals on carrying out surveys as part of the joint harmonised European Union programme of business and consumer surveys. The programme gathers information on the state of the economies in EU member states and the candidate countries of Iceland and Montenegro. Applications are open to legal entities within the member states and applicant countries. The budget for 2012-13 is €175,000. OJ 2011/C 330/08. Ref. ECFIN/A4/2011/014.

Web id: 1160989

Contact: European Commission, DG Economic and Financial Affairs, ECFIN R2 Financial Management and Control, BU24 4/11, Avenue du Bourget 1, 1140 Brussels, Belgium

Email: ecfin-bcs-mail@ec.europa.eu

Deadline: 4pm, 19 December 2011 [2]

Osteoporosis fellowships

The European Society on Clinical and Economic Aspects of Osteoporosis and Osteoarthritis, in collaboration with AMGEN, invites applications for its fellowships. These provide \$50,000 (€36,955) over one year.

Web id: 259444

Contact: Blandine Coulet

Email: blandine@piettecommunication.com

Tel: +32 4254 1225

Deadline: 15 February 2012 [3]

EU FP7 physical sciences

The European Commission Framework Programme 7: Ideas invites proposals for its ERC advanced investigator grants for physical sciences and engineering. Each project must include at least one independent legal entity established in an EU member state or associated country. The budget for this call is €299.19 million. FP7 ERC-2012-AdG.

Web id: 1163433

Deadline: 5pm, 16 February 2012 [4]

EU Tempus higher education

The Directorate-General for Education and Culture and the Education, Audiovisual and Culture Executive Agency invite applications under the Tempus IV programme. Projects must contribute to the reform of higher education through international university cooperation. National projects must include at least three HE

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institutions from a partner country and at least three EU HE institutions from different member states. Multi-country projects must include at least two HE institutions from each of the participating partner countries and at least three EU HE institutions from different member states. Participating countries include the 27 EU member states, four countries of the Western Balkan region, 17 countries of the southern and eastern neighbouring area, and five central Asian republics. The budget for this call is €78.1 million and grants are worth between €500,000 and €1.5m. EACEA/25/11.03.2011/C321/09. **Web id: 260467**
Contact: EACEA, BOUR 2/17, Avenue du Bourget 1, 1140 Brussels, Belgium
Email: eacea-tempus-calls@ec.europa.eu
Deadline: 12pm, 23 February 2012 [5]

EU ESF discrete mathematics

The European Science Foundation invites applications for grants to attend the ESF-EMS-ERCOM conference on perspectives in discrete mathematics. The conference, to be held from 24 to 29 June 2012 in Bellaterra, Spain, aims to provide a panoramic view of deep mathematical developments in the area of discrete mathematics. Ref. 12-390.

Web id: 1165149

Contact: Jean Kelly
Email: jkelly@esf.org
Tel: +32 2533 2025

Deadline: 27 February 2012 [6]

EU FP7 life sciences

The European Commission Framework Programme 7: Ideas invites proposals for its ERC advanced investigator grants for life sciences. Each project must include at least one independent legal entity established in an EU member state or associated country. The budget for this call is €265.18 million. FP7 ERC-2012-AdG.

Web id: 1163488

Deadline: 5pm, 14 March 2012 [7]

EU FP7 humanities

The European Commission Framework Programme 7: Ideas invites proposals for its ERC advanced investigator grants for social sciences and humanities. Each project must include at least one independent legal entity established in an EU member state or associated country. The budget for this call is €115.6 million. FP7 ERC-2011-AdG.

Web id: 1163489

Deadline: 5pm, 11 April 2012 [8]

EU cultural cooperation

The Education, Audiovisual and Culture Executive Agency invites applications for cooperation projects with third countries under its culture programme. Projects must involve at least three cultural operators from a minimum of three eligible countries. Funding is worth between €50,000 and €200,000 over a maximum of 24 months. The budget for this call is €1.5 million.

Web id: 254949

Contact: EACEA, Avenue du Bourget 1, BOUR 04/02, BE-1140 Brussels, Belgium
Email: eacea-p5-thirdcountriesprojects@ec.europa.eu

Deadline: 3 May 2012 [9]

Science research chairs

The French State and Ile-de-France Paris region invite applications for the international Blaise Pascal research chair programme. Funding enables internationally

acclaimed scientists to spend 12 months at higher learning or research institutions in Paris or Ile-de-France. Four awards, worth up to €200,000 each, are available.

Web id: 190337

Contact: Fondation de l'Ecole Normale Supérieure, Chaires Internationales de Recherche Blaise Pascal, 45, Rue d'Ulm, F-75005 Paris, France
Email: fondation@ens.fr

Deadline: 15 December 2011 [10]

Neuromuscular grant

Association Française contre les Myopathies invites grant applications for research into the neuromuscular system. Awards include: trampoline grants, available to early career investigators and established investigators proposing innovative projects, worth €50,000 each over one year; research projects, available for up to two years; PhD fellowships, available for up to three years; postdoctoral fellowships, available for up to two years.

Web id: 257705

Contact: Association Française contre les Myopathies, 1 Rue de l'Internationale, BP 59-91 002 Evry Cedex, France
Email: clegrand@afm.genethon.fr
Tel: +33 1 6947 2828

Deadline: 9 March 2012 [11]

Diabetes research partnerships

The European Foundation for the Study of Diabetes invites applications for its partnership for diabetes research in Europe grants, offered in collaboration with Novo Nordisk. Non-profit institutions from Europe and associated countries may apply. Grants are worth up to €100,000 for basic research projects and up to €400,000 for clinical research projects.

Web id: 1157979

Contact: EFSD, Rheindorfer Weg 3, 40591 Düsseldorf, Germany
Email: foundation@easd.org
Tel: +49 21175 84690

Deadline: 1 February 2012 [12]

Diabetes research programme

The European Foundation for the Study of Diabetes invites applications for its programme for the study of the role of the kidney in diabetes, in partnership with Janssen. Non-profit institutions may apply. Grants are worth up to €100,000 for basic research projects and up to €200,000 for clinical research projects.

Web id: 1161387

Contact: EFSD, Rheindorfer Weg 3, 40591 Düsseldorf, Germany
Email: foundation@easd.org
Tel: +49 21175 84690

Deadline: 12pm, 15 February 2012 [13]

EU ESF iron minerals

The European Science Foundation invites applications for short visit and exchange grants under its programme on the functionality of iron minerals in environmental processes. Short visit grants are directed at senior researchers and provide a per diem of €85 over a maximum of 15 days. Exchange visit grants are directed at PhD students and young researchers, and provide a per diem of €57 over a period of 15 days to three months. Both grants provide travel expenses worth up to €500.

