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#### 25 October 2018

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## Horizon Europe plans becoming a 'nightmare' Mission and partnership plans cause high-level disquiet

**THE BATTLE TO SHAPE** radical changes in the EU's flagship research funding scheme is leading to rising concern, with one influential MEP warning that the plans are in danger of becoming a "nightmare".

Research commissioner Carlos Moedas has promoted 'missions' targeting specific societal challenges to boost the impact and public support of EU research spending. He is also pushing a revised partnerships framework to simplify the plethora of EU-backed public-public and public-private initiatives.

The European Commission presented its views on the themes that should be covered by missions and partnerships in the 2021-27 Horizon Europe programme on 15 October. National governments have been pushing for more detail to be incorporated into binding legal texts that they and the European Parliament have input into and have to sign off.

Research Europe has learned from sources close to the discussions that the Commission identified digitisation, health, the environment and agriculture as areas with "high potential" to spawn research missions. It identified illustrative example missions including building a quantum computer, curing childhood cancer and making soil health sustainable.

But Christian Ehler, one of the Parliament's leads on Horizon Europe, said that including more detail in the legislation risked everyone demanding funding for their pet projects. "The Parliament can take the five missions and substitute with 92 others," he told a European Association of Research and Technology Organisations (Earto) meeting in Brussels on 16 October. "Then we have an inter-institutional dialogue on missions, which is a nightmare."

Maud Evrard, head of policy at Science Europe, the association of research funders and performers, said that a "lot of questions" remain on how the missions will be defined and implemented. "It's still very unclear at the moment," she said. "We were under the impression that only mission areas would be discussed at this stage at the [European] Council level, but looking at the papers things start to get very specific."

Research Europe understands that the Commission

#### by Antoaneta Roussi and Ben Upton

wants to set up a board for each mission area, to start work early next year. The boards would work with interested parties to help shape the missions.

The Commission has also been discussing 10 thematic areas for research partnerships: health innovation, global health, digital technologies, metrology, air-traffic management, aviation emissions, rail travel, bio-based solutions, fuel cell and hydrogen energy storage, and autonomous vehicles.

Ahead of the meeting on 15 October, the Commission said it would allow an exchange of views "about possible areas for missions and partnerships to be included in the future Horizon Europe programme" before discussions proceed to the Council.

Changes to the EU's support for industry-academia partnerships are also subject to increasing scrutiny. At the Earto event, Moedas outlined the criteria that will be used to decide which industrial partnerships will be continued in Horizon Europe. Existing partnerships must support a carbon-neutral economy, merge the digital and physical worlds and be open to new entrants, he said.

According to Moedas, the Commission's plan to cut down the "more than 100" existing partnerships, which include the Clean Sky aviation emissions partnership and the Innovative Medicines Initiative, and to re-categorise them into three types—institutional, co-programmed and co-funded—had been "welcomed by everyone".

But Peter Tindemans, secretary-general of the researcher association EuroScience, told Research Europe he thinks there is "way too much overlap"

between the mission and partnership concepts. "If you read the description of the industrial partnerships, you would think that the Commission is talking about missions," he said.

Missions have also become very technology-focused, he warned. "That's not what the Commission had in mind when it proposed this concept." Every new opportunity for research funding from every sponsor in the EU, US & beyond

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#### 2 editorial

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Europe

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# Realpolitik

#### Can Manfred Weber's ambitions for science survive?

Next year is gearing up to be a politically fraught one in Europe. Not only is the two-year Brexit process, the protracted procedure of the UK leaving the EU, due to end in March, but the EU will hold elections for the European Parliament and appoint a new president of the European Commission.

In 2014, the president was chosen by a process named using the German term *Spitzenkandidaten*, where each party in the Parliament listed its top candidate in advance, to make the process more transparent and visible. Sitting president Jean-Claude Juncker, the candidate of the conservative European People's Party, announced in February that he would not run again. Now the scramble to be a *Spitzenkandidat* has started.

One of the first to reveal his cards is Manfred Weber, a German MEP and leader of the EPP Parliament group, who announced on 11 October that he has his eyes set on the top Commission post. Weber is backed by all the national leaders in the EPP ahead of rival candidate and former Finnish prime minister Alex Stubb, making him a strong contender for selection.

In troubled political times, Weber wisely marketed himself as a champion of science and underlined his support for academic freedom (*see Europe in Brief, page 5*). This is unusual. Most politicians bidding for a top job cover the sweeping issues first: farming, immigration and the economy. But Weber's early commitment to science may be a tactical masterstroke. He is positioning himself as a stalwart defender of facts, logic and reasoned debate.

Weber has also taken a swipe at Hungary's prime minister Viktor Orbán, a fellow EPP member, who is leading a national crackdown on academic freedom and the operation of non-governmental organisations. Weber strongly criticised Orbán's actions and hinted that he will no longer be welcome in the EPP unless he changes his ways.

This is a gamble. The EPP is the strongest player in the European Parliament but is steadily losing members to right-wing groups. When he was UK prime minister, David Cameron took the British Conservative Party from the EPP to the European Conservatives and Reformists group, an openly Eurosceptic outfit, to satisfy anti-EU hardliners in his own party. Orbán's Fidesz party occupies fewer seats in the Parliament—11 compared with the 18 the UK Conservatives had—but losing them would still damage the EPP's parliamentary supremacy.

By coming out strongly for science, Weber has dealt a blow to reactionaries in his own party. But the EU works on compromise, and the need to maintain a parliamentary majority means he may soon have to reach out to the hardliners, not condemn them. If and when this happens, scientists should not despair. If Weber is smart, he will confront anti-academic sentiments with arguments around universities' contribution to economic growth and national reputation. Conservative fears of the traditionally left-wing academic environment can be allayed by pointing to Europe's global leadership in science, a field that is largely apolitical and seeks to advance humanity.

It is rare for a politician to support science and academia so early on in a political battle. A time may yet come when Weber will have to backpedal. But to try to avert that scenario, scientists are best advised to help him make his case on both sides of the political divide.

#### elsewhere

"We don't have enough money to send around the world. Three out of four excellent proposals don't have money." The European Parliament's rapporteur for Horizon Europe *Dan Nica* wants to make it harder for non-EU scientists to win grants. Science Business, 11/10/18.

#### "I'm afraid she is losing the confidence now of colleagues of all shades of opinion, people who have been supportive of her throughout this process."

Nick Boles, a UK Conservative Party politician, says prime minister Theresa May is losing the confidence of her party in the Brexit negotiations with the EU. The Guardian, 18/10/18.

"We have a system of learning that does not provide the skills that are needed." France's finance minister *Bruno Le Maire* is concerned that the country's companies are struggling to recruit workers with the right skills. Financial Times, 18/10/18.

