*Research
Europe

Director-general Smits sets ambitions for 2016 – p6

BRICs Back in the game - p4

Space Military communications top European agenda – p5

Plans for EU innovation council take shape

Dual model floated to provide both advice and funding

The proposed European Innovation Council is likely to take the form of a body to provide high-level advice on innovation policy coupled with a discrete funding programme, early discussions suggest.

An internal document summarising talks on the EIC in late 2015 concludes that balancing both functions would be the best way to improve innovation in Europe.

A single funding programme would serve to unite the complex arrangement of existing initiatives for innovation, while the advisory function would allow the EIC to direct framework conditions in Europe on issues as diverse as venture capital taxation, university reform and funding simplification.

The European Commission document, dated 16 December, states that a taskforce of officials set up by the Commission's directorate-general for research to develop the concept has not yet determined a preferred model for the EIC. The Commission will launch a public consultation in January, with a firm proposal to be circulated by the summer, it states.

The plan, which is being championed by EU research commissioner Carlos Moedas, has the support of several senior Commission advisers and MEPs, who say that it could act as a nucleus for political attention and additional funding, as the European Research Council (ERC) has for basic research. "It could be a practical tool but also a political tool—an important instrument to regain momentum," says German MEP Christian Ehler, who is involved in the Parliament's working group on the EIC.

"The voice of innovation and the conversation about innovation is not yet strong or loud enough," a senior Commission official says. "This is the fundamental problem, which the EIC could help to solve."

One idea circulating is that the EIC's funding arm could work on the core principles of the ERC, of high competition and freedom. "The administrative side should be as simple as possible," says Luc Soete, an economist at Maastricht University and chairman of the Commission's main research advisory group. The EIC could select projects for their potential to leverage external funding, he says, and mirror ERC grant mobility by ensuring recipients have full access to national markets.

by Laura Greenhalgh

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However, there is general agreement that the EIC would need to be much more flexible than the ERC, due to the greater complexity of innovation. "You need a very adaptive beast," the Commission official says.

Ehler suggests that the EIC could use challenge prizes to fund solutions to technological problems and provide support for "disruptive" innovation. Jerzy Langer, chairman of the Commission's Future and Emerging Technologies advisory board, says that Horizon 2020's FET programme could form the basis of EIC funding—and that this could be piloted in 2017, whereas other options would take longer. "The Commission needs to take visible and immediate action to maintain credibility in the idea of an EIC," he says.

Supporters of basic research are already voicing concerns that the EIC could divert Horizon 2020 funds away from researchers. Peter Tindemans, secretary-general of Euroscience, describes the EIC as a "bad idea", and says that innovators should be securing venture capital rather than public funds to support business ideas.

However, the Commission official says that discussions on the EIC should not become preoccupied with Horizon 2020 funding. "It should be above all about policy and strategy," the official says, adding that determining conditions for innovation will have much greater impact across Europe than the relatively small amount of funding the Commission has at its disposal.

Moedas must now persuade other commissioners to support his plans, ahead of a discussion in June.

Ehler says that MEPs are likely to back the idea, and that it should also be possible to gain the support of member states—as long as it doesn't require additional funding.

The document says that the Commission intends to pilot the funding arm of the EIC during the second half of Horizon 2020, with a full-scale launch only likely during Horizon 2020's successor programme, which starts in 2021.

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a *Research publication

Management myth

Europe doesn't need another 'innovation' layer

A European Commission document has proposed that a pilot European Innovation Council be established this year, with a view to having a fully fledged EIC in the successor to Horizon 2020, due to start in 2021.

As is clear, however, from the document reported in our cover story, the composition and function of the council remain entirely up for grabs.

Options include: something akin to the existing European Research Council; a hard-driving, top-down innovation agency modelled on the United States Defense Advanced Research Project Agency (Darpa); and, effectively, a new layer of management for existing EU innovation programmes. Each approach has advantages and drawbacks.

The EIC project is modelled politically on the ERC, which was proposed more than a decade ago and successfully incorporated into Framework 7. The ERC tapped additional resources to support the diversification of the Framework programme to give large grants to individual academics, for basic research. But the ERC's success and undoubted prestige may have sent a false signal. Setting up a basic research agency to support top scientists was relatively straightforward. No corresponding model exists for the public support of industrial innovation.

Darpa—at least in its early, less-bureaucratic days—is often cited as such a model. Its dynamism is superficially attractive. But in our present age of transparency and accountability, Darpa's original approach of seconding talented programme managers and giving them carte blanche to support what they like is difficult to implement at the Pentagon. It is even harder to see how it could be applied at the Commission.

That leaves the option of appointing and staffing an EIC to oversee the Future and Emerging Technology flagships and other existing innovation-support instruments and advise the Commission on innovation policy, including regulation. It has been fashionable to assume that councils of this type, staffed by former business executives, are somehow inherently superior to oversight by professional civil servants, as at present. That was the thinking behind the UK Technology Strategy Board, now called Innovate UK, for example. But it isn't really clear that these benefits exist. In fact, bureaucrats may be more discerning, responsible and intellectually rigorous in their approach than an outside board.

It is important that discussions about the EIC establish precisely what it is expected to achieve. It is obvious that the 'innovation lobby' views such a council as a useful funding counterweight to the ERC. But the ERC has a specific, discrete function: it does not oversee all, or even most, of the Commission's research budget.

What must definitely be avoided is the introduction of an EIC for its own sake, to lend a narrative to Horizon 2020's successor. The EU has done that before, with the 2008 launch of the European Institute of Innovation and Technology, whose effectiveness is yet to be proven.

It is up to Carlos Moedas, the research commissioner, and his team to build a case that the EIC is actually going to add value, in circumstances where additional resources are unlikely to be available. That case is still a long way from being made.

elsewhere

"Given these are the issues that will impact the way all Americans live for decades to come, why are they so often the exception in debates, rather than the expectation?" Sheril Kirshenbaum, executive director of the US campaign group ScienceDebate, wants to make issues such as mental health, climate change and research funding mainstream in presidential candidate debates. Scientific American blog, 11/1/16.

"There's no handy stripe in the rock layers to mark the Anthropocene yet."

It will be a big challenge for geologists to pinpoint the start date of the latest geological age, says environmental author *Gaia Vince*, after an International Union of Geological Sciences' working group reached a consensus that the Anthropocene, defined by human impact, has begun. BBC News, 8/1/16.

"The computer actually gives me a flexibility to change portions of the piece and adjust structures on a large scale more easily." New York-based sculptor *Elliott Arkin* says that many artists are using robots to create highly accurate structures, due to the falling cost of technologies that mimic an artist's arm movements. The Art Newspaper, 7/1/16.

"If you see somebody experimenting in a laboratory in the opening scenes of a movie or TV programme, you figure that something dangerous is going to emerge." James Gunn, historian and founder of the Gunn Center for the Study of Science Fiction, says an anti-science bias is entrenched in Hollywood movies. Euroscientist, 23/12/15.

"Cost and risk are measured in more than just dollars. It's measured in lives; in mission accomplishment and mission failure." US Navy energy policy director Jim Goudreau on the rising use of renewable energy sources in the military, to cut down on dangerous missions to deliver fuel. Politico, 31/12/15.

decade

"People tend to forget that this is in reality a nuclear facility, containing large quantities of radioactive material and explosive and toxic substances."

A spokesman for the Working Group against the ESS in Lund opposes the planned construction of the European Spallation Source in the region, after Swedish universities and authorities supported its location there.

Research Europe, 19 January 2006

what's going on

Auditors to probe JTIs

The European Court of Auditors will assess the performance of research and innovation agencies and Joint Technology Initiatives in 2016, the court has announced. Its 2016 work programme sets out a review of JTIs and the Innovation and Networks Executive Agency as priorities for the coming year.

Funders urged to share plans on research infrastructure

Greater cooperation on research infrastructure development is needed to ensure long-term sustainability, a report from the research funders' association Science Europe has said. The report, published on 14 January, said that countries, regions and organisations involved in research infrastructure planning should exchange information on their strategic priorities and investigate opportunities for cooperation.

Efsi said to mobilise €50bn

The European Fund for Strategic Investment mobilised €50 billion in 2015, the European Investment Bank has claimed. The EIB Group, comprising the EIB and the European Investment Fund, provided €7.5bn guaranteed by Efsi in 2015, the EIB said on 14 January. This supported additional finance from national banks and industry, which brought the total financing guaranteed by Efsi in 2015 to €50bn, or 16 per cent of the total Efsi target up to 2020.

Juncker shuns green groups

European Commission president Jean-Claude Juncker did not meet a single environmental lobby group in 2015, despite one-on-one meetings with 18 business and industry organisations, figures from Juncker's website have shown. The European Environmental Bureau, which represents 140 environmental organisations, said that several requests for such meetings were sent by both the bureau and Green 10, a group of ten of the largest environmental organisations and networks in Europe.

Dutch universities strike deal with Elsevier

The VSNU, the Association of Universities in the Netherlands, has reached an agreement with the academic publisher Elsevier on subscriptions to, and open-access publishing in, its journals. The three-year agreement will give researchers at Dutch universities access to Elsevier journals and enable them to publish open-access in some of the journals, the VSNU said on 10 December.

Publishers to demand researcher IDs

The American Association for the Advancement of Science, PLOS and Embo Press are among the publishers that will require ORCID numbers for papers' corresponding authors from 2016. A group of eight journals and publishers signed an open letter on 1 January committing them to require ORCID numbers in a bid to encourage academics and publishers to adopt the identifiers.

Dutch presidency commences

The Netherlands took the reins of the European Council presidency on 1 January, launching an 18-month work programme to include a review of European Research Area advisers, changes to the monitoring of research programmes and progress on open science in Europe. The Dutch presidency will be followed by Slovakian and Maltese presidencies, and this trio will be responsible for the mid-term review of Horizon 2020 (see View, page 8).

europe

BRICs on the rise

After a sharp decline, international participation in Horizon 2020 seems to be recovering. **Amanda Stringfellow** reports.

When the EU stopped automatic funding for Brazil, Russia, India and China (BRIC) under the Framework programme in 2012, the involvement of these countries plummeted. Russian participation was hardest hit with 61 participants in 2013 dropping to just 7 in 2014. China's involvement fell by 70 per cent, and the number of participants from India and Brazil more than halved (see table).

"Most researchers are not willing to undergo a laborious and time-consuming process of proposal submission to work in a consortium at their own costs," says Marine Melkonyan, Horizon 2020 national contact point in Russia.

This was a shock for both researchers and policymakers, who were hoping to capitalise on the strength of the BRIC countries to bolster the EU programme. The response has been a concerted effort by the Commission to get these countries back on board—and the latest Commission statistics show that it appears to be working.

By 29 October 2015, when the latest data were gathered, the number of Chinese participants had risen to 20, compared with 13 in the whole of 2014. Russian participants had climbed to 18, and Brazil had already equalled its 2014 participation.