Web id: 1162489

Deadline: 15 February 2012 [14]

EU SME innovation

EraSME invites proposals targeted at research, technology, development and innovation projects between research

and technology organisations and small and medium-sized enterprises. Applicants may come from Austria, Belgium, Czech Republic, Germany and the Netherlands. Each consortium must include at least two SMEs from two different countries or regions and at least one research and technology organisation from one of the countries or regions of a participating SME. Projects may last for up to 36 months.

Web id: 210234

Contact: AiF Forschung, Kommunikation GmbH, Goltsteinstrasse 91, 50968 Köln, Germany
Email: eu@aif-ftk-gmbh.de
Tel: +49 22137 68020

Deadline: 12pm, 30 March 2012 [15]

EU food safety literature

The European Food Safety Authority invites proposals for an inventory of sources of scientific evidence relevant to EFSA's risk assessments and information sessions on literature-searching techniques. Funding is worth up to €100,000 over 18 months. OJ 2011/S 213-34932. CPV: 73200000.

Web id: 1165145

Contact: Elisa Aiassa, EFSA, Largo Natale Palli 5/A, 43121 Parma PR, Italy
Email: elisa.aiassa@efsa.europa.eu
Tel: +39 5210 3652

Deadline: 12 December 2011 [16]

EU ESF emissions

The European Science Foundation invites applications for its tall tower and surface research network for verification of climate relevant emissions of human origins in Europe short visits and exchange grants. Short visit grants include a per diem of €85 over a maximum of 15 days. Exchange grants include €400 per week over 15 days to six months. Grants provide actual travel expenses worth up to €500.

Web id: 1162096

Deadline: 31 December 2011 [17]

EU ESF molecular awards

The European Science Foundation, under its research networking programme on natural molecular structures as drivers and tracers of terrestrial C fluxes, invites proposals for the organisation of a scientific workshop. Funding supports travel and accommodation costs for participants.

Web id: 250826

Deadline: 30 March 2012 [19]

EU ESF molecular visits

The European Science Foundation, under its research networking programme on natural molecular structures as drivers and tracers of terrestrial C fluxes, invites applications for the following:

- short visit grants, which last for up to 15 days. **Web id: 250839**

- long-term exchange grants, which last for 15 days to six months. **Web id: 250841**

Funding covers travel expenses and accommodation.

Deadline: 31 March 2012 [20]

Erasmus master's grants

The International Association of Universities, in collaboration with the European Commission, invites applications for the NOHA/Erasmus Mundus scholarships. These include: grants for third-country graduate students, available to nationals from outside the EEA-EFTA states and EU candidate countries, worth €1,000 per

month for 16 months, plus €8,000 as a contribution to travel and other costs; grants for European graduate students, available to nationals or residents of EU member states, EEA-EFTA states and EU candidate countries, worth €500 per month for 16 months, plus €3,000 as a contribution to travel and any other costs; Erasmus Mundus scholarships, available to scholars enrolled in third-country institutions or in NOHA Mundus European institutions, worth €1,200 per week for up to three months.

Web id: 202534

Contact: University of Deusto, Avda. de las Universidades 24, 48007 Bilbao, Spain

Email: noha@deusto.es

Tel: +349 4413 9102

Deadline: 15 December 2011 [22]

Prince of Asturias awards

The Prince of Asturias Foundation invites nominations for the Prince of Asturias awards. Awards are available in the following fields: arts; literature; social sciences; communications and humanities; technical and scientific research; international cooperation; concord; sports. Each award is worth €50,000.

Web id: 1161516

Contact: Prince of Asturias Foundation, General Yagüe 2, 33004 Oviedo, Principality of Asturias, Spain

Tel: +349 8525 8755

Deadline: 15 March 2012 [23]

Osteoporosis prizes

The European Society on Clinical and Economic Aspects of Osteoporosis and Osteoarthritis and the International Osteoporosis Foundation invite applications for the Pierre Delmas prize. This recognises an individual for contributions to the study of bone and mineral diseases. The prize is worth €40,000.

Web id: 255555

Contact: Blandine Coulet, Switzerland
Email: blandine@piettecommunication.com

Tel: +32 4254 1225

Deadline: 16 December 2011 [24]

HIV/drug abuse fellowship

The International Aids Society, in collaboration with the National Institute on Drug Abuse, invites applications for its HIV and drug use fellowships. Junior scientist fellowships, worth \$75,000 (€55,193), support 18 months' postdoctoral training; well-established HIV researcher fellowships, worth \$75,000, support eight months' professional development.

Web id: 213980

Email: researchpromotion@iasociety.org

Tel: +412 2710 0800

Deadline: 12am, 10 February 2012 [25]

Cern science fellowships

Cern, the European Organization for Nuclear Research, invites applications for the following:

- junior fellowships, enabling holders of a technical engineer degree or equivalent, with no more than four years' experience and at most a master's degree, to work in a research group for up to two years. **Web id: 206707**

- senior fellowships, enabling holders of a PhD, or between four and 10 years' experience, to work in a research group for up to two years. **Web id: 206706**

- graduate engineering training scheme, enabling recent graduates at bachelor level, and MSc holders with no more than 10 years' professional experi-

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ence, to undertake training and work
experience in engineering fields for up
to two years. **Web id: 1161457**
Email: recruitment.service@cern.ch
Deadline: 1 March 2012 [26]

Cern student programme

Cern, the European Organization for
Nuclear Research, invites applications
for its doctoral student programme in
applied physics, engineering and comput-
ing. This enables postgraduate students
preparing a doctoral thesis in specific
fields of applied physics, engineering or
computing to spend 12 to 36 months at
Cern. Each candidate must be a national
of a Cern member state, Romania or Israel,
or have been residing in a member state
for the last five years. TSC-2012-1/DOCT.
Web id: 259952

Email: recruitment.service@cern.ch

Deadline: 6 March 2012 [29]

Cancer research prize

The Dr Josef Steiner Cancer Foundation
invites applications for its 2013 cancer
research award. The award provides up to
CHF1 million (€808,382) over four years
for a cancer-related project. A personal
prize of CHF50,000 will be awarded to the
principal investigator. Applicants should
be early career investigators involved in
basic or clinical research.

Web id: 259842

Contact: Marie-Louise Messerli, Dr Josef
Steiner Cancer Foundation, Institut für
Physiologie, Bühlpplatz 5, CH-3012 Bern,
Switzerland

Email: messerli@pyl.unibe.ch

Deadline: 31 March 2012 [30]

STFC HPC system collaboration

The Science and Technology Facili-
ties Council, in collaboration with the
Research Councils UK, invites applications
to tender for an HPC system collaboration
for the International Centre of Excel-
lence in Computational Science and Engi-
neering. An investment of £21.5 million
(€25.06m) is expected. The collaboration
will cover a maximum of five years.