"It's true, friends from different European countries have asked me, suggested it." *Matteo Salvini*, Italy's deputy prime minister from the populist Northern League party, tells an Italian newspaper that he is considering running for president of the European Commission. Euractiv, 18/10/18.

#### "There is high risk for pushing the Earth's life-supporting systems beyond irreversible trigger-points by 2050."

Greater efforts are needed to achieve global sustainable development, researchers warn. Stockholm Resilience Centre, 17/10/18.

#### "Having Pepper appear before the committee and the chance to question the witnesses will provide an opportunity for members to explore both the potential and limitations of such technology and the capabilities of robots."

A ŪK parliament spokesperson defends the decision to have a robot named Pepper appear before MPs and deliver programmed statements. The Verge, 12/10/18.

#### decade

#### "To get a starting grant you need to be a professor and to get an advanced grant you need to be practically retired."

Katherine Richardson, an oceanographer at the University of Copenhagen, calls for the European Research Council to dedicate more funding to its starting grants.

Research Europe, 16 October 2008

#### Plan S could create 'scientific dystopia'

Young academics have warned that the open-access initiative Plan S could lead to a "scientific dystopia with a strong increase in inequalities" among researchers. The plan aims to convert subscription-based journals that are free to publish into open-access journals that are free to read. The Global Young Academy and several European research associations have warned that unless this is done carefully researchers who are short of funds could struggle to publish. In an alternative positive scenario envisioned by the academies, funders could directly support journals —leaving neither author nor reader paying—by designating funding to journal editors or editorial boards. The academies say this would ensure high-quality, open publishing without using scholars' own funding.

#### Shift to more responsible research is slow, Commission says

Efforts to conduct research in a more responsible way are progressing slowly, a European Commission project has concluded. The Monitoring the Evolution and Benefits of Responsible Research and Innovation project looked at progress in adopting practices such as open-access publishing and research-ethics codification. It found that the slowest rate of change was for responsible research and innovation policies that are highly dependent on institutions.

#### EuroScience seeks secretary-general

The grassroots researchers' association EuroScience is looking for someone to replace its secretary-general Peter Tindemans, who is stepping down after almost seven years in the role. The secretary-general leads EuroScience's operations and oversees its executive office. This includes driving its agenda and advising its governing board on fundraising. Tindemans plans to stay on until early spring 2019. The deadline for applications is 20 November.

#### Dutch join genome data-sharing scheme

The Netherlands has become the 18th member state to join an EU initiative that aims to link genomic health data across national borders to boost clinical research. The unnamed initiative is intended to provide access to one million sequenced genomes by 2022, with an ultimate objective of improving healthcare for EU citizens through personalised treatment, particularly in cancer, and brain-related and rare diseases.

#### Hungary axes gender-studies masters

The Hungarian government has removed gender studies from a national list of approved masters courses, acting on proposals that sparked widespread criticism. The government issued a decree signed by prime minister Viktor Orbán that effectively ends the future enrolment of students on gender studies courses. The Central European University, one of two institutions offering gender studies in Hungary, reiterated its "strong opposition" to the move, calling it "a major infringement on academic freedom".

#### First innovation council windfall for high-risk technologies

The European Commission has awarded a total of €124 million to 38 projects aiming to develop technologies such as quantum computing and treatments for brain diseases. The funding was allocated in the first round of the Future and Emerging Technology Open programme of the European Innovation Council, which is being piloted through the EU R&D programme as a way of supporting high-risk but potentially high-gain innovations.

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### n e w s

## **UK researchers mobilise against hard Brexit**

by Inga Vesper

Researchers joined more than 700,000 people who gathered in London on Saturday to march against a no-deal Brexit and demand a referendum on any deal setting out the UK's future relationship with the EU.

The demonstration on 20 October, which according to some estimates was the second largest in British history, focused on the damage that severing EU ties could inflict on the UK economy and sectors including research. Marchers spoke out against an ongoing UK crackdown on immigration that is slowing down scholarly exchange. A hard Brexit with weak ties, they warned, could impose visa restrictions on visiting Europeans and threaten the residence rights of British researchers working in continental Europe.

After the event, the Wellcome Trust charity called attention to the travel problems that some researchers are already facing. A medical summit on psychiatric genetics held in Glasgow from 11 to 15 October was marred by the British government's position on immigration, which the trust said prevented speakers and delegates from entering the UK.

Esteemed scientists from countries including Sudan, China and India could not attend the summit despite having applied for visas as required, the Wellcome Trust said. Beth Thompson, the trust's head of UK and EU policy, said that a no-deal Brexit could impose similar restrictions on EU researchers, which would "jeopardise" research partnerships with European countries.

"The UK and EU must come to a mutually beneficial agreement on science as quickly as possible to reduce uncertainty for researchers," she said. "This includes... protecting funding and cooperating on regulations that support cross-border research."

Pressure continued after the march. On 23 October, a group of 29 Nobel prizewinners, under the leadership of the Francis Crick Institute for biomedical research in London, issued an open letter opposing Brexit. The letter, addressed to European Commission president Jean-Claude Juncker and UK prime minister Theresa May, stressed that participation in EU programmes and collaboration with European researchers are crucial for British science.

A Crick institute survey of more than 1,000 staff found that 97 per cent of researchers think a hard Brexit would be bad for UK science, with 76 per cent saying the consequences would be "very negative".

## Universities share belt-tightening tips

University leaders are coming together to share costcutting tips and check their efficiency against other institutions, under the auspices of the European University Association.

Amid belt tightening in many countries, increasing efficiency has become a growing concern in academia. At a conference held in Barcelona on 18 and 19 October, the EUA launched a set of online tools that produce recommendations on everything from improving campus layouts to boost sharing of research equipment to computer prompts aiming to cut down on printing costs.

"There are many institutions doing many things, but not everyone is doing everything," said Thomas Estermann, the director of governance, funding and public policy development at the EUA. "Times are challenging and even if things are picking up, it's worth looking into all these elements."

But Estermann admitted there were "very different understandings of what you mean by efficiency". For some people it has negative connotations related to cuts, but others see it as a chance to increase quality and redirect resources to teaching and research, he said.

The EUA's University Efficiency Hub prompts universities to fill out a questionnaire on what steps they have already introduced. The website combines an efficiency tips databy Ben Upton bunews@researchresearch.com base with other EUA tools that compare national funding systems and institutional autonomy across Europe. It also

suggests where further gains could be made. "Some of these things are quite trivial, but at the same time they are not very obvious," said Veronika Kupriyanova, policy and project officer for governance, funding and public policy development at the EUA.

As soon as about 100 institutions have completed the questionnaire, a benchmarking function will be added to the hub, Kupriyanova said. This will allow universities to compare themselves with a European average.