The rise could be attributable to the Commission's decision to set up co-funding mechanisms, which pledge funds for jointly agreed priorities. Previously, a fundamental problem was convincing nations to pay for their involvement in a programme where European decisions rule. "To get countries interested they have to be involved in the priority setting," says Dan Andrée, head of the Brussels office of the Swedish innovation-funding agency Vinnova and a senior Commission adviser.

The co-funding mechanisms agreed under Horizon 2020 include a €28-million fund with the Chinese science ministry, launched in December. There are 20 topics targeting cooperation with China in the work programmes for the next two years, including calls on chronic diseas-

es, plant breeding and urbanisation.

For Brazil, research on advanced biofuels will be funded under the 2016 work programme with €5m from its science ministry, the São Paulo Research Foundation and Confap, the Brazilian

council of state funding agencies. A co-fund with the Russian Ministry of Education and Science is also in its early stages. "We expect that the number of successful projects between the EU and Russia

will increase thanks to this," Melkonyan says.

However, involvement has not increased at the same rate in all four BRIC countries. Some have attributed this to their vastly differing economic and scientific systems, which the Commission ignored in its decision to treat them as a bloc for Horizon 2020 funding. Such a distinct grouping "does not exist in science", says Vasco Azevedo, a geneticist at the Federal University of Minas Gerais in Belo Horizonte in Brazil. "I don't see the research systems as comparable."

India has yet to show increased participation in 2015, and it has been much slower to agree a co-funding mechanism with the EU, says Sean Angiolillo, head of research projects at education consultancy firm IndoGenius, based in New Delhi. The EU and India have experienced "growing pains" in their relationship while trying to develop funding mechanisms on an equal footing, he says. Teresa de Oliveira—a policy researcher from the Centre for Social Innovation in Austria and coordinator of the Indigo Policy project on EU-India cooperation—says that the Indian ministry will "fight to have its own rules" for joint projects, and that these discussions are ongoing.

Meanwhile, Russian participants are fearful that their recovery could be limited. George Safonov, director of the research centre at Moscow's Higher School of Economics, says that 2016 will be crucial for the relationship between the EU and Russia in science. "The political situation means coordination between government structures is limited," says Safonov. "Adjustments need to be made—and it's a critical time now."

There are positive signs to be taken from EU research commissioner Carlos Moedas's pledge to ensure that Horizon 2020 remains "open to the world"—one of his three priorities for his term in office. His director-general, Robert-Jan Smits, has said that international cooperation will be a priority for 2016 (see Interview, page 6), and says he believes there is significant commitment to work on the relationship on the part of the BRIC countries, as well as from the EU. "These countries really see the quality of European science and they want to be part of it; they don't only want to cooperate with the United States," he says.

In conjunction with the participation figures, there is optimism that this approach could be the start of a resurgence in long-term BRIC country participation, says Manfred Horvat, an international research policy adviser at the Vienna University of Technology. "I think there is quite an opportunity that, with time, participation will substantially increase."

The changing climate

Number of organisations participating in Framework programme

	2013	2014	to Oct 2015
Brazil	18	7	7
Russia	61	7	18
India	18	8	5
China	46	13	20

Source European Commission E-CORDA database, Oct 2015

Flagship European space programme emerges

A satellite communications programme combining civil and military functions is set to become Europe's next major space project, after Copernicus and Galileo.

Govsatcom will combine commercial communications with more secure military communications. At an event in Brussels on 11 January, François Rivasseau, special envoy at the EU's European External Action Service, said that Govsatcom will be a European flagship programme as it supports three EU strategies due to be published in 2016: a space strategy, a defence action plan and a global strategy on foreign and security policy.

The design and governance of the programme have yet to be determined, but it will probably remain under national control because of the sensitivity of military communications. Bodies including the European Commission, the European Defence Agency, the EEAS and the European Space Agency, as well as industry, will share the costs of the programme.

Speaking at the Eighth Annual Conference on EU Space Policy on 13 January, EDA chief executive Jorge Domecq said that Govsatcom would be the first European space initiative to combine civil and defence communications, paving the way for more dual-use programmes.

by Craig Nicholson

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However, Alice Bunn, director of policy at the UK Space Agency, expressed concern about the programme's mission, stating that it was not clear how Govsatcom would strengthen European telecommunications, which are "already world-leading".

Govsatcom will probably be allocated several billion euros from the EU budget. The two existing flagships, Copernicus and Galileo, have been allocated around €6.7bn and €11bn respectively up until 2020.

The EDA is conducting a feasibility study on military requirements for Govsatcom, while the Commission examines civilian requirements. A schedule for the programme is due to be completed in 2025.

The plan to build Govsatcom comes as the EU builds on its space competencies, introduced under the 2007 Lisbon Treaty, and on efforts to progress joint European defence capabilities, including a preparatory action to incorporate defence research in the next Framework programme.

Increasing synergy between space and defence will be a priority for the EU's 2016 space strategy, industry commissioner Elzbieta Bienkowska said at the conference.

Mixed response to planned EU applications cull

A two-step process that will see 80 per cent of applications for EU funding rejected at the first stage will be rolled out across future Horizon 2020 calls, the director-general for research Robert-Jan Smits has said.

Smits said that the two-stage evaluation process—used for only a handful of Horizon 2020 calls at the moment—will be extended to all programmes. The Commission will reject 80 per cent of applications on the basis of a short 10-page proposal, so just 20 per cent of applicants will be asked to produce a full 70-page application.

The changes would mean a huge saving for research institutions in Europe, says Michael Browne, head of European research and innovation at University College London. "Putting in an application is a big investment and at the moment there is a lot of wasted effort."

Previously, applicants have complained that too many projects were progressing to the second stage in calls with a two-step process. "Some proposals that got through to stage two have had feedback saying the project is out of scope," Browne says. "That should have been picked up at the primary stage."

But Browne says that the number of proposals passing to the second stage should vary according to how

by Amanda Stringfellow

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many projects will be funded, rather than being set at 20 per cent. "Those that are invited to submit the full application should have at least a one-third chance of being funded," he says. In calls with a huge number of applicants, taking even a fifth of proposals to the second stage could leave final applicants with too slim a chance of support, he says.

Yulia Matskevich, EU research development manager at Brunel University in London, agrees that the selection process needs to be changed. However, she says the Commission needs to alter other aspects of its two-stage evaluation before rolling it out. A lack of feedback on proposals in the first stage means researchers don't have enough opportunity to improve their applications, she says. In addition, having different evaluators at each stage risks a "lack of consistency" in the evaluation, she says.

Smits says that the change will be introduced gradually to account for the fact that a two-stage procedure could take longer. The Commission has previously pledged to limit the time it takes for Horizon 2020 applications to be funded to eight months.

interview robert-jan smits

A driving force

Robert-Jan Smits has big ambitions for his second term at the helm of the directorate-general for research at the European Commission, he tells **Laura Greenhalgh**.

Receiving guests in his spacious office in the Orban building of the European Commission in late December, Robert-Jan Smits looks very much at home. Smits is the Dutch commander-in-chief to the department's Portuguese political figurehead, Carlos Moedas. After more than five years in the job, Smits says he's still on a mission to realise some major ambitions for EU research and innovation.

Sitting at his walnut boardroom table with views of the Square Frère-Orban's church spire, it soon becomes clear that these ambitions run well beyond Horizon 2020 and the administration of its €75-billion budget. "Our department isn't just about handing out research funds," he says. "I want to integrate science and innovation with economic policymaking at the highest level."

Smits details how his interest lies in big-picture politics, and in putting the traditional niche of research policy high on the agenda of Europe's political leadership. "I am frustrated that economic models have no place for science," Smits says. So he has hired a team of economists to work at DG research, to come up with better macroeconomic models that could eventually become mainstream.

He's also pushing for closer monitoring of science and innovation targets in the Commission's annual assessment of national governments, the European Semester. "I see this as my core business," he says.

Smits is aiming high in his attempts to improve the environment for science and innovation in business and society. Perhaps shrewdly, he's identified an opportunity to dovetail this objective with the regulatory reform agen-

Robert-Jan Smits

- *** 2010-present** Directorgeneral for research
- * 2010 Deputy director-general at the Commission's Joint Research Centre
- ★ 2005-2010 Director of the European Research Area at DG research
- * 2002-2005 Head of unit at the DG research
- * 1989-2005 Several positions at DG research
- ★ 1985-1989 Civil servant at the ministry of economic affairs, the Netherlands

da of conservative Commission president Jean-Claude Juncker. On 15 December, Smit's directorate outlined research areas that could be used to make the case for regulatory reform, in a working document pitched to tally with Juncker's plans. "We are trying to push the innovation principle to make European rules better," he says.

Smits has a strong ally in Moedas, who has made innovation his priority. His support could prove necessary: in entering the realms of national economic policy, Smits risks offending member states. Taking on regulatory change will also encroach on other Commission directorate-generals, who view energy

policy or data protection, for example, as their domains.

But Smits says that he will "advise, not prescribe to" member states, as the EU is "often seen as an overenthusiastic mother-in-law, who thinks she knows it all" when it comes to policy. He hopes that the benefits of coordinated

action across the Commission will speak for themselves. "Influencing the clinical trials directive will have a much greater impact on innovation in the pharmaceutical sector than if we spend €3bn on funding."

While seeking influence across the wider Commission, Smits is still busy troubleshooting at home. A few years ago, under pressure to curb any expansion of the Commission's own staff and in keeping with his own ambitions, he launched the biggest internal changes in DG research's 30-year history. Due for completion in 2020, the reorganisation will see a significantly smaller DG research, with grant administration outsourced and the directorate itself concentrating on policy and strategy.

"Of course it has an impact on staff morale," Smits says. "Any change is difficult. But my role is to make sure we have buy-in, and motivate everybody that this is the right way forward—which I'm convinced it is."

Implementation of Horizon 2020 also demands attention as it approaches mid-term review. A major concern, he says, is to ensure the entire annual budget is spent by the end of the year, so it doesn't return to the Commission's central fund: "I'm checking the figures daily."

Smits says that he's very proud of the Horizon 2020 rollout; he cites the size of its budget, the simplification of its procedures, and its reorganisation around societal challenges as examples of its success. The mid-term review will spell changes, he says, with steps planned to improve the experience of grant applicants (see News, page 5), as well as the likely pilot of a European Innovation Council.

Smits says that the Commission is "gradually stepping away from the European Research Council model" for the EIC, after realising that innovation can't realistically be funded in the same way as research—a view confirmed this month by an internal Commission document (see Cover).

The coming year will see Smits continue to encourage non-European participation in Horizon 2020, following visits to India and China last year, and try to close the gap in scientific performance between old and new member states, he says. As the Dutch presidency takes up the reins of the Council of Ministers, it also offers opportunities to make progress on their priority of open access.