Web id: 1165170

Contact: Allan Evett, RCUK Shared Ser-
vices Centre Ltd, North Star House, North
Star Avenue, SN2 1FF Swindon, UK

Email: allan.evett@ssc.rcuk.ac.uk

Tel: +44 17938 67298

Deadline: 13 December 2011 [31]

Cancer research bursaries

Cancer Research UK invites applications
for its research bursaries for clinicians and
professionals allied to medicine. Awards
are intended to free clinicians, nurses,
pharmacists, or those in a profession
allied to medicine to pursue a period of
research prior to considering a higher
degree. Funding is worth up to £25,000
(€29,154) for a maximum of 12 months.

Web id: 213544

Contact: Emma Tomlinson, CRUK, Angel
Building, 407 St John Street, London
EC1V 4AD, UK

Email: emma.tomlinson@cancer.org.uk
Tel: +44 20346 95334

Deadline: 11 January 2012 [32]

Endangered languages

The Hans Rausing Endangered Languages
Project offers the following awards:

- major documentation project fund-
ing, worth up to £150,000 (€174,877)
for between six and 36 months.

Web id: 253146

- individual postdoctoral fellowships.

Applicants should be academically junior
or early-career researchers. Funding is
worth an average of £95,000 for up to
two years. **Web id: 253150**

Applicants should have qualifications
and experience in linguistics.

Contact: ELDP, School of Oriental and
African Studies, 10 Thornhaugh Street,
London WC1H 0XG, UK

Email: eldp@soas.ac.uk

Deadline: 5pm, 16 January 2012 [33]

Cancer studentships

The Medical Research Council's Cancer
Cell Unit invites applications for its PhD
studentships. These are available in the
following areas: chromosomal instability
in cancer pathogenesis and treatment;
stem cells and cancer; modelling tumour
development and therapy. Applicants
should hold at least an upper second class
degree or equivalent. Funding is worth
£15,000 (€17,492) per annum.

Web id: 1165171

Contact: MRC Cancer Cell Unit, Hutch-
ison/MRC Research Centre, Hills Road,
Cambridge CB2 0XZ, UK

Email: studentships@hutchison-mrc.

cam.ac.uk

Tel: +44 12237 63240

Deadline: 16 January 2012 [35]

Animal nutrition

The Waltham Foundation invites propos-
als for research projects in the field of
companion animal nutrition. Applications
are accepted from scientists, veterinar-
ians and nutritionists. Funding is worth
up to \$20,000 (€14,724) for a maximum
of two years.

Web id: 208814

Email: waltham.foundation@waltham.

com

Deadline: 1 February 2012 [36]

Academic medicine training

The Wellcome Trust invites applications
for its research training fellowships.
These support medical, dental, veterinary
or clinical psychology graduates who wish
to develop a career in academic medicine.
Research expenses and salary are pro-
vided for two to three years.

Web id: 260191

Contact: Wellcome Trust, Gibbs Building,
215 Euston Road, London NW1 2BE, UK

Email: grantenquiries@wellcome.ac.uk

Tel: +44 20761 12020

Deadline: 3 February 2012 [37]

Veterinary research

The Wellcome Trust invites applications
for its veterinary research entry fellow-
ships. Each applicant must hold a veteri-
nary degree. Salary, research expenses,
master's course fees and travel allow-
ances are provided for one year.

Web id: 258620

Contact: Wellcome Trust, Gibbs Building,
215 Euston Road, London NW1 2BE, UK

Email: vets@wellcome.ac.uk

Tel: +44 20761 18888

Deadline: 2 March 2012 [38]

Cancer prizes

Cancer Research UK invites nominations
for the following prizes:

- lifetime achievement in cancer
research prize, worth £25,000 (€29,132).

Web id: 1158597

- translational cancer research prize,
worth £25,000. The prize-winning team
should be multidisciplinary and comprise
both clinical and non-clinical members.

Web id: 1158599

Contact: CRUK, Angel Building, 407 St

John Street, London EC1V 4AD, UK

Email: prizes@cancer.org.uk

Tel: +44 20346 95343

Deadline: 5pm, 11 April 2012 [39]

rest of world

Federation fellowships

The Australian Research Council invites
applications for the Australian laureate
fellowships. Fellows receive a salary
supplement of \$105,782 (€78,431) over
five years. ARC may also provide project
funding of up to \$300,000 per annum and
up to \$97,601 per annum for salaries.

Web id: 258833

Contact: ARC, GPO Box 2702, Canberra
ACT 2601, Australia

Email: arc-australianlaureatefellowships@
arc.gov.au

Tel: +61 2 6287 6600

Deadline: 5pm, 14 December 2011 [86]

Science fellowships

The Feinberg Graduate School invites
applications for its postdoctoral fellow-
ship programme. Each applicant must
have achieved a PhD or MD no more than
four years ago.

Web id: 251469

Contact: Feinberg Graduate School,
Weizmann Institute of Science, Rehovot
76100, Israel

Email: fgs@weizmann.ac.il

Tel: +972 8934 2924

Deadline: 5 January 2012 [87]

Desert research fellowships

The Ben Gurion University invites applica-
tions for the Blaustein postdoctoral fel-
lowship. This supports research into the
development of drylands. Each applicant
must have achieved a PhD no more than
four years ago. Funding is worth \$27,000
(€20,093) per year, for up to two years,
plus travel and accommodation costs.

Web id: 259323

Contact: Ben-Gurion University of the
Negev, Sede Boqer Campus, 84990, Israel

Email: inter@bgu.ac.il

Tel: +972 8659 6717

Deadline: 15 March 2012 [88]

Dan David scholarships

The Dan David Foundation invites applica-
tions for its scholarships. Available topics
are history/biography (past), plastic arts
(present) and genomics (future). Funding
is worth \$15,000.

Web id: 204660

Contact: Smadar Fisher, Dan David
Prize, Eitan Berglas Bldg/119, Tel-Aviv
University, PO Box 39040, Ramat Aviv,
Tel-Aviv 69978, Israel

Email: fisher@post.tau.ac.il

Tel: +972 3640 6615

Deadline: 15 March 2012 [89]

Research in Japan

The Japan Society for the Promotion of
Science invites applications for its short-
term invitation fellowship programme
for research in Japan. Funding is worth
¥18,000 (€174) per day, plus ¥150,000
for domestic travel, for 14 to 60 days.

Web id: 212209

Contact: Overseas Fellowship Division,
JSPS, 8 Ichiban-cho, Chiyoda-ku, Tokyo
102-8472, Japan

Email: invitation@jps.go.jp

Tel: +813 3 3263 2480

Deadline: 11 May 2012 [90]

tenders

Polishing techniques ESA*

The European Space Agency has issued a call for proposals on polishing techniques for low-scatter surfaces. The tenderer will study, develop, optimise and evaluate a number of standard substrate materials used in space applications. Funding is worth between €200,000 and €500,000. Ref. 11.129.12. Deadline: 16 December 2011.