The efficiency hub is one of the main products of the USTREAM project, co-funded by the EU's Erasmus+ education mobility programme. The project brings together the EUA, the vice-chancellors' group Universities UK and the Irish Universities Association.

Liviu Matei, provost of the Central European University in Budapest, which is also part of the USTREAM project, said that the team's initial research had found only narrow examples of academic studies into efficiency. "It doesn't work in the case of universities, because what are the outputs?" he asked. Patents, graduates and citations are not good measures of efficiency, he said.

## Swiss fund open-access grants

Researchers funded by the Swiss National Science Foundation have begun applying for grants to cover open-access publication fees, as the Europe-wide push to overhaul scientific communication continues.

While open-access publishing costs are covered by many funders as part of their research grants, it is unusual to see grants designed specifically to make individual papers free upon publication.

As national funders continue to sign up to the European Commission's ambitious Plan S—which demands immediate open-access publication of research results—the Swiss move is being watched closely. This is partly because the high direct cost to researchers who have to pay article processing charges to journals for open-access publications is a major complaint of Plan S critics.

"Our open-access commitment is very much tied to only asking researchers to publish open access if we also provide in parallel the funding for them to do so," Tobias Philipp, open-access coordinator at the Swiss National Science Foundation, told Research Europe.

The SNSF requires open-access publication from its researchers, and previously individual research grants included cash for this, capped at 3,000 Swiss francs ( $\pounds$ 2,600). But starting on 1 October it has begun considering separate applications to fund article processing charges, even for papers from projects that have ended.

Applicants can ask for any amount under these grants,

#### **europe in brief** Science is sacrosanct, says presidential contender Manfred Weber, who has put him-

self forward to become the next president of the European Commission, has said he will not compromise on standing up for academic freedom. "I cannot accept that the freedom of science is under pressure in the EU," Weber, a German MEP who leads the European People's Party group, said in a podcast interview with the news website Politico. He said he was concerned about the Hungarian government had taken to clamp down on the Central European University.

#### EIT seeks revised legal basis to avoid staff exodus

The European Institute of Innovation and Technology is to have its legal basis redrawn in an attempt to defuse a contractual time bomb that could see swathes of its staff depart. When the EIT was established in 2008, its employment contracts were capped at 10 years to ensure the knowledge of its expert staff remained fresh. To try to avoid so many staff contracts expiring at the same time, the European Commission opened a consultation on amending the institute's rules on 10 October, acknowledging that the agency was suffering from high staff turnover. by Antoaneta Roussi

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as long as the research that the article is based on was at least 50 per cent funded by the foundation.

"The SNSF is prepared to fund as many applications as needed," said Philipp. He says the move will reduce administrative hurdles and speed the uptake of open access. It could be taken up by other EU member states, especially in the run up to the 2020 deadline, when all Plan S signatories will demand immediate open access.

While the SNSF has not signed up to Plan S yet, the foundation launched its own open-access policy in April. The policy aims to make all SNSF-funded research open access by 2020.

The funder is also offering grants to researchers based at Swiss universities who wish to make books open access, even where this work does not directly stem from an SNSF grant. "One of the ideas here was to provide the opportunity for a PhD thesis to be funded as an openaccess book," said Philipp.

The Swiss scheme is based on a similar fund run by the FWF Austrian Science Fund. In 2017, the FWF paid €3.3 million towards open-access article processing charges. "A coordinated approach would be preferable but in the end, each institution and country needs to decide on its own funding mechanisms," a spokesperson for the Austrian funder said.

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#### Erasmus+ to fund networks and centres

The European Commission will use €30 million from next year's €3-billion Erasmus+ mobility programme on piloting European university networks. The initiative—which is being introduced by EU leaders to increase education standards and student mobility—is one of main novelties of the Erasmus+ annual work programme published on 16 October. Under the plans, each network would need to include universities from at least three EU member states. The networks would also need to obtain at least 20 per cent of their funding from other sources, the Commission said.

#### **Commission and Gates to fight climate change**

The European Commission and philanthropist Bill Gates have launched a €100-million fund to help clean energy companies bring innovations to market. The programme, called Breakthrough Energy Europe, will be financed by Gates's Breakthrough Energy fund and the Horizon 2020 InnovFin equity instrument. The money should help European companies and startups perform promising clean energy R&D more easily and launch the resulting products. "We are delivering on our commitment to stimulate public-private cooperation in financing clean energy innovation," said research commissioner Carlos Moedas.

## interview jean-jacques tortora

# **Brexit flight path**

The director of the European Space Policy Institute tells **Ben Upton** how the UK's changing orbit around the EU will have an impact on R&D.

For a small sector, space has been remarkably prominent in discussions of Brexit, says Jean-Jacques Tortora.

"If you gathered the whole European space manufacturing workforce, it would fill half a football stadium," points out the director of the European Space Policy Institute in Vienna. "From any angle, it is a very small industrial sector."

The industry generates only about 40,000 manufacturing jobs across the continent, turning over about €8 billion a year. Even the 231,000 people that the European Commission estimates are employed in related industries would fit comfortably in just a few stadiums in Tortora's native France, he told Research Europe.

But more than just a handful of jobs are at stake when the UK leaves the EU. Research funds, although small relative to some sectors, nurture high tech jobs and collaborations in a growing area. And as the UK will still be part of the European Space Agency (ESA)—an organisation independent from the EU—the country will remain tethered to Europe in this sector even as other ties are severed and barriers go up.

Add in heated debate over the Galileo satellite navigation system and implications for defence, and space's prominence starts to appear less surprising.

For fundamental space science, much depends on whether the UK associates to the EU's Framework programme for research. If not, the country is not likely to be allowed to coordinate Framework-funded projects, disrupting teams and their collaborations.

Much of space R&D is carried out and funded by industry, and the UK is a big space industry player. Analysis by Tortora's institute shows that the number of new aerospace companies supported by private finance is much larger in the UK than in other EU states. "The UK, like no other, believes in the potential of private funding in space."

But the prominence of space in the Brexit negotiations is due to more than mere economic concerns. "Space is

'Space is about getting access to a number of highly critical services.' about getting access to a number of highly critical services," said Tortora. And disruption of these would lead to "immediate, catastrophic consequences". Emergency services and financial systems depend on timing and positioning data from satellite constellations such as Galileo, and the UK is keen to have as much access as possible.

The EU built Galileo in part to free itself

from dependence on the American GPS navigation system. But Brexit has complicated things. While Galileo is EU-owned and run, much of its innards are assembled in the UK by the firm Surrey Satellite Technology.

Tensions over the future role of the UK subsidiary of Canadian company CGI Group in developing Galileo's highly encrypted public regulated service are "the most critical issue under discussion", Tortora says.