Smits has already bucked the time-honoured tradition of five-year rotations for director-generals after being reinstated last year. But he's clearly got no intention of relaxing in post during 2016. "I hope we can make a huge leap forward," he says.

peter fisch view from the top

Want a simpler Horizon 2020? Get rid of work programmes

When only 14 per cent of applications to the first round of Horizon 2020 funding calls were successful, down from 20 per cent in Framework 7, the European Commission was criticised. Research institutions, consultancies and others blamed in particular the 2014-15 work programmes—the documents that set out the funding opportunities available—for not having worked properly. The Commission has recently published the work programmes for 2016-17 and expressed its hope of improving the situation.

But focusing on oversubscription obscures more fundamental problems with the work programmes.

Public research funding creates an interface between two different worlds. The research world is, supposedly, spontaneous and in a sense erratic; the administrative world aims at solid long-term planning and exact implementation. The EU's work programmes for research funding are positioned exactly on this borderline. And while EU research spending has increased roughly 20-fold in the past 30 years—changing from small-scale, targeted activities to the world's largest multinational research programme—the administrative fundamentals have not changed.

Officially, the work programmes' job is to provide specific and strategic focus. In fact, however, their main function is to reduce demand for funding by restricting access to a limited number of research topics each year.

In economic terms, work programmes are a tool for rationing demand. Yet there is little evidence in the economic literature that rationing demand is an effective way to manage scarce resources.

So the basic principle of work programmes is a problem. The same goes for their implementation. Preparing work programmes has become a major bureaucratic endeavour, generating 1,800 pages of text every two years. These documents list eligible research topics but whether they offer anything more concrete in terms of analysis or strategy is doubtful. Their content also differs substantially each year, denying researchers consistent funding opportunities.

Many people are involved in drafting work programmes, including external experts from academia and industry, various Commission services and representatives from EU member states. This could favour the most effective lobbyists and put less experienced entrants at a

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disadvantage. There is no requirement for real transparency and for the average researcher it remains a mystery why certain topics are in and others out.

Drafting is based on consensus, so left-field topics have only a slim chance of making it to the final document. The very nature of the process might actually prevent the innovation that is Horizon 2020's raison d'être.

It is time to ask—as, surprisingly, no one seems to have done—whether this colossal effort is worth it or whether we might be better off without work programmes.

Obviously, abolishing the main tool for reducing demand for funding would drive the number of applications up and the success rate down. With the bureaucratic restrictions and exclusions removed, we would see, for the first time, the true demand for funding. Admittedly even more time would be spent on unsuccessful grant applications but the benefits would more than compensate.

Abolishing annual work programmes would represent the single greatest simplification in the history of European research policy. It would free up the enormous intellectual resources that are occupied with drafting, adopting, disseminating, interpreting and understanding piles of work programme texts.

Getting rid of all this red tape would allow researchers to focus entirely on their proposals, thus improving their quality. Abandoning work programmes would put the competition for scarce resources back to where it belongs: in the rigorous evaluation of all proposals for their scientific quality and societal relevance. It would stop the distorting practices of lobbying and minimise the risk of bias. Calls would attract surprising and truly innovative proposals, based on the creativity of researchers rather than the consensus among the insiders who draft the programmes.

Most importantly, such an approach would send a strong and simple message: Horizon 2020 supports the best research teams in realising their ideas—full stop.

The objective of Horizon 2020 is not to ensure 'adequate' success rates or to keep its main beneficiaries in their comfort zone. Horizon 2020 is meant to organise a

fair and open selection of the best projects to move Europe ahead. Keeping the ideas of openness and innovation in mind, it might be appropriate to go for more original ideas, rather than preparing even more extensive work programmes for the years to come.

Something to add? Email comment@ ResearchResearch.com

'No one seems to have asked whether this colossal effort is worth it.'

view from the top tim buiting

Dutch presidency aims for openness and togetherness

When unveiling its plans for the EU presidency in the first half of 2016, the Netherlands announced that its term would be "sober". The British in particular—who do not associate the EU with teetotalism—reacted with surprise, until the Dutch realised that the confusion stemmed from poor translation. "Sober" was changed to "efficient", clarifying the nation's intentions for both its presidency and the attendant catering.

As befits an efficient presidency, all events will be held at one location: the old marine grounds in Amsterdam. There will be only one Competitiveness Council meeting on research and innovation, as the agenda was too slim to justify two. Perhaps the most symbolic decision is to reuse the logo from the last Dutch presidency in 2004.

Efficiency will be needed: the Dutch are facing a difficult and packed six months. The refugee crisis and security threats will no doubt influence the agenda, as will the looming possibility of a Brexit.

In this environment, the Dutch will have to choose their battles carefully. As far as research and innovation go, open access is without a doubt the top priority, closely followed by a proposal for improved framework conditions for research and innovation, and the Framework 7 ex-post evaluation.

The Dutch are widely seen as leaders on open science. The deal struck late last year between the Association of Universities in the Netherlands and scholarly publishers such as Elsevier, to create a publishing environment more friendly to open access, is a prime example.

Sander Dekker, the Dutch minister for education, culture and science, and research commissioner Carlos Moedas have already issued a joint statement urging publishers to adapt to 21st-century realities. They also voiced support for Dutch universities during their lengthy standoff with publishers.

The deal did not impress everyone. In an interview with Neth-ER, Robert-Jan Smits, the director-general for research and innovation, said that the agreement lacks

'Keeping all on board will be a challenge in every aspect of the presidency.'

ambition, "to put it mildly". Smits was disappointed that the agreements did not include an obligatory data-management plan, containing a request for beneficiaries to adhere to the Commission's "fair principles" on open access, which state that publications should be findable, accessible, interoperable, and reusable.

Be that as it may, the Dutch will use their presidency to campaign hard for a transition to a more open research system. Dekker will encourage other member states to seek similar nationwide deals between universities and scholarly publishers, and will push for the adoption of Council conclusions on open access. There will also be a ministerial conference on open science on 4 and 5 April 2016, which is intended to produce a European action plan.

IN PREPARATION for the presidency, the Dutch have stuck close to the Commission's established priorities. Work will continue in existing areas, such as the circular economy and skills.

The preliminary preparations also saw the Dutch parliament call for a conference on the multi-annual financial framework. Several political parties, including the ruling Labour party, feel that the current budgetary system needs reform. A conference would be timely, as preparation for a revision of the framework will start during the Dutch presidency.

Although little is expected from the revision, the debate could give us a glimpse of how member states view the future of EU budgeting.

One challenge will be not to lose other member states along the way; not all EU countries, for example, place the same importance on open access. Indeed, with the Schengen area agreement under fire, the EU's periphery in turmoil and growing anti-EU movements in member states, keeping all on board will be a challenge in every aspect of the Dutch presidency.

In such heated circumstances, the Dutch tradition of consensus-based decision making, known as the polder model, might be crucial. The habit of involving all concerned parties in debate is slow, but effective. Preventing the splintering of an ever-more divided Europe would be an achievement in its own right.

Dutch education and research institutes, working through Neth-ER, won't be idle. In an effort to harness the momentum of the Dutch presidency, institutes will be organising a multitude of conferences and other events. The Neth-ER office will also be organising preparatory and livestream events in Brussels, connected to ministerial conferences in the Netherlands.

We are looking forward to an inspiring and innovative presidency. Stay in touch with the Dutch.

More to say? Email comment@ResearchResearch.com

Tim Buiting is a policy adviser at Neth-ER, a Brusselsbased not-for-profit organisation that helps publicly funded Dutch knowledge institutes to influence European research and education policy.

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highlights

Smart urban futures

JPI Urban Europe, supported by the European Commission under the Horizon 2020 programme, invites pre-proposals for its ERA-NET Cofund smart urban futures. The budget is €23.5 million [1].

H2020 Ebola outbreaks

The Innovative Medicines Initiative Joint Undertaking invites applications for its eighth call. The budget is worth up to €70 million [16].

Education policy

The Education. Audiovisual and Culture **Executive Agency invites** applications, via its Erasmus+ programme, for key action three support for policy reform and initiatives for policy innovation. Grants are worth up to €2 million per project [21].

Earth observations

The European Environment Agency invites tenders for services supporting their implementation of the copernicus programme. The contract is worth €3.2 million [22].

Inequality dynamics

ERA-Net NORFACE invites applications for its programme on dynamics of inequality across the lifecourse. Funding is worth up to €1.5 million per project [45].

NOT TO BE

PHOTOCOPIED

deadlines

Opportunities from previous issues of Research Europe, listed by closing date. European Commission and associated funders marked EU.

Each entry is followed by a Web id

January

- **29 EU** ERA-Net EuroTransBio transnational call for proposals *1160924*
 - FR European Society of Cardiology arrhythmias and cardiac pacing training fellowship 1175642
 - FR European Society of Cardiology clinical electrophysiology training fellowship 1175648
- NO Kavli Trust research grants
- **BE** Alpro Foundation scientific paper award for young scientists 1182539
 - **UK** Biochemical Society centenary award 1161323
 - **CH** European Respiratory Society child lung health research fellow-ship 1186670
 - AT European Academy of Neurology spring school for young neurologists 205249
 - **NL** European and Developing Countries Clinical Trials Partnership Dr Pascoal Mocumbi prize 1187563
 - IT European Association for Theoretical Computer Science Gödel prize 1161231
 - BE European Federation for Medicinal Chemistry Nauta award for pharmacochemistry 1173177
 - **BE** European Federation for Medicinal Chemistry Prous Institute - Overton and Meyer award for new technologies in drug discovery 1173179
 - BE European Federation for Medicinal Chemistry UCB-Ehrlich award for excellence in medicinal chemistry
 - **FR** European Society of Cardiology early-career training grant 1187709
 - FR European Society of Cardiology research grants 201603
 - FR European Society of Cardiology training grants 201601
 - **UK** Feminist Review Trust research grants 253602
 - **UK** Forensic Science Society research scholarship 210581
 - CH International Bone Research Association Robert Schenk research prizes 199508
 - **UK** International Society for Professional Innovation Wiley innovation

- management dissertation award 1166061
- FR International Union for Quaternary Research skills enhancement grants 1169710
- FR International Union for Quaternary Research international focus groups grants 1169707
- FR International Union for Quaternary Research project grants 260069
- CH Lausanne Federal Polytechnic Antarctic circumnavigation expedition project 1187781
- **DE** Merck Serono grant for growth innovation 1182670
- **DK** Nordisk Skibsrederforening maritime law scholarships 1165020
- FR Solar Facilities for the European Research Area call for access
- CH Spine Society of Europe grants
- PL The Polish Mathematical Society international Stefan Banach prize 1183011

February

- **UK** British Society for Neuroendocrinology project support grant 1163782
 - **DE** European Foundation for the Study of Diabetes/Novo Nordisk programme for diabetes research in Europe *1157979*
 - **DE** European Molecular Biology Organisation gold medal 206979
 - CH European Respiratory Society clinical training fellowships 1186695
 - **DE** Fritz Thyssen Stiftung transatlantic postdoctoral fellowship for international relations and security
 - **DE** German Academic Exchange Service group study visits 1180184
 - **NL** International Continental Scientific Drilling Program/European Consortium for Ocean Research Drilling/International Ocean Discovery Program MagellanPlus workshops series programme 1166025
 - **NL** Netherlands Institute for Radio Astronomy ASTRON/Joint Institute for very-long-baseline interferometry in Europe summer student programme 1166080
 - **UK** Research Society for Victorian Periodicals field development grant
 - **UK** Research Society for Victorian Periodicals Linda H Peterson fellowship 1187472

europe

EU smart urban futures

JPI Urban Europe, supported by the European Commission under the Horizon 2020 programme, invites pre-proposals for its ERA-NET Cofund smart urban futures. This call aims to create sustainable and economically viable urban areas. Projects may last up to three years. The budget is €23.5 million.