Breakup and burnup ESA*

The European Space Agency has issued a call for proposals on a simulation tool for breakup and burnup analysis of Mars orbiters. The tenderer will create a reliable tool that can be used for spacecraft design and reduce the impact of bioburden control and mission operation by avoiding excessive margins currently applicable because of the non-optimised simulation tools. Funding is worth between €200,000 and €500,000. Ref. 11.112.12. Deadline: 21 December 2011.

Onboard data systems ESA*

The European Space Agency has issued a call for proposals on requirements definition for onboard data systems for life-cycle support and management of end-to-end security. The tenderer will provide a first step from use cases analysis in different service domains, infer and extract the set of requirements to be met by the onboard equipment and publish the consolidated requirements. Funding is worth between €200,000 and €500,000. Ref. 11.1ED.05. Deadline: 5 January 2012.

Atmospheric impact ESA*

The European Space Agency has issued a call for proposals on the atmospheric impact of launchers. The tenderer will investigate the impacts of the European family of launchers on the atmosphere by simulating plumes using computational methods and subsequently quantifying the atmospheric impact of these plumes using climate modelling. Funding is worth between €200,000 and €500,000. Ref. 11.178.12. Deadline: 11 January 2012.

Micrometeoroid model ESA*

The European Space Agency has issued a call for proposals on an interplanetary micrometeoroid environment for exploration. The tenderer will develop an enhanced micrometeoroid environment model for helioradial distances of 0.05 to 10 AU. The model shall be validated and its predictions compared to existing models. Funding is worth between €200,000 and €500,000. Ref. 11.197.36. Deadline: 13 January 2012.

Frequency converter ESA*

The European Space Agency has issued a call for proposals on a Q/V band frequency converter (A5.1 REF.5C.148). The tenderer will design, build and test an engineering model of a Q/V-band frequency converter for future telecom payloads, allowing for the emergence of new applications, such as broadband internet, satellite-HDTV, live video, telemedicine, interactive gaming, video conferencing and others. Funding is worth a minimum of €500,000. Ref. 11.1TT.16. Deadline: 20 January 2012.

*ESA is at: <http://emits.esa.int>

usa

Google Inc Anita Borg scholarship – EMEA
Web id: 190173

Autism Speaks Suzanne and Bob Wright trailblazer award programme
Web id: 1158994

Newberry Library Lloyd Lewis fellowships in American history
Web id: 195766

Brown University short-term fellowships
Web id: 210432

Huntington Library Mellon postdoctoral research fellowships
Web id: 184491

Institute for Humane Studies fellowships
Web id: 202000

American Society of Mechanical Engineers George Westinghouse medals
Web id: 199121

American Society of Mechanical Engineers Dixy Lee Ray award
Web id: 199094

American Society of Mechanical Engineers Rufus Oldenburger medal
Web id: 199078

American Society of Mechanical Engineers Burt L Newkirk award
Web id: 199070

American Society of Mechanical Engineers Nadai medal
Web id: 199066

American Society of Mechanical Engineers M Eugene Merchant manufacturing medal of ASME/SME
Web id: 199054

American Society of Mechanical Engineers machine design award
Web id: 199044

American Society of Mechanical Engineers James N Landis medal
Web id: 199034

American Society of Mechanical Engineers internal combustion engine award
Web id: 199019

American Society of Mechanical Engineers Mayo D Hersey award
Web id: 199008

American Society of Mechanical Engineers William T Ennor manufacturing technology award
Web id: 198980

American Society of Mechanical Engineers Thomas A Edison patent award
Web id: 198971

American Society of Mechanical Engineers Per Bruel gold medal for noise control and acoustics
Web id: 198966

Harry Ransom Humanities Research Center research fellowships
Web id: 189668

American Society of Mechanical Engineers Charles Russ Richards memorial award
Web id: 199049

American Society of Mechanical Engineers Gustus L Larson memorial award
Web id: 199035

American Society of Mechanical Engineers Worcester Reed Warner medal
Web id: 199141

American Society of Mechanical Engineers Henry Hess award
Web id: 199135

American Society of Mechanical Engineers ASME medal
Web id: 198953

Electrochemical Society Edward Goodrich Acheson award
Web id: 158424

Modern Languages Association Katherine Singer Kovacs prize
Web id: 191288

Audio Engineering Society Educational Foundation graduate studies grants
Web id: 190197

American Society of Mechanical Engineers gas turbine award
Web id: 199132

American Society for Microbiology Siemens healthcare diagnostics young investigator award
Web id: 197510

American Society for Microbiology GlaxoSmithKline international member of the year award
Web id: 252707

Electrochemical Society Thomas D Callinan award of the dielectric science and technology division
Web id: 152645

American Society of Mechanical Engineers heat transfer memorial award
Web id: 208427

American Society of Mechanical Engineers Bergles-Rohsenow young investigator award in heat transfer
Web id: 208418

Electrochemical Society Carl Wagner memorial award
Web id: 133537

J Paul Getty Trust postdoctoral fellowships in conservation science
Web id: 185411

American Chemical Society Alfred Burger award in medicinal chemistry
Web id: 160044

Electrochemical Society David C Grahe award of the physical electrochemistry division
Web id: 182785

Modern Languages Association Aldo and Jeanne Scaglione prize for comparative literary studies
Web id: 209985

Modern Languages Association Aldo and Jeanne Scaglione prize for French and francophone studies
Web id: 209984

Modern Languages Association Howard R Marraro prize
Web id: 191273

Modern Languages Association Aldo and Jeanne Scaglione prize for studies in Germanic languages and literatures
Web id: 191269

policy diary

December

6 IP Week and Patent Fair, Brussels, Belgium. To 9. <http://rsrch.co/o2Zx80>

7 Horizon 2020 Task Force Meeting, Brussels, Belgium. <http://rsrch.co/tQBvQt>

• EIPA Performance Management in the Context of Total Quality Management, Maastricht, The Netherlands. To 9. <http://rsrch.co/sIzh2k>

• Earto Innovation Prize Award Ceremony, Brussels, Belgium. <http://rsrch.co/r7Vw5X>

12 EU Research and Innovation: What Role for Regions and Cities after 2013? To 13. Brussels, Belgium <http://rsrch.co/oGW5R2>

• Sixth Annual Workshop for Women in Machine Learning, Granada, Spain. <http://rsrch.co/uLMWox>

15 European Medicines Agency, London, UK. <http://rsrch.co/vP1rXQ>

17 Earto Communication Working Group, Zurich, Switzerland. <http://rsrch.co/uK5qsY>

January

26 European Industrial Research Management Association's Representative Round Table, Nice, France. To 27. <http://rsrch.co/vQyvvm>

February

6 Scientific Preparations for Lunar Exploration, Noordwijk, The Netherlands. To 7. <http://rsrch.co/sCfq3Y>

7 Framework 7 Winder Academy, Budapest, Hungary. To 10. <http://rsrch.co/tChhRX>

16 Techinnov 2012, Paris, France. <http://rsrch.co/rVy7N2>

21 Sustainability of Space Activities: International Issues and Potential Solutions, Strasbourg, France. To 23. <http://rsrch.co/tUtWSO>

May

18 Fascination of Plants Day 2012, various countries. <http://rsrch.co/uNGkTP>

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A controversial cure

The Innovative Medicines Initiative was created in 2007 to speed up drug development and give European pharma a competitive edge. Four years on, IMI divides opinion, as **Tania Rabesandratana** reports.