While the UK could retain access to Galileo's secure signal, the EU is uncomfortable about the country developing the encryption software behind the system. "If you have a good friend who leaves your home, of course he is welcome coming back whenever he wants," said Tortora. "The question is whether or not you give him a key to the house."

Another area of strategic interest is satellite communications. Europe's main space nations—France, Germany, Italy and the UK—each have their own systems. The Commission would like to see a shared European version, while nations are reluctant to relinquish control, Tortora said.

"It's not an area where member states have ever agreed to transfer any kind of sovereignty," he said. But security concerns heightened by Brexit are giving the Commission opportunities. "This is one of the major objectives of the Commission, to step in on defence activities."

Brexit might also have added to instability in the relationship between the Commission and ESA. Tortora says the two have "missed a few opportunities to come up with the most effective way of working together" and that there has been a "fight for leadership".

British threats to use ESA procedures to stall the next round of procurement for Galileo became public shortly before a Commission proposal for a boosted role for its own space agency. The European Global Navigation Satellite Systems Agency was set up to run Galileo and sell its data to businesses. But the Commission has recently pushed for it to be renamed the EU Agency for the Space Programme and to be given a role in security accreditation.

The biggest disruptions are likely to come from the failure of Brexit agreements on trade and mobility, Tortora warns. This could impact on access to talent for aerospace firms and disruption from tariffs on export-oriented businesses.

When it comes to space, researchers hope that the UK becomes a satellite of the EU, rather than reaching escape velocity.

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## European research cannot live on Marie Curie actions alone

A research and innovation system, stretching from basic research to societal and economic benefit, is only as strong as its weakest link. If bright new ideas stay just that—ideas—it does not help society. If, on the other hand, a desire for concrete results leads to the neglect of bright new ideas, the results will stop coming.

The League of European Research Universities seemed to express a different view recently, appearing to prioritise the interests of some parts of the research system above others. On 14 September, the European Commission announced that high demand for grants from the Marie Skłodowska-Curie Actions (MSCA) which fund individual researchers at all stages of their careers to work in another EU member state—meant that the success rate of the latest call would fall to 14.2 per cent, compared with a long-term average of 14.9 per cent.

The news prompted Leru to argue that the lower success rate would deter the best and brightest from applying, because researchers would come to view the programme as a lottery. In this light, Katrien Maes, Leru's deputy secretary-general, said in an interview with Research Europe [ $RE \ 27/9/18, \ p4$ ] that it was "incomprehensible" that the Commission had proposed "so low" an MSCA budget for the next EU Framework programme, which will run from 2021 to 2027.

Leru argued that the programme should be getting a bigger share, to raise its success rate and keep researchers interested. "The Commission's proposal for MSCA in Horizon Europe is a decrease from 8 per cent [of the Horizon 2020 budget] to about 7.2 per cent of the total Horizon Europe budget, whereas I think it should be as high as 10 per cent," Maes said.

In reality, however, the MSCA has one of the highest success rates in all of Horizon 2020. Funding 14 per cent of applications is something that thematic priorities such as nanotechnology (which has a success rate of 7.3 per cent), ICT (8.2 per cent) and health (9.0 per cent) can only dream of.

These success rates are likely to decrease further in Horizon Europe. In the Commission's proposal, the health cluster is allocated 8.2 per cent of the budget, compared with 9.3 per cent under Horizon 2020. A programme with a single-digit success rate, in other words, is set to see its share of the budget fall.

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Gosse Vuijk is EU policy officer at the Netherlands Organisation for Applied Scientific Research (TNO), based in Brussels. The Digital and Industry Cluster would receive 15.9 per cent of the budget, similar to the share allocated to its Horizon 2020 equivalent, Leadership in Enabling and Industrial Technologies.

However, this cluster's remit will include an expanded list of Key Enabling Technologies, following the recommendations of the Commission's High-Level Group on Industrial Technologies, and growing European ambitions in space. Faced with doing more with the same share of the budget, its success rate is certain to fall.

If success rates are what matter, it is these programmes that should be getting a bigger share of the budget. Leru's call for a bigger share for the MSCA suggests that it sees the programme as more important than other funding streams with even lower success rates. This seems to be favouring a limited interest, rather than favouring the Framework programme as a whole.

Investments in fundamental research or researcher mobility, such as the MSCA, will not pay off unless the knowledge produced benefits Europe's citizens and economy. Curiosity-driven research and the development of researchers are extremely important for the future but they are useless in a system that does too little to further the application of that knowledge.

That is why it is crucial—not least for the future of universities—that Europe invests enough in collaborative research projects such as those supported by the second pillar of Horizon Europe devoted to global challenges and competitiveness. The true value of fundamental research, and the added value of the Framework programme, are realised only when excellent researchers team up to tackle societal and industrial challenges.

It would be bad if the best and brightest walked away from the MSCA. But it would be equally bad if they abandoned collaborative programmes—and if low success rates increase that risk, these face the greater threat.

The MSCA is important, but it is not in researchers' interests if it is relatively well-funded while other parts of the Framework programme fall apart.

A well-functioning European Research Area and an effective Framework programme that attracts talented researchers is in everyone's interests. This requires an acceptable success rate for all parts of Horizon Europe, and this will not be achieved by demanding a bigger share for a programme with a relatively high success rate.

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'In reality, the MSCA has one of the highest success rates in all of Horizon 2020.'

## book review

# **Creative commons**

The argument that universities should make development their mission could help institutions worldwide connect to their communities, says **Arthur Moreira**.

In 1918, students in Argentina wrote the Córdoba manifesto, demanding the democratisation of education and autonomy for universities. It was an effort to construct institutions truly connected to their Latin American context.

A hundred years on, the region looks to be moving in the opposite direction. In Chile, tuition fees are excluding less well-off students from higher education. In Brazil, a 2017 report from the World Bank recommended privatising universities, ending the currently free, public system.

Higher-education policies around the world are driven by institutional models developed in Europe and North America. Many universities are pursuing the idea of a world-class institution, which attracts elite researchers who publish in prestigious journals. Others are trying to build links with industry to commercialise research results.

But many universities—particularly in emerging economies and the global south—do not fit into either of these templates, and it may be harmful for them to try. A new book argues for an alternative.

In Developmental Universities in Inclusive Innovation Systems, Rodrigo Arocena and Judith Sutz, both at the University of the Republic in Montevideo, Uruguay, and Bo Göransson of Lund University in Sweden, present a blueprint for universities operating in a world of rising inequality and climate disruption. The authors argue that the pursuit of narrow ideas of excellence and entrepreneurship has left many universities isolated from their communities and unable to address inequality.