Web id: 1187467

Email: johannes.bockstefl@ffq.at Deadline: 15 March 2016 [1]

EU protection certificates

The Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs invites tenders for a study on the legal aspects of supplementary protection certificates in the EU. The tenderer will inform the decision on whether to come forward with a new SPC title at European level and whether to revise the existing SPC legislation. The contract is worth

Web id: 1188129 Deadline: 4 February 2016 [2]

EU consumer law check

The Directorate-General for Justice and Consumers invites tenders for a study to support the fitness check of EU consumer law. The tenderer will assess whether the directive objectives of the fitness check have efficiently achieved consumer protection and market integration. The contract is worth €900,000.

Web id: 1188250

Email: just-a4-cft@ec.europa.eu Deadline: 5 February 2016 [3]

EU ecodesign

The Directorate-General for Energy invites tenders for single framework contracts for the provision of preparatory studies, review studies and technical assistance. The tenderer will provide technical assistance on ecodesign, energy labelling, tyre labelling and energy star. The contract is worth up to €8 million.

Web id: 1188241

Email: ener-tender-2015-619@ec.

europa.eu

Deadline: 11 February 2016 [4]

EU Eurostars programme

EUREKA invites applications for the Eurostars programme. This funds collaborative research and innovation projects that will be rapidly commercialised. The average project includes three to four participants from two to three countries with a project budget of €1.4 million.

Web id: 199550

Deadline: 18 February 2016 [5]

EU fisheries data framework

The Directorate-General for Maritime Affairs and Fisheries invites tenders for a study on availability and dissemination of data collection framework data. The tenderer will contribute to improving the timeliness, quality and availability of DCF data for end users, whilst reducing the burden on member states for making this data available. The contract is worth €600,000.

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Search

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Web id: 1188224

Email: mare-tenders@ec.europa.eu Deadline: 19 February 2016 [6]

EU low carbon technology

EUREKA invites proposals for projects under its Eurogia2020 cluster. Funding supports multidisciplinary, innovative research and development projects on energy technologies that will reduce carbon footprint, improve energy efficiency and develop solar, wind, biomass or geothermal technologies.

Web id: 1161448

Email: contact@eurogia.com Deadline: 19 February 2016 [7]

EU citizens calls

The Education, Audiovisual and Culture Executive Agency invites proposals for the following calls under its Europe for citizens programme:

• European remembrance, with grants worth up to €100,000. Web id: 1159033

•civil society projects, with grants worth up to €150,000. Web id: 1183155 Deadline: 1 March 2016 [10]

EU civil protection grants

The Directorate-General for Humanitarian Aid and Civil Protection invites proposals for projects on prevention and preparedness in civil protection and marine pollution. This call supports the efforts of participating states and eligible third countries focusing on areas where a common European approach is more appropriate. Grants are worth up to €800,000 each, covering up to 75 per cent of eligible project costs.

Web id: 213189

Email: echo-cp-p&p@ec.europa.eu
Deadline: 14 March 2016 [13]

EU marine protected areas

The Directorate-General for Maritime Affairs and Fisheries and the Executive Agency for Small and Medium-sized Enterprises invite tenders for the study on the economic benefits of marine protected areas. This aims to evaluate how maritime protected areas provide benefits to specific blue economy sectors, with the aim to feed the results into relevant EU policies. The contract is worth up to €300,000. Web id: 1188231

Deadline: 14 March 2016 [14]

EU H2020 Ebola outbreaks

The Innovative Medicines Initiative Joint Undertaking invites applications for its eighth call. Proposals may address the topic IMI2-2015-08 Ebola and other filoviral haemorrhagic fevers (Ebola+) programme - future outbreaks. The budget is worth up to €70 million.

Web id: 1187750 Email: infodesk@imi.europa.eu Deadline: 16 March 2016 [16]

EU H2020 medicines

The Innovative Medicines Initiative Joint Undertaking invites applications for its seventh call. This aims to improve health by speeding up the development of, and $% \frac{1}{2}\left(\frac{1}{2}\right) =\frac{1}{2}\left(\frac{1}{2}\right) =\frac{1}{2}\left$ patient access to, innovative medicines, particularly in areas where there is an unmet medical or social need.

Web id: 1188183 Email: infodesk@imi.europa.eu Deadline: 17 March 2016 [17]

EU railway innovation

Shift2RailJoint Undertaking, with financial support from Horizon 2020: Societal Challenges, invites applications for the following calls:

•H2020-S2RJU-2015-01 first open call for proposals for non-JU members.

Web id: 1188165

• H2020-S2RJU-2016-01 first open call for proposals for non-JU members.

Web id: 1188166 Deadline: 17 March 2016 [18]

EU maritime projects

The Directorate-General for Maritime Affairs and Fisheries invites proposals for its call on interoperability improvements to enhance information sharing for maritime surveillance. This supports member states in improving their information systems to enhance cross-sector and cross-border information exchange to improve the effectiveness of national authorities in ensuring safe, secure and environmentally protected seas. Grants are worth up to €400,000 per project.

Web id: 1183416 Deadline: 31 March 2016 [20]

EU education policy

The Education, Audiovisual and Culture Executive Agency invites applications via its Erasmus+ programme for key action three - support for policy reform and initiatives for policy innovation. This aims to improve the efficiency of education and training systems and youth policies through the collection and evaluation of evidence on the systemic impact of innovative policy measures. Grants are worth up to €2 million per project.

Web id: 1177959

Email: eacea-policy-support@ec.europa.

Deadline: 14 April 2016 [21]

EU Earth observations

The European Environment Agency invites tenders for services supporting their implementation of the copernicus programme. The tenderer will support the implementation of cross-cutting activities for coordination of the in situ component of the copernicus programme, the European programme for the establishment of a European capacity for earth observation. The contract is worth €3.2 million.

Web id: 1188170

Email: procurement@eea.europa.eu Deadline: 8 February 2016 [22]

East European studies

The University of Helsinki's Aleksanteri Institute invites applications for its visiting fellowships. These provide scholars in Russian and Eastern European studies with the opportunity to visit and carry out research at the Aleksanteri Institute and the University of Helsinki. Fellowships are worth up to €9,000 over three months.

Web id: 1166176

Email: aleksanteri-fellows@helsinki.fi Deadline: 5 February 2016 [23]

EU nanomedicine

ERA-Net EuroNanoMed II invites proposals for its joint transnational call. This supports projects that combine innovative approaches in the field of nanomedicine and encouragees transnational collaboration between public and private research groups. Funding is awarded for up to three years.

Weh id: 253323

Email: enmcalls@agencerecherche.fr Deadline: 11 February 2016 [24]

Genetic diseases research

The Jérôme Lejeune Foundation invites applications for its research grants. These support research on intellectual disability from genetic origin appearing in early childhood. Grants are worth up to €40,000 each.

Web id: 213435

Email: conseilscientifique@ fondationlejeune.org

Deadline: 7 March 2016 [25]

EU urban actions

The Directorate-General for Regional and Urban Policy invites applications for its urban innovations actions initiative. This provides urban areas throughout Europe with resources to test innovative solutions to the main urban challenges, and see how these work in practice. Funding covers up to 80 per cent of eligible costs over three years. Additional grants of €20,000 and €15,000 are available for project preparation and project closure respectively

Web id: 1188105

Email: r.barbato@uia-initiative.eu Deadline: 31 March 2016 [26]

EU cardiovascular diseases

ERA-CVD, with support from the European Commission, invites proposals for its first call on transnational research projects on cardiovascular diseases. This aims to develop translational innovative projects for the diagnosis and therapy of heart failure. Projects may last up to three years.

Web id: 1188378

Email: isabella.napoli@dlr.de Deadline: 8 March 2016 [27]

EU neurodegeneration

The EU Joint Programme for Neurodegenerative Disease Research invites proposals for its joint transnational call on harmonisation and alignment in brain imaging methods for neurodegeneration. This aims to address issues of key relevance for the future use of brain imaging techniques in neurodegeneration research. Grants are worth up to €50,000 each.

Web id: 1187770

Email: constanze.hahn@dlr.de Deadline: 10 March 2016 [28]

EU neuroscience

ERA-Net Neuron invites proposals for European research projects on external insults on the nervous system. These aim to facilitate multinational research projects on the topic.

Web id: 1188188

Email: info@neuron-eranet.eu Deadline: 14 March 2016 [29]

Microvascular complications

The European Foundation for the Study of Diabetes, in collaboration with Boehringer Ingelheim, invites applications for its European research programme in microvascular complications of diabetes. This aims to stimulate European basic and clinical research in the field. Grants are worth up to €300,000 each.

Web id: 1172958

Email: foundation@easd.org Deadline: 1 April 2016 [31]

Nanotechnology grants

VolkswagenStiftung invites applications for its integration of molecular components in functional macroscopic systems grants. These promote research on the advancement of molecular or nanoscale units to more complex functional systems at a macroscopic scale. Supplementary support for summer schools, laboratory rotations and conferences, sabbaticals and visiting professorships is also available.

Web id: 1167889 Email: dettenwanger@ volkswagenstiftung.de **Deadline: 2 August 2016** [32]

EU personal data security

The European Union Agency for Network and Information invites tenders for the provision of a framework on appropriate security measures for the processing of personal data. The tenderer will design a framework that supports small and medium organisations in implementing appropriate security measures. The contract is worth up to €55,000.

Web id: 1188167

Email: procurement@enisa.europa.eu Deadline: 9 February 2016 [34]

Greek research grants

The Alexander S Onassis Public Benefit Foundation invites applications for its foreigners fellowship programme. This promotes Greek language, history and culture abroad, thereby creating ties of cooperation between members of the foreign academic community and their Greek counterparts.

Web id: 157906 Email: ffp@onassis.gr

Deadline: 26 February 2016 [35]

EU healthcare tenders

The Consumers, Health, Agriculture and Food Executive Agency invites tenders for a behavioural survey for HIV/Aids and associated infections, and a survey and tailored training for community-based health workers. The tenderer will carry out a knowledge, attitudes and practice survey, and tailored training for communitybased health workers to improve access, quality of prevention, diagnosis of HIV/ Aids, sexually transmitted infections and viral hepatitis and health care services for men who have sex with men. The contract is worth approximately €2 million.