"The United States clearly envies the Innovative Medicines Initiative," says Michel Goldman, the programme's chief executive in Brussels. "They are aware that Europe has taken the lead."

A US Jobs Council report published on 10 October mentioned IMI as an exemplary scheme to attract international drug companies. In the report, President Barack Obama's competitiveness advisers said: "Europe, China and India continue to entice companies to take their medical R&D enterprises abroad, putting at risk our ability to keep private investment and jobs here at home."

In December 2010, external reviewers broadly praised IMI as a "tremendous illustration of Europe's strengths in creating consensus and collaboration." So what is so special about IMI?

With €2 billion to spend between 2008 and 2017, it is the largest public-private partnership for drug research worldwide. IMI selects and funds drug development projects that involve scientists from the public and private sides, who share any resulting intellectual property. Most importantly, IMI encourages rival companies to cooperate: businesses jointly define areas to focus on and carry out the research together. The European Commission supplies half of the budget as direct funding, with industry supplying the other half in kind.

"Public-private partnerships have been around for a long time but competitors didn't work together," says Magda Chlebus, director for science policy at Efpia, the federation of Europe's pharmaceutical industry. "We're very enthusiastic about IMI. It used to be just 'nice to have', but now we couldn't work otherwise," she adds.

For instance, the IMI-funded Newmeds project has pooled and harmonised data from over 23,000 schizophrenia patients involved in 67 clinical trials carried out by different companies, explains Shitij Kapur, dean of the Institute of Psychiatry at King's College London. As a part of Newmeds, his team is "not doing work for pharma, but working with pharma", he says enthusiastically. "It's not just academia and industry working together. It's also industrial partners working together and commissioning work together."

"It might seem threatening [that the industry sets the agenda], but it gives the programme more impact than if the European Commission tried to address the industry's needs indirectly," says Martijn de Jager, national contact point for Framework 7's health programme in the Netherlands. "What we stress to potential [IMI] appli-

cants is that if you get involved, knowledge has to be shared both ways."

But not everyone agrees with this condition. IMI's intellectual property policy and funding rules have repeatedly come under fire from small companies, universities and research organisations. "It's tough to find a role for SMEs [in IMI projects], as they see a lot of risk in participating," says Gunnar Sandberg, programme manager at the Swedish innovation agency Vinnova and chairman of the States Representatives Group that speaks for national governments in IMI.

Larger organisations can find IMI rules off-putting, too. Last year, the League of European Research Universities slammed IMI as an example of "how not to set up a private-public partnership". In a letter sent to IMI in September 2010, the league wrote: "The European Commission and Efpia should not expect their 'partners' to accept rules by which they basically give away all their IP for free and do not even receive full funding for their research activities."

Critics say that IMI should align its rules to those of Framework 7—in particular to lift IMI's 20 per cent cap on the reimbursement of overhead costs. IMI says participants will soon be able to claim 100 per cent of their actual indirect costs. The changes are expected to be approved this month and will apply to all IMI projects, including those already running. However, IMI has announced no change on the IP front.

The programme's future is being negotiated now between the Commission and Efpia: IMI needs money from Horizon 2020 to run beyond its 2017 expiry date. In the present economic climate, industry commitment will largely determine IMI's long-term success. "Companies may decide to stop a [research project] for commercial reasons, or to move it to another geographical location, so the turnover rate is higher than in academia," says Kapur.

But Goldman, IMI's chief executive, is confident the programme will continue or even expand under Horizon 2020. "Pharmaceutical companies may even be ready to go beyond pre-competitive research and to share risks and resources, for example of clinical trials on innovative products."

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'It might seem threatening that industry sets the agenda, but it gives the programme more impact.'

uk & ireland

UK should align its research with emerging economies, says Bhattacharyya

To continue to have a global impact, the UK should gear its research system to match those of emerging economies, Kumar Bhattacharyya, Labour peer and chairman of the University of Warwick's knowledge transfer organisation the Warwick Manufacturing Group, told the audience at the *Research Fortnight* event *Globalisation: The future of research institutions*.

Speaking in London on 9 November, Bhattacharyya said the UK's research strengths do not match those of the most rapidly expanding research economies. "Britain's greatest research strengths are in the humanities and the social sciences," he said. "But on the other side of the ledger, in China, the strongest research subjects are in engineering and physical sciences. India's strengths lie in physical and environmental sciences, Brazil's in health and biology and Russia's in mathematics and physics."

The UK must better establish its reputation in applied research, where emerging markets are most likely to invest their resources, and boost its low share of research carried out in industry, he added. "If we do not work with business at home, we can scarcely expect to be attractive to businesses globally," he said.

by Elizabeth Gibney

egnews@ResearchResearch.com

However, Research Councils UK rejects the idea that the solutions to the world's major challenges could hinge on just a few disciplines. "These...need truly cross-disciplinary expertise that also calls on knowledge from social sciences and the arts and humanities as well as engineering and science," says a spokeswoman.

Imran Khan, the director of the Campaign for Science and Engineering, agrees that research councils should stick to research excellence as their main criterion, but says the economic argument for collaborating with emerging economies is strong.

Research councils should interact with networks such as the Foreign Office's Science and Innovation Network and trade-promotion body UK Trade and Industry, he says. "We do have other organisations that try to ask how the UK can better service the needs of these nations and vice versa," he says. "Obviously the research councils should indeed be talking to those networks, making sure that they have an understanding of where UK research is heading," he says.

uk & i in brief

UK's £1m engineering 'Nobel'

The UK has launched a £1 million Nobel-style international engineering prize for "ground-breaking advances which have led to significant benefit to humanity". The Queen Elizabeth Engineering Prize will be awarded every second year to an individual or team of up to three people. An international judging panel for the prize will be announced in February 2012, when the foundation will call for nominations for the first award, the winner of which will be announced in spring 2013.

Irish government defends science cut

The Irish government is to reduce Science Foundation Ireland's budget by €5 million to €156m in 2012. Funding for most other areas associated with science, including Enterprise Ireland and the Programme for Research in Third Level Institutions, will be maintained at 2011 levels.