Following the thinking of the Indian economist Amartya Sen, the authors' definition of development downplays economic growth or catching up with richer nations, and focuses instead on peoples' ability to live autonomous, valuable lives. A developmental university, they argue, turns its attention to its local context and to building a culture of creativity.

As the Brazilian economist Celso Furtado said, creativity is a form of power. It allows people to meet their goals as individuals and shape the goals of their societies.

#### Developmental Universities in Inclusive Innovation Systems: Alternatives for knowledge democratization in the global south

By Rodrigo Arocena, Bo Göransson and Judith Sutz Palgrave Macmillan £79.99 A university's job is to enable and distribute creativity inside and outside its walls. Working with private and public actors that share its goals and circumstances, a developmental university would promote the democratisation of knowledge and pursue research aimed at developmental goals. This means avoiding seeing education, research and innovation solely as markets, and looking beyond the obvious collaboration partners.

Marginalised groups such as rural populations have a huge role in development. Excluded from modernisation, they have tended to preserve strong cultural roots that could provide creative solutions to their society's problems.

A developmental university would need new ways to evaluate and benchmark its work beyond the standard metrics and rankings. Arocena, Sutz and Göransson argue that the current measures hamper academic contributions to development and sustainability. They suggest an evaluation system that gives space for developmental research, calling it devmetrics.

The authors do not discount academic publications entirely. But, they argue, one publication in a peerreviewed journal—regardless of its prestige or impact factor—would be a sign of satisfactory research quality.

Beyond this, researchers and their proposals should be judged by their strategies for building cooperative and egalitarian connections to external groups and individuals. Researchers should know who might benefit from and contribute to their work, what these people might want and need and whether they can afford to pay for it.

Evaluation should also seek to assess the developmental impact of the research. This, as the authors acknowledge, can be subjective, but defining the terms and objectives of research projects in advance will help assess their outcomes more precisely.

Tools similar to devmetrics are beginning to emerge. Times Higher Education announced it would launch a global university ranking in 2019 measuring universities' roles in achieving the UN Sustainable Development Goals. And the Canadian International Development Research Centre has devised a framework called Research Quality Plus (RQ+) for judging research aimed at improving lives.

RQ+ takes account of context: local factors and values, and the views of both users and experts. Its approach can be adapted to fit different research questions and fields. And its usefulness need not be limited to the global south; universities everywhere would benefit from gauging their contribution to development, locally or otherwise. *More to say? Email comment@ResearchResearch.com* 

Arthur Moreira is a PhD student at the Science Policy Research Unit, University of Sussex.

## funding opportunities

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## highlights

#### **EU** arts cooperation grants The Education.

Audiovisual and Culture Executive Agency invites applications for its support for European cooperation projects call. The budget is worth €44.66 million [8].

#### **Byzantine fellowships**

Harvard University and Bogaziçi University in Istanbul invite applications for their joint fellowship, worth up to USD 40,200 (€34,800) [32].

#### Integration of immigrants

The Norwegian Directorate of Integration and Diversity invites tenders for a research project about refugees' association with the labour market over time. The contract is worth €1.5 million [39].

#### Animal testing alternatives

The National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) invites applications for its CRACK IT single phase challenges. Funding is worth up to £100,000 (€113,800) [56].

#### **Endangered materials**

The British Library invites applications for its endangered archives programme. Grants are worth up to £150,000 (€170,600) each [63].

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## 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

#### November

2 **EU** European Defence Agency innovative defence applications innovation prize *1202836* 

**UK** Independent Social Research Foundation flexible grants competition *1187166* 

**UK** Motor Neurone Disease Association biomedical research project grants *253402* 

4 R0 Agence Universitaire de la Francophonie Eugen Ionescu scholarships 1209199

EU European Space Agency Drop Your Thesis 1165985

**EU** European Centre for Disease Prevention and Control supporting EU or EEA, EU pre-accession and neighbouring countries in public health emergency preparedness *1209249* 

**BE** European Society for Vascular Surgery educational travel grants 202784

**UK** Ministry of Defence Defence and Security Accelerator – predictive cyber analytics *1208243* 

**EU** Horizon 2020: Excellent Science H2020-FETPROACT-2019 proactive – boosting emerging technologies, single stage – topic 4 *1207867* 

- 7 UK National Centre for the Replacement, Refinement and Reduction of Animals in Research CRACK IT two phase challenges 1164486
- 6 EU Horizon 2020: Excellent Science ERC-2019-SyG synergy grants 1207342
- IT European Federation of Immunological Societies meeting support grants 1183250
- 10 UK Edinburgh Mathematical Society research support fund grants 253140

**CH** European League Against Rheumatism knowledge transfer programme 187035

4 EU Horizon 2020: Industrial Leadership H2020-DT-ICT-2019 digitising and transforming European industry and services, single stage – topics 8, 10, 13 1199086

EU Horizon 2020: Industrial Leadership H2020-ICT-2019 information and communication technologies, single stage – topics 11, 14, 19, 25 1199070

## **Online Funding Search**

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#### Funding search

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EU Horizon 2020: Industrial Leadership H2020-SU-ICT-2019 cybersecurity, single stage – topic 4 *1202841* 

EU Horizon 2020: Societal Challenges H2020-SC1-DTH-2019 digital transformation in health and care, single stage – topic DTH 10 1199495

**EU** Horizon 2020: Societal Challenges H2020-SC1-FA-TDS-2019 trusted digital solutions and cybersecurity in health and care, single stage – topic DT 1 *1199513* 

15 CH Cantonal School of Art of Valais mobility grants – incoming 1204513

**EU** Innovation and Networks Executive Agency CEF-TC-2018-5 public open data – generic call *1204931* 

EU Horizon 2020: Spreading Excellence and Widening Participation H2020-WIDESPREAD-2018 spreading excellence and widening participation, single stage – topic 4 *1200475* 

EU Horizon 2020: Spreading Excellence and Widening Participation H2020-WIDESPREAD-2018-2019 spreading excellence and widening participation, single stage – topics 1-3 1200474

**DK** Novo Nordisk Foundation laureate research grants *1167133* 

**DK** Novo Nordisk Foundation young investigator awards *1183066* 

**SE** Royal Swedish Academy of Sciences Lennart Aktiestinsen Israelsson's Foundation for the individual and society *1161259* 

16 **EU** AQUAEXCEL transnational call for access *1172088* 

**FR** Home of Humanities Foundation associate research directors programme *1205153* 

**JP** International Research Center for Japanese Studies visiting research scholarships *1199055* 

**EU** Interreg Central Baltic fourth call for proposals *1193724* 

**SE** Swedish Care International Queen Silvia nursing award 1181429

**19 EU** EUREKA call on advanced manufacturing *1194765* 

**UK** Ministry of Defence don't blow it – safely eliminating chemical and biological munitions on the battlefield *1207614* 

Search

### europe

#### EU cross-border policies

The Directorate-General for Regional and Urban Policy invites tenders for EU-Latin America and the Caribbean INNOVACT platform II – innovation to promote territorial cohesion. The tenderer will establish a mechanism or platform for knowledge exchange and transfer of good practices among border regions on specific thematic areas. The contract is worth €850,000 over 18 months. Web id: 1200493

Email: regio-contracts@ec.europa.eu Deadline: 8 November 2018 [1]

#### EU drone operations

The European Defence Agency invites tenders for the accommodation validation for medium altitude long endurance type remotely piloted air system operations. The contract is worth €190,000 over 12 months.