Web id: 1186154

Email: chafea-hp-tender@ec.europa.eu Deadline: 9 February 2016 [40]

EU health and vaccination

The Consumers, Health and Food Executive Agency has publiched the following invitations to tender:

 European structural and investment funds support in the area of health - building knowledge and capacities for monitoring and implementation, supporting innovation and effectiveness, worth an estimated €745,000.Web id: 1188107

•two studies on vaccination in the EU member states, worth an estimated €220,000. **Web id: 1188035**

Email: chafea-hp-tender@ec.europa.eu Deadline: 9 February 2016 [41]

Theme group fellowships

The Netherlands Institute for Advanced Study in the Humanities and Social Sciences and the Lorentz Center invite proposals for

theirtheme group programme. This enables theme group members to collaborate on research that bridges the humanities or social sciences with the natural sciences or technology. Three- or five-month residential fellowships are offered.

Web id: 1177468

Email: nick.den.hollander@nias.knaw.nl Deadline: 1 March 2016 [44]

EU inequality dynamics

ERA-Net NORFACE invites applications for its research programme on dynamics of inequality across the life-course. This supports transnational research focused on understanding the dynamics of inequalities as they unfold over the life course, casual processes in relation to these inequalities, the impact of these inequalities on social cohesion and the identification of opportunities for policy interventions to increase possibilities for social mobility. Funding is worth up to €1.5 million per project.

Web id: 1188046 Email: dial@nwo.nl Deadline: 30 March 2016 [45]

Nordic PhD courses

The NOVA University Network invites applications for its PhD grants. These provide funding for PhD courses, veterinary specialisation courses as well as course series. Grants may cover accommodation, travel, remuneration for external teachers, meals, and miscellaneous costs. The NOVA Board provides an additional grant of €2,500 to cover administration.

Web id: 199285

Email: secretariat@novi-university.org
Deadline: 10 February 2016 [46]

EU marine biotechnology

Era-Net ERA-MarineBiotech invites applications for its second transnational joint call for research projects. This aims to stimulate joint European R&D activities within marine biotechnology related to valorisation of bioactive molecules from the marine environment.

Web id: 1187122 Email: erambt2015@fct.pt Deadline: 16 March 2016 [47]

Advanced computing course

The Partnership for Advanced Computing in Europe invites applications for its international high performance computing summer school. This enables advanced scholars who use high performance computing to conduct research instruction on a variety of topics. Meals and housing is covered for the selected participants, as well as travel from outside Europe.

Web id: 1171369

Email: ihpcss@lecad.fs.uni-lj.si Deadline: 15 February 2016 [48]

EU natural sciences

ERANet-LAC invites proposals for its joint call on research and innovation. This supports long-term collaboration between researchers from Europe, Latin America and the Caribbean countries.

Web id: 1179747

Email: guillermo.morales@cyted.org
Deadline: 10 March 2016 [50]

EU manufacturing projects

ERA-Net ManuNet invites applications for its transnational call. This aims to enhance the competitiveness of Europe's

manufacturing industry by co-funding research projects performed by enterprises and their strategic partnerships.

Web id: 1166040 Email: manunet@manunet.net

EU HIV statistics

Deadline: 17 March 2016 [51]

The European Centre for Disease Prevention and Control invites tenders for developing methods to improve the accuracy of HIV estimates in EU/EEA countries. The tenderer will develop a set of methods or tools, which will allow member states to improve the utility of HIV national surveillance data and to provide better estimates for some key parameters. The contract is worth €455,000.

Web id: 1188143
Deadline: 12 February 2016 [53]

EU hepatitis C

The European Centre for Disease Prevention and Control invites tenders for the development of a seroprevalence survey for hepatitis C in EU/EEA countries. The tenderer will collect and synthesise information and evidence for conducting the survey among general populations and key population groups. The contract is worth €410,000.

Web id: 1188137 Deadline: 16 February 2016 [54]

Biomedical residences

The Brocher Foundation invites applications for residency at its centre in Geneva. This enables researchers to stay at the centre to start or complete a research project on ethical, legal and social implications of recent medical research and new medical technologies. Successful applicants are offered a workplace and accommodation for one to four months. Web id: 260299

Email: scientificprog@brocher.ch Deadline: 14 February 2016 [56]

CERN student programme

CERN invites applications for its openlab summer student programme. This enables students wishing to work on advanced IT projects to visit CERN, attend lectures, and visit the accelerators and experimental areas. Funding includes a CHF90 (€82) per day allowance, health insurance and travel allowance.

Web id: 1162212 Deadline: 28 February 2016 [57]

Oncology clinical visits

The European Society for Medical Oncology invites applications for its clinical unit visits. Grants enable young oncologists to visit European oncology facilities to gain insight into oncology care and translational research, and expand their professional network. Grants are worth €5,000 each. The host institute receives €1,000.

Web id: 260967 Deadline: 1 March 2016 [58]

EU solar energy

SOLAR-ERA.NET invites proposals for the following calls:

- •transnational call on concentrating solar power. **Web id: 1172318**
- fourth transnational call on photovoltaics (PV4). **Web id: 1172316**

Email: info@solar-era.net Deadline: 11 April 2016 [59]

Parkinson's disease

The Cure Parkinson's Trust invites applications for its research grants. These support laboratory or clinical projects that have the potential to lead to a cure for Parkinson's disease, or that represent a substantial advance in treatment. Grants are worth up to £250,000 (€330,500) each. Web id: 1162652

Email: helen@cureparkinsons.org.uk
Deadline: 4 February 2016 [62]

Security threats research

The Centre for Research and Evidence on Security Threats invites proposals for its call on research for understanding, mitigating and countering security threats. Funding supports innovative economic, behavioural and social science research that contributes to understanding of contemporary security threats, or research that enhances the UK's capacity to detect and mitigate such threats. The total budget is £1.25 million (€1.65m).

Web id: 1187927

Email: commissioning@crestresearch.

Deadline: 5 February 2016 [63]

Hearing research grants

Action on Hearing Loss invites applications for its flexi grants. These support small-scale activities that strengthen hearing research in new ways to benefit people with hearing loss, tinnitus or other hearing-related conditions. Grants are worth up to £5,000 (€6,600) each.

Web id: 258666

Email: research@hearingloss.org.uk
Deadline: 8 February 2016 [64]

Jewish fellowships

The Rothschild Foundation (Hanadiv) Europe invites applications for the following fellowships:

- •doctoral fellowships, worth up to £48,000 (€63,500) each. **Webid: 1177306**
- doctoral fellowships in archival research, worth up to £48,000 each.

Web id: 257129

• postdoctoral fellowships, worth up to £32,500 each. **Web id: 210007 Email:** fellowships@rothschildfoundation.eu

rothschildfoundation.eu

Deadline: 11 February 2016 [65]

Agriculture and nutrition

The Department for International Development invites concept memos for its competitive research grants to develop innovative methods and metrics for agriculture and nutrition actions (IMMANA grants). These aim to accelerate the development of interdisciplinary methods, metrics and tools to advance scientific understanding of linkages between agriculture and food systems and health and nutrition outcomes. Grants are worth up to £250,000 (€330,600) each.

Web id: 1182198 Email: immana@lshtm.ac.uk Deadline: 15 February 2016 [68]

Social sciences research

The Independent Social Research Foundation invites applications for its mid-career fellowships. These support interdisciplinary research across the social sciences. Grants are worth up to £60,000 (€79,400) each. Web id: 1167564

Email: applications2016@isrf.org Deadline: 19 February 2016 [69]

International exchanges

The Royal Society invites applications for the standard programme of its international exchanges scheme. This stimulates new collaborations within the natural sciences between scientists in the UK and overseas. Grants are worth up to £12,000 (£15,900) each. Researchers may also receive the £1,000 Colin Pillinger international exchanges award to communicate their research to the general public.

Web id: 1162434

Email: international.exchanges@

royalsociety.org

Deadline: 23 February 2016 [70]

Endocrinology prizes

The European Society of Endocrinology invites nominations for the Geoffrey Harris prize. This recognises an established researcher in the field of neuroendocrinology.

Web id: 192708

Email: info@euro-endo.org
Deadline: 28 February 2016 [71]

EU metrology grants

The European Association of National Metrology Institutes (EURAMET e.V.) invites applications for its call in the following topic areas – metrology for energy, metrology for environment, metrology research for pre- and co-normative projects, and research potential – within the European Metrology Programme for Innovation and Research.

Web id: 1161610 Email: msu@npl.co.uk

Deadline: 29 February 2016 [72]

rest of world

Marine ecology

The Bermuda Institute of Ocean Sciences invites applications for its grants-in-aid. These aim to defray the costs of BIOS inhouse charges or act as starter funds to help with laboratory fees, boat rental or similar, or projects that lead to continued research at the institute. Grants are worth up to US\$3,000 (€2,800) each.

Web id: 186355

Email: gillian.hollis@bios.edu
Deadline: 15 February 2016 [73]

Huntington disease research

The Huntington Society of Canada invites letters of intent for its new pathways research programme awards. These support projects that will lead to the next generation of targets for the treatment of Huntington disease. Awards are worth up to CA\$150,000 (€95,900) each.

Web id: 1179136 Email: bheimmyers@ huntingtonsociety.ca

Deadline: 8 February 2016 [74]

Science fellowships

The World Academy of Sciences and the Chinese Academy of Sciences invite applications for the CAS-TWAS president's PhD fellowship programme. This enables students to travel to China for PhD study for up to four years. Fellowships cover the costs of travel, visa, and a monthly stipend of up to CNY8,000 (€1,100) to cover accommodation and living expenses.