UK flops in league of most innovative firms

Just one UK company features in the Thomson Reuters Top 100 Innovators, a list which measures firms' ability to create patents. Unilever, an Anglo-Dutch company, is the only UK-based firm to appear on the list, published on 15 November. The US leads the tally with 40 companies, alongside 27 Japanese firms. Other European

nations performed better than the UK, with 11 companies based in France, six in Sweden and four in Germany.

Northern Ireland research spend hits all-time high

Northern Ireland increased its expenditure on R&D to £521 million in 2010, statistics from its Department of Finance and Personnel show. This is an 8 per cent increase on the £483m spent in 2009 and is accounted for by rises in both business and higher education spending. According to a report published by the UK Treasury in March, Northern Ireland still has one of the lowest spends on R&D of all UK regions.

Think tank argues for lab privatisation

The government should consider privatising more public sector research establishments, argues a report by Liberal Democrat-leaning think tank CentreForum. The report says privately owned or operated public-sector research labs achieve better value for money and that it is "difficult to see" why many need to be fully owned and operated by the government.

Medical funder holds firm on stem-cells

The Medical Research Council has confirmed its plan to spend £130 million over four years on research into stem cells and regenerative medicines despite a European Court of Justice judgment that bans attempts to patent discoveries made from human cell lines.

Spain's newly elected government pledges support for industry-sponsored research

Commercialising R&D and boosting research in industry will be among the priorities of the Spain's new 'austerity' government.

The centre-right Popular Party, led Mariano Rajoy, beat the Spanish Socialist Workers' Party (PSOE) in the 20 November election with a majority of 186 in the Congress of 350, and with 136 out of 208 in the Senate. The incoming government's main task will be to implement austerity measures in an attempt to reduce Spain's budget deficit.

Under Socialist science and innovation minister Cristina Garmendia, R&D spending trebled in the six years since 2004, but after cuts in 2009 and 2010 it has fallen back, in real terms, to 2007 levels. Despite the Popular Party's harsh criticism of cuts while in opposition, the party has made no pledge to increase spending.

Instead, speaking earlier this month at an event organised by the Confederation of Spanish Scientific Societies, PP science spokesman and member of Congress Gabriel Elorriaga promised his party would generate more "social return" on research investment.

Science and innovation featured prominently in the party's election manifesto *100 Proposals for Change*. Commitments included updating tax incentives to favour start-ups and small businesses. The party also wants to support technology parks and increase cooperation between institutes by mapping national scientific

by Elizabeth Gibney

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and technological resources and implementing a single data network for R&D.

However the party's commitments are vague and nothing new, says Juan de la Figuera, president of the Association for the Advancement of Science and Technology in Spain (AACTE). "The priority is to cut the deficit, so I expect there will be a strong push towards collaborating with companies, but the Socialists were starting to do that anyway," he says.

The party's main challenge will be to implement the Science Law, passed with all-party support in May. The government must create a Spanish Research Agency by May 2012 and reform research careers with four-year pre-doctoral contracts replacing existing scholarships. But government change means this may now be delayed, says de la Figuera.

"To be optimistic, we are facing a few months delay," he says. "To be more pessimistic, we could see a full year of skipped programmes."

The makeup of Rajoy's government was undecided as *Research Europe* went to press, but even whether science and innovation will retain its own ministry remains a question, with responsibility for research switching repeatedly between education and industry in the last 10 years.

nations in brief

Astrophysicist is woman scientist of the year

The French Ministry for Higher Education and Research has named Anne-Marie Lagrange, an astrophysicist based in Grenoble, as woman scientist of the year. This is the top prize in the Irène Joliot-Curie awards, distributed each year to recognise the achievements of French women in science and technology. Lagrange will receive €40,000 and the two runner-ups will each get €15,000.

Spain to host unmanned aircraft research centre

Spain will host a research centre for large unmanned aircraft systems in Huelva, Andalusia. The centre will be funded jointly with €30 million from the Andalusia region, €21m from the Spanish science ministry through EU regional development funds, and €10m from Spain's National Institute for Aerospace Technology.

DFG holds elections for Parliament of Science

A total of 1,383 researchers are standing for election to the Deutsche Forschungsgemeinschaft's "Parliament of Science", a group of scientists who advise the DFG on

funding decisions. The Parliament of Science has 606 seats, which cover 48 scientific fields. The election, which started on 7 November and will run for four weeks, will elect parliament members for 2012 to 2015. The DFG is Germany's largest public research funder.

Spain earmarks €300m for research partnerships

Spain has said it will spend €300 million on public-private partnerships in ICT, energy and industrial technology. As part of its Innvierte programme, the Spanish Centre for Industrial Technological Development has selected nine large projects, to which industrial partners have committed to invest about €175m of venture capital in the next five years.

Weimar crowned Germany's international university

The Bauhaus University of Weimar has won a €50,000 prize for being Germany's most international higher education institution. The prize is given by the German Academic Exchange Service. The jury said it found that 15 per cent of the university's 4,000 students were from outside Germany, and 60 per cent of its students spent time abroad during their courses.

nordic interview juleen zierath

'We need diverse research environments'

The suggestion that a focus on quality in research funding favours men over women may sound like a relic from the past. But data from Sweden, Denmark and the European Research Council (*see Outlook, page 17*) seems to indicate that there is some truth to it.

However, quality is by no means a particularly male thing, says Juleen Zierath, professor of clinical integrative psychology at the Karolinska Institute in Stockholm. As one of only three women in Sweden to have taken home an ERC Advanced Grant, which go to well-established researchers, out of a total of 37 Swedish winners, she is part of the Swedish research elite, and holds a seat on the nominating committee for the Nobel Prize in medicine.

Milwaukee-born Zierath does not feel women are discriminated against in highly competitive grant rounds. For the ERC, she says, the proportion of women applicants (14 per cent) is close enough to the proportion of women who win (12 per cent). She is not sure why there are fewer applications from women for the ERC grants. "I don't know why. It might be that they apply less, or that they are not as strong when it comes to networking as their male counterparts," she says.

However, she does not want women to receive special treatment in grant rounds, as this would undermine

by Pia Pedersen

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their achievements. "Women want to be judged by their contribution, not by their sex. Anything else negates one's scientific contributions," she says.

She believes there are measures that could help more women reach the research elite. "We need to pay attention to create diverse research environments," she says. For instance, there could be more gender balance on peer review panels that make funding decisions. Zierath thinks there needs to be a mix of men and women, as well as international researchers on these panels. Men and women may write applications differently, she says, with women perhaps being more tentative and understated in describing their research plan and accomplishments.

Role models are also important for young female scientists, she says. "Early in my undergraduate education at the University of Wisconsin, River Falls, I had female role models that helped give me sound advice about developing a career development strategy. Their advice was invaluable."