Web id: 1209153

Email: procurement@eda.europa.eu Deadline: 8 November 2018 [2]

#### **EU higher education**

The Education, Audiovisual and Culture Executive Agency invites tenders for its Bologna process implementation report 2020. The tenderer will contribute to the 2020 edition of the Bologna implementation report by providing statistical data and indicator inputs. The contract is worth €100,000 over 12 months.

Web id: 1209215

Email: eacea-tenders@ec.europa.eu Deadline: 9 November 2018 [3]

#### EU fuel cells traineeships

The Fuel Cells and Hydrogen Joint Undertaking invites applications for its traineeships. These enable candidates to gain experience relating to the Fuel Cells and Hydrogen Joint Undertaking and its regulatory framework. Grants are worth up to 67,061 for up to six months plus travel. **Web id: 1164932** 

Email: applications@fch.europa.eu Deadline: 15 November 2018 [4]

#### EU human trafficking studies

The Directorate-General for Migration and Home Affairs invites tenders for studies in the field of trafficking in human beings. The budget is worth €700,000. Web id: 1209496 Email: bene tenders@es gurana gu

Email: home-tenders@ec.europa.eu Deadline: 16 November 2018 [5]

#### EU biodiversity impact study

The Directorate-General for the Environment invites tenders for the development of a methodology to assess the impact of trade liberalisation on biodiversity. The contract is worth  $\pounds$ 230,000 over 15 months. **Web id: 1209663** 

Email: env-tenders@ec.europa.eu Deadline: 22 November 2018 [6]

#### EU defence procurement

The European Defence Agency invites tenders for the update or development of the Strategic Research Agendas (SRAs).

5 6500

The contract is worth €2.5 million over four years. Web id: 1209704

Email: procurement@eda.europe.eu Deadline: 23 November 2018 [7]

#### EU arts cooperation grants

The Education, Audiovisual and Culture Executive Agency invites applications for its support for European cooperation projects call. This promotes the transnational mobility of artists and enable them to cooperate internationally, and to promote the transnational circulation of cultural and creative works. The budget is worth €44.66 million for up to 48 months. **Web id: 1186386** 

Email: eacea-creative-europe-

cooperationprojects@ec.europa.eu Deadline: 11 December 2018 [8]

#### **EU citizen protection**

The Directorate-General for Migration and Home Affairs, through the Internal Security Fund – Police call for proposals on counter-terrorism, invites proposals for its ISFP-2018-AG-CT-PROTECT protection call. This projects that restrict the use of explosives. Grants are worth up to 62 million for up to 36 months. **Web id: 1209529** 

Email: home-isf@ec.europa.eu Deadline: 16 January 2019 [11]

#### EU aviation prototype

The European Global Navigation Satellite Systems Agency invites tenders for the development and testing of an aviation dual-frequency multi-constellation satellite-based augmentation systems prototype receiver. The contract is worth €5 million over 30 months.

Web id: 1209461

Email: tenders@gsa.europa.eu Deadline: 23 November 2018 [14]

#### Student recognition analysis

The Danish Agency for Institutions and Educational Grants invites tenders for the analysis of academic recognition for higher education students studying abroad with the Erasmus+ programme. The contract is worth €100,000.

#### Web id: 1209632

Email: amlo@ufm.dk Deadline: 9 November 2018 [15]

#### Nordic peace

The Nordic Council of Ministers invites tenders for the analysis of Nordic peace and reconciliation efforts. The tenderer will focus on mapping the Nordic peace and security sector and the coordinated efforts made at a global level, including Nordic contributions to promote women's participation and influence in processes connected to peace and security. **Web id: 1209587** 

Email: jossve@norden.org Deadline: 12 November 2018 [16]

#### **Neuroscience collaboration**

The Lundbeck Foundation invites applications for its international neuroscience programme. This supports international collaboration for Danish neuroscience. Grants are worth up to DKK 3 million each for up to three years. Web id: 1201532 Email: application@lundbeckfonden.dk Deadline: 13 November 2018 [17]

#### **Biomedical grants**

The Novo Nordisk Foundation invites applications for the following opportunities: •laureate research grants, worth up to DKK 50 million (€6.7m) each for seven

years. Web id: 1167133
young investigator awards, worth up to DKK 25 million each, for seven years.

Web id: 1183066 Email: jpwi@novo.dk

Deadline: 15 November 2018 [19]

#### **Postdoctoral grants**

The Lundbeck Foundation invites applications for its postdoctoral grants in Denmark and abroad. These support biomedical, clinical and health sciences research at non-commercial research institutions. Grants are worth up to approximately DKK 2.48 million (€332,400) each for up to three years. Webid: 1177997 Email: uj@lundbeckfonden.com

Deadline: 27 November 2018 [20]

#### **EU biodiversity**

The ERA-Net BiodivERsA invites proposals for its joint call on biodiversity and its influence on animal, human and plant health. The budget is €9 million. **Web id: 1207694 Email:** claire.blery@ fondationbiodiversite.fr **Deadline: 16 November 2018** [21]

#### **Cognition prize**

The Fyssen Foundation invites nominations for its international prize. This recognises research achievements in the area of architecture of neural circuits from synapses to cognition. The prize is worth €60,000.

Web id: 192181 Deadline: 16 November 2018 [22]

#### **Humanities fellowships**

The Home of Humanities Foundation invites applications for its associate research directors (DEA) programme. This enables professors and researchers in the humanities to carry out research in France. The stipend is worth  $\notin$ 3,300 per month for up to six weeks. **Web id: 1205153** 

Email: candidatures.dea@msh-paris.fr Deadline: 16 November 2018 [23]

#### **EU** computing

ERA-Net CHIST-ERA invites proposals for its joint research call. This promotes multidisciplinary and transnational information and communication sciences and technologies research with the potential to lead to significant breakthroughs. The budgetis €13 million for up to three years. Web id: 1195777

Email: serguei.fedortchenko@anr.fr Deadline: 15 January 2019 [24]

#### Humanities innovation

The Volkswagen Foundation invites applications for its Original, isn't it? – new options for the humanities and cultural studies call. This supports projects that contradict the established knowledge, or the development of a new approach to researchs. Grants are worth up to €200,000 each for up to 18 months. Web id: 1182471 Email: s.schneider@ volkswagenstiftung.de Deadline: 14 November 2018 [26]

#### **Historical humanities**

The Gerda Henkel Foundation invites proposals for the following opportunities: • research project grants.