Web id: 208020

Email: president-fellowship@ucas.ac.cn

Deadline: 31 March 2016 [76]

tenders

Metal 3D printer *ESA

The European Space Agency invites tenders for the development of a metal 3D printer demonstrator at the international space station. The tenderer will produce, assemble and validate a European 3D printer demonstrator capable of printing small objects using metallic materials at the ISS. Funding is worth in excess of €500,000. Ref: 15.1MS.02. Deadline: 8 February 2016

Absolute navigation *ESA

The European Space Agency invites tenders for absolute navigation at sub-centimetre level. The tenderer will study the feasibility of having real-time global navigation satellite system-based absolute navigation at sub-centimetre level. Funding is worth up to €500,000. Ref: 15.197.17. Deadline: 17 February 2016

Satellite ocean colour *ESA

The European Space Agency invites tenders for its call on fiducial reference measurements for satellite ocean colour. The tenderer will establish and maintain spectral image traceability of ground-based fiducial reference measurements for satellite ocean colour radiometry. Funding is worth up to €500,000. Ref: 15.155.19. Deadline: 26 February 2016

Heat pipe evaporator *ESA

The European Space Agency invites tenders for the development of a flat loop heat pipe evaporator based on advanced manufacturing technologies. The tenderer will manufacture a flat loop heat pipe evaporator that would allow the evaporator to be in full contact with the electronic box baseplate. The manufacturing of the flat evaporator must use new techniques such as additive layer manufacturing. Funding is worth up to €500,000. Ref: 15.127.07. Deadline: 26 February 2016

Land call *ESA

The European Space Agency invites tenders for its call on scientific exploitation of operational missions S1-4SCI land. The tenderer will foster new developments in the scientific exploitation of sentinel-1 data products. This includes the following three study areas: exploitation of S-1 coherence for land-cover and vegetation mapping; development and validation of methods for soil moisture retrieval with S-1; development of S-1 snow mapping methods and exploiting also synergy with S3 data. Funding is worth in excess of €500,000. Ref: 15.155.08. Deadline: 26 February 2016

Orthogonal frequency *ESA

The European Space Agency invites tenders for a live demonstration of orthogonal frequency division multiple access technologies. The tenderer will develop and demonstrate in a real scenario the feasibility of the orthogonal frequency division multiple access technologies in satellite communication networks applicable to mobile or fixed satellite services. This activity is restricted to non-prime contractors, including SMEs. Funding is worth in excess of €500,000. Ref: 15.1TF.10. Deadline: 1 March 2016

*ESA is at: http://emits.esa.intw

usa

Juvenile Diabetes Research Foundation International industry discovery and development partnerships

Web id: 145706 No deadline [84]

Mind & Life Institute 1440 awards

Web id: 1170171 Deadline: 5 February 2016 [85]

Association for the Advancement of Cost Engineering International competitive scholarshins

Web id: 1180434

Deadline: 7 February 2016 [86]

BMI Foundation/Woody Guthrie Foundation Woody Guthrie fellowship

Web id: 173546

Deadline: 15 February 2016 [87]

Foundation for Prader-Willi research grants

Web id: 174391

Deadline: 15 February 2016 [88]

International Anesthesia Research Society mentored research awards

Web id: 1170932

Deadline: 15 February 2016 [89]

International Union of Pure and Applied Chemistry/Chemical Works of Gedeon Richter prize

Web id: 1175577

Deadline: 15 February 2016 [90]

Sigma Theta Tau International/National League for Nursing grants

Web id: 1167681

Deadline: 25 February 2016 [91]

American Nuclear Society Landis young member engineering achievement award Web id: 190038

Deadline: 1 March 2016 [92]

Sigma Theta Tau International/Emergency Nurses Association Foundation grant

Web id: 210722 Deadline: 1 March 2016 [93]

Sigma Theta Tau International/Rehabilitation Nursing Foundation grant

Web id: 258205

Deadline: 1 March 2016 [94]

Department of State Request for population, refugees and migration humanitarian research concept notes

Web id: 1188416

Deadline: 11 March 2016 [95]

Association for Computing Machinery/ Institute of Electrical and Electronics Engineers Computer Society Eckert-Mauchly award

Web id: 251798

Deadline: 30 March 2016 [96]

Consortium of Humanities Centers and Institutes/Chiang Ching-kuo Foundation for International Scholarly Exchange summer institutes in Chinese studies and global humanities

Web id: 1184242 **Deadline: 1 April 2016** [97]

Sigma Theta Tau International/Association of periOperative Registered Nurses perioperative nursing grant

Web id: 211370

Deadline: 1 April 2016 [98]

Sigma Theta Tau International/Hospice and Palliative Nurses Foundation end of life nursing care research grant

Web id: 211373

Deadline: 1 April 2016 [99]

Michael J Fox Foundation for Parkinson's Research improved biomarkers and clinical outcome measures programme

Web id: 1182232

Deadline: 18 May 2016 [100]

policy diary

January

- 26 A Strategic Approach to EU Agricultural Research and Innovation, Brussels, Belgium. To 28. http://rsrch.co/1ndHK66
- 28 Presidency Conference on the Multiannual Financial Framework, Amsterdam, The Netherlands. http://rsrch.co/1TQ4V0m

February

- 2 Horizon 2020 Infoday: Spreading Excellence and Widening Participation, Brussels, Belgium. http://rsrch.co/1Se6FmX
- 4 Tackling the Migration Challenge through research, Brussels, Belgium. To 5. http://rsrch.co/1Po7Ud1
- 5 European Open Science Cloud for Research Workshop, Rome, Italy. http://rsrch.co/22VHitU
- 8 Iter Conference: Industry and International Fusion, Monaco. To 11. http://rsrch.co/1Q0uz3N
- 9 Antimicrobial Resistance Ministerial Conference, Amsterdam, The Netherlands. To 10. http://rsrch.co/22VJ0LH
- 10 EIP Water Conference, Leeuwarden, The Netherlands. http://rsrch.co/1Po9hID
- 11 AAAS 2016 Annual Meeting, Washington DC, US. To 15. http://rsrch.co/10LfC4M
- 18 EIT Information Day for 2016 Call for KICs, Brussels, Belgium. http://rsrch.co/10LgeHH
- 22 eMoocs Conference 2016, Graz, Austria. To 24. http://rsrch.co/1L6tC3Q
- 25 University Business Forum, Vienna, Austria. To 26. http://rsrch.co/1ZqJZS3

March

- 1 Composite Indicators and Scoreboards: Sharing Best Practices, Brussels, Belgium. http://rsrch.co/1IZ425I
- 2 Webinar on IP in Horizon 2020 Projects. http://rsrch.co/10e57Wa
- 3 The Challenges of Quality in Science, Ispra, Italy. To 4. http://rsrch.co/1RH2237
- 9 ESU Students' Convention, Amsterdam, The Netherlands. To 12. http://rsrch.co/10mM0vG
- 10 Horizon 2020 Energy Projects: Development Workshop, Brussels, Belgium. http://rsrch.co/1N3mmoY
- 15 Big Data from Space, Tenerife, Spain. To 17. http://rsrch.co/1JFMg7m

4 Open Science Conference, Amsterdam, The Netherlands, To 5. http://rsrch.co/1ZgKFGZ

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insider

Animal alternatives

At the end of 2015, the EU's flagship Framework 7 programme on alternative methods for animal testing drew to a close. **Eloise Johnston** takes stock.

In 2009, the European Commission launched a call for the Safety Evaluation Ultimately Replacing Animal Testing consortium, providing €25 million under Framework 7. With match-funding from the industry body Cosmetics Europe, the goal of Seurat-1 was to find alternatives to the use of animals in repeated-dose toxicity tests, which determine whether a substance will cause harm after repeat exposure.

Some who were close to the Seurat-1 consortium are positive about its outcomes. "There were a lot of different scientists from different disciplines spread throughout Europe and also outside Europe," says Derek Knight, senior scientific adviser at the European Chemicals Agency and a member of Seurat-1's advisory panel. "Considering how complex it was, it worked very well."

Seurat-1 has improved scientific understanding of how chemicals affect human health and has developed valuable tools and techniques, Knight says. Techniques developed by Seurat-1 have already been introduced to regulation, such as improvements to a method called readacross, which uses assessment data from one chemical to predict the effects of other chemicals of similar structure.

This came about because the initiative worked closely with chemical regulators, Knight says, which "helped steer it to short-term applications".

But Katy Taylor, senior science adviser at the campaign group European Coalition to End Animal Experiments, is less positive. "Over the last five to 10 years, the United States has made a lot of progress addressing the complexity of toxicity and changing the way that toxicologists do their job. The EU has been trying to catch up with that, and that's what Seurat-1 was designed to do," she says. "We've still got a long way to go, unfortunately."

The consortium was launched during a heady period of regulatory changes on animal testing. In 2007, the EU introduced legislation for the registration, evaluation, authorisation and restriction of chemical substances, which forced manufacturers to demonstrate product safety but also insisted on minimising animal testing.

This period also saw a transition towards a ban on animal testing for cosmetic ingredients, with an EU moratorium on testing in 2009 and a full sales ban in March 2013. Caught between animal-rights groups and the €73-billion annual turnover of the European cosmetics industry, the Commission was under pressure to pair its regulatory decisions with assistance in finding alternatives.

The structure of Seurat-1 was not a done deal from the start, says Ian Cotgreave, director of strategic scientific development at Swetox, a Swedish toxicological research

institute, and a member of the Seurat-1 advisory panel. "At the last minute, the Commission decided it would be more powerful to construct a consortium by fusing together Framework 7 programmes." This meant that from the outset Seurat-1 was quite an unwieldy machine.

Its monolithic nature and size presented challenges, Cotgreave says, particularly coordinating input from more than 300 scientists on common goals. Many of the scientists were world-leaders in their fields, he says, but had little experience in predictive toxicology or risk assessment.

Meanwhile, Taylor questions whether the funding provided was consistent with the initiative's ambitions: "Seurat-1 sought to begin replacing animals for repeated-dose toxicity, which is a complicated thing." To meet this goal, an investment of hundreds of millions of euros would probably be required and this would need to be concentrated solely on R&D, she says, rather than supporting the project management, training and administration that accompany such large-scale initiatives.

"These projects are not focused enough on the task in hand," she says. "This has an impact on public perception—the public sees that €50m has been dedicated to replacing animals and yet it hasn't been done. There's a danger of actually giving out quite a negative message."

In 2013 the EU tried to share the burden by mandating a directive that national governments should assist in advancing alternatives. However, in 2013, seven countries allocated a total of only €18.7m to this. The UK, which contributed the most, spent only 0.4 per cent of its annual science budget on pursuing alternatives, Taylor says.

The EU has backed a successor project to Seurat-1 under Horizon 2020, called EU-ToxRisk, which will receive a total of €30m in a seven-year period, but this time there will be no matching funds from industry.

Participants are optimistic that EU-ToxRisk, which held its first meeting on 12 January, has benefitted from the lessons learned from Seurat-1. Changes already introduced include mechanisms for more budgetary flexibility, Cotgreave says. "In Seurat-1, rechannelling

of funds proved a painful issue. Scientists aren't used to having their funds removed because of changes in strategy."

The management structure is also clearer, he says, in the hope that this will catalyse scientific progress. "In EU-ToxRisk, everyone is on the same page from day one."

Something to add? Email comment@

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'The Seurat-1 consortium's monolithic size presented challenges.'

uk & ireland

Newton Fund set to double by 2021

The Newton Fund for research projects between the UK and developing countries is to roughly double in size, to reach a total of £735 million (€964m), rather than the £375m originally planned.

The fund, which was launched 18 months ago, provides money for UK academics to build collaborations in developing countries through exchange programmes or capacity building projects. The 15 partner countries, which include Brazil, China, Turkey, Kazakhstan and Malaysia, match the UK's funding for the calls.

A briefing note sent by the Department for Business, Innovation and Skills and seen by *Research Europe's* sister publication *Research Fortnight* heralds the success of the fund and says that the UK government is "significantly increasing the funding for the Newton Fund to enable the UK to build deeper and wider scientific partnerships". By 2021, the briefing note says, the government intends to increase the annual budget of the fund from £75m to £150m.