In the end, she says, academia is not a sexist environment, but a competitive one that demands sacrifices from men and women alike. "Most career-minded people have to make sacrifices."

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A man's world—and getting more so?

Concern for Sweden's much vaunted record on gender equality is rising in tandem with calls on the government to ramp up competition for block research grants in its research bill next year.

**nordic
outlook**

by John Fogarty

jfnews@ResearchResearch.com

The bill, which will steer Sweden's research policy for four years, is expected to increase the proportion of university block grants allocated according to quality and relevance criteria. Such a move would strengthen the trend to steer Sweden's public research funding towards its 'best' researchers or most productive groups.

But the push for quality and relevance may come at the expense of its female researchers. And the government is not interested in making any of the block funding contingent on women's participation.

There is compelling evidence that a focus on excellence favours men. A report published in December last year by a Swedish equality task force found that less than 13 per cent of the excellence-driven, strategic research investments in medicine, engineering and natural science projects made through Sweden's biggest research funders in the previous decade ended up in the hands of women. Sweden's excellence focus has all but reversed equality measures introduced in the 1990s to boost the number of women researchers, the report says.

The phenomenon does not only crop up in Sweden. Similar evidence comes from the Danish Council for Independent Research. Of the 33 award winners under its Sapere Aude career programme for young elite scientists in 2010, only four were women. And in the highly competitive European Research Council Advanced Grants women made up only 14 per cent of applicants and 12 per cent of winners since the grants started in 2008.

The Swedish equality report cites a number of possible reasons for the disparity. Women generally seem less inclined to apply for highly contested grants than

men. Perhaps they are put off by the way in which the funding calls are formulated, or they may not feel compelled to head large research groups. Women may also lack the networks required to launch an effective application, the report suggests.

SOME FEAR THAT a quality focus in Sweden's block grants could exacerbate the situation for women, thus undermining separate efforts to boost their numbers in science. "I think increasing competition for block grants will result in a much higher concentration of men getting funding," says Mats Benner, a research policy professor at Lund University.

The government is aware of the problem. On 9 November, it announced that it has asked the Swedish National Agency for Higher Education (Högskoleverket) to look into the data available for assessing the gender distribution of block research funding. "We already know that competitive funding tends to favour male researchers so we want to see if direct funding follows the same pattern," says a spokeswoman for Jan Björklund, Sweden's education minister.

However, it is uncertain what can be done about the situation in the short term. The investigation will not be ready in time to feed into the 2012 research bill, and the government is reluctant to take preventative measures against women losing block grants. "We have done a lot to increase gender equality at universities but we are not considering a gender measure as part of the funding system in next year's bill," says the spokeswoman.

In the end, it may not be up to the government to address the issue as it is widely expected to want to give universities more control over how they spend their money in next year's bill. If universities get more autonomy, they might end up determining the fate of Sweden's women scientists.

nordic in brief

Danish science budget passed

The Danish ministry for research and higher education announced on 15 November that an agreement has been reached in parliament on how to distribute its 2012 budget for research, worth nearly 1 billion kroner (€127m). Highlights of the deal include 120m kroner for research into sustainable energy systems and 40m kroner for food research. There is also money set aside for innovation and for the industrial PhD programme, which links universities and businesses.

Tax and red tape hamper Danish recruitment

Denmark's high taxes and the bureaucracy involved in applying for work and residency permits makes it an uphill battle for Danish universities to recruit internationally, according to an analysis by the Danish Agency for Science, Technology and Innovation published on 7 November. Other hurdles to recruitment include the lack of a tenure track system and lower pay for scientists compared with countries such as Germany, the analysis says. The report drew on interviews with 2,000 researchers.

usa

NASA-China collaboration put on ice...

The US space agency has “very limited” collaboration with China, its embattled administrator Charles Bolden told a hearing at the House of Representatives’ Foreign Affairs Committee on 3 November.

Bolden said that NASA has suspended all activities under its agreement with the Chinese Academy of Sciences. This means that NASA is no longer directly receiving global navigation satellite system, satellite laser ranging, and very long baseline interferometry data from stations in China.

In addition, Bolden told lawmakers that NASA has suspended all activities of the NASA-China Earth Science and Space Science Working Groups, and that the agency has cancelled all plans for a reciprocal visit to NASA by senior Chinese officials following his delegation’s visit to China in October 2010.

All requests for potential bilateral activities between NASA employees and Chinese institutions—whether funded by NASA or other US government agencies—have also been denied, he added. Furthermore, all proposed travel to China by NASA employees or NASA-sponsored contractors that could be interpreted as initiating, pursuing, or implementing bilateral cooperation or other bilateral activities with Chinese institutions has been cancelled.

Bolden, however, did point out that China (along with the rest of the world) continues to have access to NASA data because of the agency’s open data policy.

The hearing was convened by Representative Dana Rohrabacher, a Californian Republican, in response to a legal opinion by the congressional Government Accounting Office in October. According to this opinion, the White House Office of Science and Technology

by Rebecca Trager

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Policy has not been complying with language in the fiscal year 2011 appropriations budget that prohibits OSTP and NASA from funding collaborations with China and meetings with Chinese officials.

Defending the agency Bolden said that NASA has had “very limited” bilateral cooperation with China over the last decade because of US law and policy. He added that NASA had signed only one agreement with the Chinese Academy of Sciences.

Nonetheless, Republican lawmakers at the hearing did not appear convinced. Rohrabacher called China “the world’s single largest human rights abuser” and warned that “any effort on our part to reach out to the Chinese communists, to engage them on matters of technology is, quite frankly, not just naïve...it is dangerous.”

Republican Frank Wolf, who represents Virginia, said: “I have been very troubled by this administration’s apparent eagerness to work with China on its space programme and willingness to share other sensitive technologies.” Wolf chairs the House appropriations subcommittee that funds the OSTP and NASA.

But OSTP’s director, John Holdren, who also testified, said that the overall benefits to the US of “properly managed” S&T cooperation with China outweigh the risks. He said that ongoing US-China dialogue on innovation policy has led the Chinese government to roll back aspects of its policies that discriminate against US businesses active in Chinese markets. In addition, Holdren said cooperation with China in public health had enhanced US capacity to deal with health threats that originate in China.

...as lawmakers cut the agency’s budget

NASA and the White House Office of Science and Technology Policy (OSTP) will both see their budgets fall during fiscal year 2012, according to a preliminary agreement by a House-Senate committee, which met on 14 November.

NASA would receive \$17.8bn, a \$648m drop that represents a 3.5 per cent cut. The figure is nearly \$1bn less than had been asked for by the White House. Meanwhile, OSTP would see its much smaller budget fall much further, by more than 30 per cent under the conference agreement, from \$6.65m to \$4.5m.