Web id: 1166541

•research scholarships, worth up to €2,700 per month over up two years.

Web id: 1166545 Email: kuschmann@ gerda-henkel-stiftung.de

Deadline: 22 November 2018 [28]

#### Energy awards

Eni invites applications for the following opportunities:

 •advanced environmental solutions prize, worth €200,000. Web id: 1191336
•energy frontiers prize, worth €200,000. Web id: 1191307

•energy transition prize, worth €200,000. Web id: 1191335

Email: eniaward@feem.it Deadline: 9 November 2018 [31]

#### Byzantine fellowships

Harvard University's Center for Italian Renaissance Studies and the Byzantine Studies Research Center of Bogaziçi University in Istanbul invite applications for their joint fellowship. This supports earlycareer scholars exploring Byzantium's cross-cultural contacts with Italy in the late medieval and early modern Mediterranean world. The fellowship is worth up to USD 40,200 (€34,800) over 10 months. **Web id: 1198334** 

Deadline: 15 November 2018 [32]

#### Economics scholarships

UniCredit invites applications for the following opportunities:

•the Crivelli Europe scholarship, worth €65,000 each for two years. Web id: 1161988

•the Modigliani research grant, worth up to €20,000 over two years.

#### Web id: 1169993

Email: annalisa.aleati@unicredit.eu Deadline: 15 November 2018 [34]

#### Luxembourg research

The National Research Fund Luxembourg invites pre-proposals for its ATTRACT programme. This enables young researchers to set up their own research team at a research institution in Luxembourg. Grants are worth up to €2 million each

#### for five years. Web id: 208283

Email: marie-claude.marx@fnr.lu Deadline: 15 November 2018 [35]

#### EU health promotion

The Consumers, Health, Agriculture and Food Executive Agency invites tenders concerning lifestyle medicine. The tenderer will provide services related to capacity building, health promotion and disease prevention in member states. The contract is worth  $\varepsilon$ 250,000 over 18 months.

#### Web id: 1209531

Email: chafea-hp-tender@ec.europa.eu Deadline: 16 November 2018 [36]

#### Agri-food blockchain

The Technical Centre for Agricultural and Rural Cooperation invites applications for its call on blockchain use in cases in agriculture. This supports the implementation of blockchain use cases addressing the agri-food sector in Africa, the Caribbean and Pacific countries in order to contribute to its transformation. Grants are worth up to 60,000 each for up to 10 months. Web id: 1209256 Email: lohento@cta.int

Deadline: 12 November 2018 [37]

#### **European heritage**

Europa Nostra invites applications for the European heritage awards. These aim to promote best practices related to heritage conservation, management, research, education and communication. Awards are worth €10,000 each.

Web id: 1173676

Email: awards@europanostra.org Deadline: 15 November 2018 [38]

#### Integration of immigrants

The Norwegian Directorate of Integration and Diversity invites tenders for a research project about refugees' association with the labour market over time. The tenderer will contribute to more knowledge about how a large number of immigrants with a refugee background, and family reunited with them, can maintain an enduring association with working life. The contract is worth  $\leq 1.5$  million over one year.

Web id: 1209614

Email: eih@imdi.no Deadline: 12 November 2018 [39]

#### **Migration and integration**

NordForsk and other funders, under the joint Nordic-UK migration and integration research programme, invite pre-proposals for their call for Nordic-British research projects in migration and integration. This supports research on integration and forced and voluntary migration. Grants are worth up to NOK 13 million (€1.4m) each for up to four years.

Web id: 1207118

Email: kaisa.vaahtera@nordforsk.org Deadline: 15 November 2018 [40]

#### Nordic mobility

Nordic Innovation invites applications for its clusters and ecosystems as drivers of Nordic smart mobility and connectivity. This supports Nordic projects, partnerships, value chains or business models in the field of Nordic smart mobility and connectivity. Grants are worth NOK 200,000 ( $\pounds$ 21,100) each over three months. Web id: 1209584

Email: info@nordicinnovation.org Deadline: 20 November 2018 [41]

#### EU advanced manufacturing

EUREKA invites applications for its call on advanced manufacturing. This supports technical innovation and application excellence regarding future products and processes, innovative manufacturingrelated services or advanced production equipment.

#### Web id: 1194765

Email: joseba.bilbatua@ smarteureka.com Deadline: 19 November 2018 [42]

#### EU biotechnology call

ERA-Net CoBioTech invites proposals for its biotechnology for a sustainable bioeconomy call. This aims to transform the global economy from a dependence on fossil raw material to a sustainable bio-based economy. The budget is worth  $\leq$ 15.3 million.

#### Web id: 1192976 Email: era-ib@aei.gob.es

Deadline: 14 December 2018 [43]

#### **Physics fellowships**

The Nordic Institute for Theoretical Physics (Nordita) invites applications for its postdoctoral fellowships in theoretical condensed matter physics. These enable scientists to carry out research in theoretical physics at Nordita. **Web id: 207962 Email:** info@nordita.org **Deadline: 15 November 2018** [44]

#### Higher education grants

The Royal Swedish Academy of Sciences invites applications for grants from the Lennart Aktiestinsen Israelsson's Foundation for the individual and society. These grants support basic research that benefits the education system. The budget is SEK 1.5 million (€14,500). **Web id: 1161259** 

Email: ylva.borgegard@kva.se Deadline: 15 November 2018 [45]

#### Student nursing award

Swedish Care International invites applications for the Queen Silvia nursing award. This enables nursing students to contribute to future health care challenges within elderly and dementia care. The award includes a grant worth SEK 50,000 (€4,800) and a six month internship. Web id: 1181429

Email: fanny.enstrom@sci.se Deadline: 16 November 2018 [46]

#### **Rheumatism education**

The European League Against Rheumatism invites applications for its knowledge transfer programme. This enables patient organisations to improve their skills by learning from other organisations in the European League Against Rheumatism network. The budget is €15,000. **Web id: 187035** 

Email: alzbeta.goehmann@eular.org Deadline: 10 November 2018 [47]

#### Vaccinology course

The Mérieux Foundation invites applications for its advanced course of vaccinology. This provides participants with an overview of immunology, vaccine development and clinical trials, and the social, economic, political and ethical issues surrounding vaccination. Fellowships are worth up to €6,400 each. Web id: 1200715