A spokesman from BIS confirmed that the fund would be increased but would not confirm by how much until after an official announcement. Such an announcement was expected during the UK science minister Jo Johnson's visit to India in December, but instead by Cristina Gallardo

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Johnson merely said that the fund would run until 2021, rather than 2019.

The delay could be because the list of partner countries is not yet finalised. The Newton Fund's governance board is due to meet in February, when it is expected to decide on whether the fund will invite more countries or increase engagement with its existing participants. The rules of the fund say that as well as being on the OECD's Official Development Assistance list, countries must have a fairly developed research and higher education system and be able to provide match funding. Political stability is also seen as an important factor.

One country whose participation looks certain is Kenya. The circular says that the country has agreed to join on a trilateral basis with South Africa, with its first bids being considered in 2017-18. A source close to the fund says that Kenya would start by doing a small amount of work in collaboration with the British Council.

Pat Ng, international grants manager at the British Academy, welcomes the larger fund. "The Newton Fund is like a big machine; it takes a while to start it up, but once you've got that momentum, you can get so much further."

uk&i in brief

UK risks losing influence on EU funding programmes

Leaving the EU could lead to a "volatile" relationship with the

European Commission, representatives from the UK's national academies have said. Witnesses at a parliamentary evidence session on 12 January said that a Brexit would impair the UK's ability to negotiate the design of EU Framework programmes.

Economist to lead REF review

The UK's Department for Business, Innovation and Skills has announced that a review of the Research Excellence Framework—the assessment exercise that is used to distribute £1.6 billion (€2bn)of government funding for research each year—will be led by British Academy president and economist Nicholas Stern. The review will consider alternative models of research assessment and is expected to report in summer 2016.

BBC ignores culture of social science, academy says

The Academy of Social Sciences has said that the BBC must broaden its definition of science if it is to cover health, public finance and migration more accurately. In its response to the BBC Trust's review of the organisation's use of statistics, the academy says that without a sufficient backdrop of social science, the BBC would not be able to ensure the accuracy of the data it uses.

Ireland seeks place in Europe's innovation elite

The Irish government has signalled an intention to become one of Europe's top nations for innovation by boosting national spending on R&D from €2.8 billion to €5bn a year by 2020. The move was outlined in Ireland's *Innovation 2020* strategy. Science Foundation Ireland's 2015 end-of-year statement echoed this ambition, detailing plans to fund industrial research fellowships for academics, and up to five high-budget research centres.

Cameron defends decision to scrap CCS scheme

Prime minister David Cameron has said that the UK government withdrew funding for a £1-billion (€1.3bn) carbon capture and storage competition because the costs of the technology had not dropped as expected. Giving evidence to MPs on 12 January, Cameron defended the decision, which was made shortly before the end of the four-year competition, saying that the economics of the plan "are really not working".

Oxford's first female vice-chancellor sworn in

Louise Richardson, the 272nd vice-chancellor of the University of Oxford and the first woman to hold the position, has begun her term by pledging an innovative future for the institution. Richardson, the former principal and vice-chancellor of the University of St Andrews, was formally admitted to office at a ceremony on 12 January.

nations

War of words erupts between French PM and sociologists over terrorism studies

French terrorism researchers have hit back at assertions by prime minister Manuel Valls that attempts to explain acts of terrorism through sociology serve to excuse them.

At an event to mark the anniversary of a terrorist attack on a Jewish supermarket in Paris on 9 January 2015, Valls said that there could be "no worthwhile explanation" for the terrorists' actions, stating that "to explain is to want to excuse".

This remark followed Valls' comments to the Senate and the National Assembly in late November, in which he criticised researchers seeking to understand terrorist actions. "I'm tired of people constantly looking for excuses and cultural or sociological explanations as to why [the Paris attacks in November] happened," he said.

On 12 January, four sociologists voiced their concerns about Valls' statements in an article published in the left-leaning newspaper *Libération*. Bernard Lahire, director of a research unit at Lyon's Max Weber Centre, used the example of climate researchers to denounce Valls' views, writing that people would find it "ridiculous" to say that they are complicit in deadly storms because they research climate phenomena. Valls' logic on terrorism research was equally flawed, he said.

"We are neither prosecutors nor defenders nor judges but researchers, and our job is to make sense, in the by James Brooks

news@ResearchResearch.com

most rigorous and most empirical way, of what is happening in the social world," Lahire wrote.

Farhad Khosrokhavar, research director at the Cadis social-science school in Paris, wrote that the government should draw on sociology to "mobilise all social sciences".

Meanwhile, Geoffroy de Lagasenerie, a sociologist and philosopher at the École Nationale Supérieure d'Arts, said that Valls' approach could be taken as a cue for academics to "reclaim the word 'excuse'". He said that to excuse or apologise was a "beautiful project", which "works rationally and generously to understand how lives are formed, the violence that people have suffered, the environments in which they live".

The discussion follows a decision by the CNRS, France's largest publicly funded research organisation, to launch a call for proposals on 18 November to understand and prevent terrorist attacks.

When launching the call, Alain Fuchs, the organisation's president, referenced CNRS researchers' work after the *Charlie Hebdo* attacks in Paris in 2015. Fuchs said that this research had deepened understanding of aspects of human behaviour that "had been the subject of little research in France until then".

nations in brief

DFG floats changes to Excellence Initiative

Peter Strohschneider, the president of the Deutsche

Forschungsgemeinschaft, Germany's largest public research funder, has said that the next phase of Germany's Excellence Initiative should focus on improving cutting-edge university research. He said that funding for graduate schools and clusters of excellence should be replaced with a single fund for centres of excellence.

French spending on the rise

Government and industry investment in R&D in France increased in 2013 and is expected to have risen through 2014, government analysis published in December has said. Total funding was €47.5 billion in 2013, a 1.3 per cent increase on 2012. Industrial and government R&D spending rose by 1.4 per cent and 1 per cent respectively.

Government stands by R&D tax breaks

Thierry Mandon, France's secretary of state for research, has defended the CIR tax-credit system for companies that invest in R&D. At a Senate debate on 12 January, Mandon said the system had been essential in boosting R&D investment. In June 2015, a critique of the system

by senator Brigitte Gonthier-Maurin was rejected by other members of a senate committee inquiry. The CIR is estimated to have been worth €5.5 billion to French companies in 2015.

Sparks fly at atomic energy body

The CEA, France's commission for atomic and alternative energy, is in the midst of a management upheaval, national media reports have said. All but one of the organisation's senior directors have been replaced since January 2015. It has been suggested the reorganisation was orchestrated by the CEA's high commissioner, Yves Bréchet, following reports of a "poisonous" atmosphere at the agency.

Freiburg investigation hints at lengthy misconduct

An internal investigation into a doping scandal may have uncovered a history of data manipulation and plagiarism in sports medicine at the University of Freiburg. Numerous theses and technical articles produced by the university's sports medicine department were scientifically flawed, chairwoman of the investigating commission Letizia Paoli said on 6 January. The commission has asked all scientists involved with the department between 1980 and 2000 to come forward.

nordic

Swedish union rejects research audits

Sulf, the Swedish Association of University Teachers, has said that it opposes a proposed research evaluation exercise as a means to distribute funding to universities.

The Swedish research council Vetenskapsrådet proposed the FOKUS model in December 2014, following a request from the government to come up with a means of increasing national research quality. In a consultation response published on 7 January, Sulf opposes the system saying that it will place unacceptable pressures on institutions, as they require the stability of government block-grants to plan for the long term.

Under the FOKUS system, research excellence and impact would be evaluated through academic peer review every six years, with the results used to direct 20 per cent of university block-grants. At present, this money is allocated using metrics, including publication and citation records, and the amount of external funding won.

"After discussing the proposal within our organisation, we have decided to reject a system that links additional evaluations to resources," the response says. "We should keep block grants free from this type of competition."

Sulf says that the costs of running the evaluation—estimated at 170 million Swedish kronor (€18.3m) per evaluation round—will not improve research quality enough to justify the costs.

by Jenny Maukola

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In addition, universities already have internal peer review systems in place and researchers are exposed to sufficient competition through academic publication, according to Sulf. "FOKUS is beyond the accepted and obvious kind of scientific competition," it says. "The system could lead to increasing mistrust between researchers and universities."

Sulf's consultation response follows input from six research funders, including Vetenskapsrådet, the innovation agency Vinnova and the environmental research council Formas. In October, these funders expressed their support for the FOKUS model.

However, the Knowledge Foundation, a funder supporting collaborative academia-industry projects, expressed doubts in its input, saying that the FOKUS model would be unlikely to improve commercialisation and business activities at universities. "Against the backdrop of major societal problems facing Sweden today, we need more promotion of research outside academia," said Lars Ekedahl, a director at the foundation.

The decision on whether to implement the system will be part of the government's 2017 research bill, plans for which will be presented this autumn.



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Norway faces long road as mergers begin

On 1 January, the Norwegian government began a process of mergers for universities across the country. The plan, announced in a white paper in

nordic outlook

March last year, will combine 15 higher education institutions into five, as the government tries to increase the quality of higher education and research.

Bjørn Stensaker, a higher education policy specialist at the University of Oslo, says that one effect of the mergers will be more professionalisation of research management to win international funding. "That's part of the political argument—that larger institutions have the capacity to develop support for European Research Council or Horizon 2020 funding, while smaller institutions don't really have the capacity to do so," he says.

But as the mergers begin, Stensaker points out that these changes won't happen overnight, and that support services and research quality are likely to decline in the coming decade. "When you merge institutions with mixed research cultures and capabilities, you can't harvest the benefits immediately," he says. "There are a lot of internal challenges to be taken care of."

Changes underway include combining the Norwegian University of Science and Technology, the Sør-Trøndelag University College, Gjørvik University College and Aalesund University College to create the largest single higher education institution in Norway. Other mergers will create amalgamations in the north and south-east of the country. While not all institutions will be affected, all five of the new universities include a merger with a college. Other institutions may also be combined, including a merger of three colleges in western Norway, and of several arts and design institutions in Oslo.

by Eloise Johnston

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The process follows similar exercises in Denmark in 2007 and in Finland in 2010. And according to Curt Rice, rector of Oslo and Akershus University College of Applied Sciences, the institutions merging won't benefit equally. "The benefits will likely be greater for smaller institutions than for bigger institutions," he says. "The bigger institutions will subsidise the competency-enhancement work that has to be done."

Stensaker expects researchers joining larger institutions to be under more pressure to perform in line with set strategies. "I expect there will be more top-down control concerning what sort of competition you should enter and what kind of money you should spend."

In addition, Rice says that researchers from the smaller colleges will likely be subject to heightened expectations of productivity as they join universities already subject to performance-based funding. "They will experience tougher competition," he says.

But in the long run this will be positive, he says. Researchers will be part of an institution with a louder voice at the political level. "Instead of having to lobby their own case at the research ministry, smaller institutions will be part of a much more visible organisation."

Once the mergers are complete, institutions will have the luxury of bigger budgets, since national allocations are based on student numbers. It is also likely that Norway could become more attractive to international students, if the expected rise in quality translates to improved global reputation.