The National Science Foundation on the other hand will see its budget increase by about 2.5 per cent to just over \$7 billion. The agreement would also increase NSF’s core research programme by \$155m, or roughly 3 per cent, to \$5.7bn.

by Rebecca Trager

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In addition, NSF’s Major Research Equipment and Facilities Construction account would grow by \$50m to \$167m. The budget for the agency’s Education and Human Resources directorate would fall by about 4 per cent, reducing it to \$829m.

The agreement must pass through the full House and Senate before being sent to President Obama for signature. NSF’s agreed increase is still more than \$730 billion below Obama’s request for the agency.

Following up on a prohibition in last year’s appropriations bill (*see USA, above*), the conference agreement contains language restricting OSTP activities that would carry the risk of technology transfers to China, while allowing other activities to proceed.

China climbs to fourth in world patent league

A surge in patent applications from China has contributed to a large increase in worldwide patent filings in the past two decades, according to a report published by the World Intellectual Property Organization (WIPO) on 14 November.

The World Intellectual Property Report 2011-The changing face of innovation says that annual patent applications filed in patent offices around the world increased from 800,000 in the early 1980s to 1.8 million in 2009. Of these, 229,000 applications were made to China's State Intellectual Property Office from China-based companies, constituting 13 per cent of the world's total. This compares with 93,000 patent applications made in 2005; and 25,000 in the year 2000.

Patents filed by China-based inventors at patent offices in other countries under the Patent Cooperation Treaty are also on the increase. PCT patent applications originating in China now account for 7.5 per cent of the world's total, compared with just 0.3 per cent in 1995. This places China fourth in the world, behind the US on 27.4 per cent, Japan on 19.6 per cent and Germany on 10.7 per cent.

Carsten Fink, WIPO's chief economist and the report's author, says: "Last year, China's patent applications filed under the PCT system grew by more than 50 per cent and this is a trend we expect to see again this year."

by John Fogarty

jfnews@ResearchResearch.com

The report confirms that China is the world's second largest spender on R&D after the US. This is largely the result of a growth in manufacturing capacity and the resulting increase in hi-tech exports. "The driving force behind China's patenting activity is its economic growth," says Fink.

Public sector measures, however, have also played a part. The share of China's national patent applications originating from universities, for example, is the largest of any country, at around 13.5 per cent, the report says. Bruno van Pottelsberghe, an expert in intellectual property at Brussels-based think tank Bruegel, says this is down to aggressive government policy focused on increasing the country's intellectual property. "In various regions in China there are very strong incentives and subsidies for universities to file applications, which explains why you see such a strong rise," he says.

But Pottelsberghe cautions against reading too much into the data on China's patent applications. "The lion's share of China's domestic increase is due to a very small number of companies, operating particularly in ICT. And we also don't know what the quality of their inventions has been," he says.

world in brief

Research income rises at Canada's top universities

The total research income of Canada's top 50 research institutions grew 3.6 per cent last year to CND\$6.5bn (£4.6bn), according to figures published by consultancy company Research Infosource. In its top 50 research universities list, 33 universities posted an increase in research income and 17 posted a decrease. "The 2010 result caps a decade in which university research income rose by 134 per cent," said Ron Freedman, the head of Research Infosource. "Research income growth actually outstripped overall economic growth in 2010," he said.

Vietnam gets climate research centre

The Vietnamese government and the World Bank met on 15 November to discuss the design of a joint centre for research and innovation in climate change. Once completed, the centre will help Vietnam reduce its emissions. The bank's Information for Development Programme is designing and implementing similar centres in Ethiopia, India, Kenya and South Africa.

GSK invests \$50m in research in Canada

Pharmaceutical company GlaxoSmithKline has announced a \$50 million investment in a fund to sup-

port early-stage life sciences research in Canada. The GSK Canada Life Sciences Innovation Fund is aimed at strengthening research commercialisation in Canada by funding researchers who are in the early stage of drug development.

Malawi university reopens

The main college of the University of Malawi reopened on 14 November after an eight-month wrangle over academic freedom that started when Malawi's police inspector general summoned a politics professor for questioning over the contents of a lecture. In a statement at the end of last month, Malawi's president Bingu wa Mutharika said he was saddened by events at the campus and said he would guarantee academic freedom. "Government has never and will never place spies in classrooms or within the campuses of University of Malawi," he said.

Brazil-EU in joint ICT call

The European Commission and the Brazilian government are to launch a joint call for research proposals in information and communication technologies. The call, worth €10 million, will include cloud computing for science, sustainable technologies for smart cities, smart platforms for a smarter society, and hybrid broadcast-broadband TV applications and services.

inside out

EYE OF THE BEHOLDER The European Court of Auditors and the European Commission each put a slightly different gloss on the outcome of the audit of the Commission's 2010 accounts. "EU accounts reliable, but payments still affected by material error," reads the ECA's statement on the matter. "Another clean bill of health for EU accounts; auditors find improvements in many payment areas," says the Commission. Take your pick.

BEST-KEPT SECRET With so many policies under development at the European Commission at once, who can blame its officials for not keeping on top of every detail? Even so, we were somewhat taken aback at how hard it was to track down any details of a Commission proposal to create an external budget for ITER, the France-based fusion power project. The Council of Ministers, Parliament and Commission, were incredibly hazy on the particulars. Only off-the-record did one administrator let the cat out of the bag: "This is so unlikely to happen, they probably didn't bother to work it all out."

PAX OF LIES A group of Chinese academics have just awarded a "Confucius Peace Prize" to the Russian prime minister and well-known pacifist Vladimir Putin. The award appears to be an ironical retort to the Nobel Committee's granting of its real peace prize to Chinese dissident Liu Xiaobo, who has been in jail since 2008

for expressing his political beliefs. It hasn't done Putin any good—he was booed at a kicking-and-boxing match in Moscow on Sunday—and we doubt that it will do the reputation of the Chinese autocracy much good, either.

SIDELINED If you ever worry that any of the 736 sitting members of the European Parliament are under-employed, spare a thought for the 18 extra members who have been hanging around since their election in June 2009, but can't take up their seats. The 18 members, from 12 different countries, will be allowed in just as soon as all 27 national legislatures have approved a measure to temporarily lift the cap of 750 on the number of MEPs. But, *EUObserver* reports, no-one's told them when this might be.

CRUEL TRUTH In a world where so many researchers fall over themselves to appease their paymasters—the public—let's hear it for sociologists of the University Carlos III in Madrid, whose latest study surveys the media competence of citizens. "We found that people have serious difficulties defending their opinions regarding the media universe and to discern that media messages are carriers of values and contents", says study author Alejandra Walzer. Results from Madrid, especially, were "very disheartening, because they show a high level of media incompetence in the majority of the population".



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