But until then, Norway's researchers face a period of uncertainly as institutions embark on the biggest reforms to higher education for half a century.

nordic in brief

Denmark details infrastructure facility investment

The Danish government has published a strategy listing 22

research and innovation infrastructure projects to be funded in the next five years. Of the proposals, nine are in biotechnology, health and life sciences; six in energy, climate and the environment; two in physics; three in the humanities and two in materials and nanotechnology.

University funding cuts in Finland

The Finnish parliament has approved a four-year freeze of the university index, which determines university funding. The freeze is expected to result in a real-terms funding cut of €75 million for universities in 2016. The parliament also approved a tuition fee increase for students from outside the European Economic Area.

Report calls for reform at education ministry

Norway's education ministry is micromanaging its agencies and should create a directorate for higher education administration, a government-commissioned report has said. It added that there were too many small agencies to deal with higher education, with a lack of clarity on their responsibilities. The report authors were Svein Gjerdrem, a former governor of the Central Bank of Norway, and Sven Ole Fagernæs, Norway's attorney general.

Finnish government considers PhD quota

The education ministry in Finland plans to consult universities on a proposed cap of 1,600 a year on doctorate degrees, the broadcaster Yle has reported. A survey by the Finnish researchers' union found that the number of unemployed PhDs exceeded 1,000 for the first time in April 2015. About 1,800 doctoral students graduated in 2015.

usa

Astronomy departments under fire over series of sexual-harassment allegations

A prominent academic has been suspended by his institution while another has been called out in Congress, as the field of astronomy is called on to deal with deep-seated issues of power, complacency and sexual harassment.

The California Institute of Technology has suspended a faculty member following the investigation of complaints of sexual harassment by two graduate students.

Caltech did not name the astronomer, but several news organisations have reported that he is Christian Ott, a computational astrophysicist who studies the energy produced by exploding stars. Ott has been at Caltech since 2009 and received tenure in 2014.

The university has decided that Ott will be suspended without pay and banned from campus for one year. He will be allowed to continue his research, but his communication with graduate students—five are listed on his website—will be monitored. The university said allowing him to have contact with those students was meant to ensure that their education continued without interruption. The students who filed the complaint were members of his lab, but no longer are.

Caltech announced in a memo on 4 January a number of steps that it was taking to prevent and identify harassment on campus. "The letter says the institution is committed to doing better and that it plans to do a variety of things to make women feel welcome and supported

by Sam Lemonick

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on campus. So good on them," Meg Urry, president of the American Astronomical Society and a researcher at Yale University, told *Science*.

On the same day that news broke of the Caltech suspension, CNN published an opinion piece by Urry about sexual harassment in astronomy. She described results of a survey, presented at an AAS meeting in early January, in which 82 per cent of respondents reported hearing sexist remarks from their astronomy peers.

Urry called the problem an old one that went back to a time when it was not unusual for professors to date and even marry their students. That, she said, turned many women away from the field.

Also that day, Representative Jackie Speier, a California Democrat, spoke on the House floor about sexual harassment by college and university professors, giving another example of a case of sexual harassment in an astronomy department.

Speier is asking the Department of Education to change its policies regarding faculty who are found to have violated sexual harassment policies. She said the department gives no guidance on what an institution should tell another institution when a professor changes jobs. She wants to make sharing such information mandatory.

usa in brief

NIH introduces 'rigour' requirements

Applicants for National Institutes of Health funding will soon be

required to demonstrate that they fulfill certain measures of scientific rigour. From 25 January, applications for most grant schemes will have to address four criteria: a solid scientific basis; a study design that can produce valid and reproducible results; accounting for biological variables such as sex; and ensuring that chemicals and biological resources are used as intended.

FDA nomination approved

The US Senate has backed President Barack Obama's nomination and confirmed the appointment of cardiologist Robert Califf as head of the Food and Drug Administration.

NOAA to hand over e-mails

In the latest development in a dispute between the National Oceanic and Atmospheric Administration and House science committee chairman Lamar Smith, Republican Representative of Texas, the agency has released emails related to a paper that angered some

opposed to the idea of human involvement in climate change. This marks a break in a deadlock that has lasted months, and Lamar's subsequent remarks indicate softening on both sides of the dispute.

Congress probes football research dispute

Four Democratic representatives have asked the National Institutes of Health to explain why funding donated to it by the National Football League will not be used to support a study on brain injuries. Frank Pallone, ranking member of the House commerce committee, and colleagues wrote to the NIH and the Foundation for the NIH on 7 January asking about the \$30-million donation and any restrictions on it.

Stem cell institute approves strategic plan

California's stem cell research funder will move ahead under a new strategic plan after a vote by its board of directors. The new approach, laid out in November 2015, charts a course for spending the \$900 million that remains of the California Institute for Regenerative Medicine's original \$3 billion budget. CIRM intends to concentrate on projects that will produce drug and device candidates and lead to clinical trials.

world

Big rise for public R&D spending in Singapore

Singapore's government has announced an 18 per cent boost in spending on research and innovation in its latest five-year programme, pledging a total of \$19 billion (€17bn) until 2020.

The money, to be spent through the National Research Foundation, will cover basic and applied research, investment in skills and support for small businesses. It will focus on two areas that have shown significant progress in recent years: advanced manufacturing and engineering, and health and biomedical sciences.

Funds will also be allocated for services and the digital economy, and urban development and sustainability, while a significant amount has been dedicated to highrisk, blue-sky projects.

The total allocation, signed off by the Research, Innovation and Enterprise Council on 8 January, represents about 1 per cent of the country's GDP. It is nearly 20 per cent more than the \$16bn spent in the preceding five years (2011 to 2015).

The move continues a steep rise in support for science in Singapore, after R&D investment doubled between 2000 and 2012, catalysing rapid improvements in the country's scientific rankings and sparking growth in personalised medicine and hi-tech manufacturing industries.

by Laura Greenhalgh

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The Research Innovation and Enterprise 2020 Plan will allocate more funds via competitive calls than previous programmes, prime minister Lee Hsien Loong told Asian media at a press conference. "We are making major shifts to capture more value from our investments—to make research more effective and to get more results," he said.

According to detailed figures published in local news outlets, health and biomedical sciences will receive 21 per cent of the funding—a total of \$4bn—while advanced manufacturing and engineering will get \$3.3bn.

The topic of urban solutions and sustainability has been allocated \$900 million, and so-called services and the digital economy will receive \$400m.

A total of \$2.5bn has been set aside for the country's "white-space" research programme, which supports emerging areas of interest—up from \$1.6bn in the previous five-year plan.

Meanwhile, \$8bn will be allocated through grants that are not subject-specific, to build research capacity and training and to support businesses and start-ups. This will include grants to attract researchers from overseas, a focus for the country in recent years.

world in brief

Brazil acts to bridge publicprivate divide

A framework for innovation to link university and business R&D

was agreed by the Brazilian government on 11 January. The legislation increases the number of hours that university-based academics are permitted to work with businesses or foundations. It also clarifies rules on intellectual property and will make research funding more flexible and less bureaucratic, the government said.

Chile rolls out free university tuition

Chile's ministry of education has announced that students from low-income households will no longer be liable for tuition fees, following a change in higher education law approved in December. Around 185,000 students will be eligible for free studies, and the state will provide an additional 2,500 million pesos (\$3.2m) to help universities cope with the loss of fees.

Modi plans to nurture Indian biotech

The Indian government has announced that it will implement a national biotechnology strategy by 2020, aiming to increase turnover in the field to \$100 billion (€92bn). The government will set up 40 biotech incubators and 150 technology-transfer offices to promote the commercialisation of biotech-based products. Additional public R&D investment will be provided, the government said.

Academy chiefs join UN panel

Heide Hackmann, executive director of the International Council for Science, and Romain Murenzi, executive director of The World Academy of Sciences and former Rwandan science minister, are among 10 individuals appointed to the UN's latest advisory panel. The group will direct progress of the Technology Facilitation Mechanism, an initiative announced in June 2015 to help developing nations access science funding and technology and to improve the use of data in policymaking.

NZ academics win New Year honours

Clinical geneticist Joanne Dixon and mathematician David Gauld are among New Zealand scientists recognised in Queen Elizabeth II's New Year honours list. Dixon, a former president of the Human Genetics Society of Australasia, was recognised for her work with Genetic Health Service New Zealand; Gauld for his work setting up the New Zealand Mathematics Research Institute.

Israel best placed to lead on neglected diseases

International organisations should join Israeli institutes to study infectious diseases because of Israel's location and biotechnology expertise, American academic Peter Hotez has said. Writing in *The Jerusalem Post*, the president of the Sabin Vaccine Institute in the United States said that countries in the Middle East and north Africa faced growing vulnerability to such disease outbreaks.

TALE OF TWO CITIES According to the Visit Brussels tourist board's 2016 data book, the Belgian capital is home to 20 EU agencies occupying a sprawling 1.7 million square metres of office space. The city also houses 20,000 declared lobbyists, nearly 1,000 foreign journalists and 5,400 diplomats. Jarringly, however, one in four adults in the city live in households with no employment income and the overall adult employment rate stands at a dismal 54 per cent. Sounds like an accurate picture, to those familiar with Brussels' disturbingly bipolar vibe.

FOUL PLAY As Britain's EU referendum debate gathers pace, the campaign in favour of leaving has hit a few hurdles. Nigel Farage, leader of the UK Independence Party, has claimed that he was the victim of a failed assassination attempt last October, when a wheel fell off his Volvo in France. Farage told reporters that the French mechanics were certain of foul play, but they denied this to Liberation, leading Farage to retract his claim. More seriously, perhaps, an opinion poll for UK newspaper The Times said that a surprisingly high number—28 per cent—of Ukip supporters would prefer to stay in the EU.

PEN PALS Research groups of academics from different European countries must have a hard time keeping in touch these days, unless they've gone digital. A European Commission study found that the cost of sending parcels

across national borders was on average 471 per cent higher than domestic parcels. For letters things are slightly better: cross-border prices are 324 per cent higher than domestic ones. So much for the 'single market'.

HIDDEN FORCES The weekly newspaper *New Europe* was asked by the European Commission not to reveal the identity of a European research organisation for which its journalists had obtained confidential audit paperwork. In response, the newspaper obligingly published the documents online replacing all but one of the references to the name of the organisation with pictures of the notorious Star Wars villain, Darth Vader.

GONE FISHING As the staff of the departing Luxembourg EU presidency packed up, their goodbyes carried a sentimental tone. The presidency press team solemnly tweeted that they'd successfully transferred stewardship of their office goldfish to colleagues at the EU Council.

ON THE BALL Portuguese commissioner Carlos Moedas is said to be winning the grudging respect of research specialists, both inside and outside the Commission. The Harvard MBA graduate is apparently busying himself with the intricacies of policy, and taking a lead role in its development. Amazingly, some officials report that this was not necessarily true of former commissioners.



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