Email: advac@unige.ch Deadline: 15 November 2018 [48]

#### **Copernicus data**

The European Centre for Medium-range Weather Forecasts invites tenders for Copernicus C3S\_431 sectoral information system to support infrastructure, transport and associated standards. The tenderer will develop a prototype service to provide climate inputs into the standards that underpin civil engineering assets and transport infrastructure. The contract is worth up to €1.5 million over 24 months. **Web id: 1209406** 

Deadline: 8 November 2018 [50]

#### Nesta social problems

Nesta invites applications for its collective intelligence grants. These aim to advance collective intelligence to solve social problems. Grants are worth up to £20,000 (€22,800). Web id: 1209057 Email: collectiveintelligence@ nesta.org.uk Deadline: 9 November 2018 [51]

#### Bone disease fellowship

The European Calcified Tissue Society invites applications for its fellowship. This supports research in the area of bone disease. Fellowships are worth €10,000 each for one year. Web id: 1201149 Email: roberta.mugnai@ectsoc.org

Deadline: 12 November 2018 [52]

#### **Digital communication visuals**

InnoCentive and Enelinvite proposals for their open innovability challenge – live visualisation of digital communications. This supports smart data visualisation solutions to manage and represent the most important metrics and data from online conversations. The budget is USD 15,000 ( $\in$ 13,100).

Web id: 1209198 Deadline: 12 November 2018 [53]

#### Oral vaccination challenge

InnoCentive invites proposals for its oral vaccination of enveloped viruses challenge. This supports the development of a method for the delivery of enveloped viruses by oral vaccination. The award is worth USD 20,000 ( $\varepsilon$ 17,400). **Web id: 1209209** 

Deadline: 13 November 2018 [54]

#### Alzheimer's clinical trials

Alzheimer's Research UK invites expressions of interest for its global clinical trials fund. This supports clinical trials in the UK or worldwide that have the potential to be of benefit to dementia patients. Grants are worth up to £1 million ( $\pounds$ 1.1m) each.

Web id: 1184311 Email: research@ alzheimersresearchuk.org Deadline: 14 November 2018 [55]

#### Animal testing alternatives

The National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), and other funders, invite applications for their CRACK IT single phase challenges. These aim to solve problems identified by the bioscience sector by supporting the validation of new technologies, prototypes and methods. Funding is worth up to £100,000 (€113,800) for up to one year.

#### Web id: 1198126

Email: crackitenquiries@nc3rs.org.uk Deadline: 14 November 2018 [56]

#### Marketing research

The Welsh Government invites tenders for a communication and marketing framework evaluation and research call. The tenderer will conduct research and evaluation for a framework for the delivery of the Welsh Government's communication and marketing requirements. The budget is £500,000.

Web id: 1209655 Email: cpsprocurementadvice@

gov.wales

Deadline: 14 November 2018 [57]

#### Banking regulation conference

The Centre for Economic Policy Research invites applications for its financial intermediation, regulation and economic policy conference support. This supports presenting authors from academic institutions in attending the conference of the Journal of Money, Credit and Banking, to be held in March 2019 in Frankfurt. The scheme covers travel costs and lodging. **Web id: 1209266** 

Email: ecbconference@ku.edu Deadline: 15 November 2018 [58]

#### EU aquaculture facilities

AQUAEXCEL invites proposals for its transnational call for access. This enables research groups to access facilities to undertake experimental trials on fish aquaculture species and system types. Access covers facility costs, travel and subsistence for up to three months.

Web id: 1172088

Email: j.c.bostock@stir.ac.uk Deadline: 16 November 2018 [59]

#### Legal studies fellowships

The University of Edinburgh's Edinburgh Law School invites applications for the MacCormick fellowships. These enable researchers to spend time at the law school to conduct advanced research. Fellowships include access to facilities and up to £3,000 (€3,400). Web id: 208761

Email: law@ed.ac.uk Deadline: 16 November 2018 [60]

#### Scottish history

The Strathmartine Trust invites applications for the following opportunities:

•the Sandeman grants, worth up to £2,000 (€2,300) each. Web id: 1179353 •the Strathmartine awards, worth up to £5,000 each. Web id: 1179352

Email: office@strathmartinetrust.org Deadline: 18 November 2018 [62]

#### **Endangered materials**

The British Library invites preliminary applications for its endangered archives programme. These aim to locate vulnerable archival collections and deliver digital copies into the international research domain. Grants are worth up to £150,000 ( $\pounds$ 170,600) each over two years.

#### Web id: 1200755

Email: endangeredarchives@bl.uk Deadline: 19 November 2018 [63]

#### **Opthalmology grants**

The Royal College of Surgeons of Edinburgh invites proposals for its small research pump priming grants. These support pump priming research projects in priority areas. Grants are worth up to  $\pm 10,000$  ( $\pm 10,000$ ) each for one year. **Web id: 255235** 

Deadline: 21 November 2018 [64]

#### EU reef expedition

ECORD, the European Consortium for Ocean Research Drilling, invites applications for participation in expedition 389 – Hawaiian drowned reefs. This enables scientists to participate in the International Ocean Discovery Programme expedition 389 – Hawaiian drowned reefs. Web id: 1209305

Email: essac@plymouth.ac.uk Deadline: 23 November 2018 [65]

#### **Geography** awards

The Royal Geographical Society (with the Institute of British Geographers) invites applications for the following opportunities:

•the Ralph Brown expedition award, worth £12,500 (€14,200) for six weeks. Web id: 211459

•the Thesiger-Oman fellowships, worth up to £8,000 each. Web id: 211462 Email: grants@rgs.org

**Deadline: 23 November 2018** [67]

#### **Cultural history**

The Warburg Institute invites applications for its long-term fellowship. This supports interdisciplinary study of cultural and intellectual history, particularly the role of images in culture. The fellowship is worth £30,512 (€34,700) for nine months. Web id: 259591

Email: warburg@sas.ac.uk Deadline: 23 November 2018 [68]

#### . . . .

## rest of world

#### **Study in Australia**

The Australian Department of Education and Training invites applications for its Endeavour leadership programme. This supports two-way mobility for research and professional development opportunities. Grants are worth up to AUD 272,500 ( $\epsilon$ 169,000) for up to four years. Web id: 1209050

Email: elp.enquiries@scopeglobal.com Deadline: 15 November 2018 [69]

#### Science in the Francophonie

Agence Universitaire de la Francophonie invites applications for its Francophonie award for young researchers. This recognises scientific breakthroughs in the Francophone world. Awards are worth €5,000. Web id: 1208620

Email: activites-cs@auf.org Deadline: 12 November 2018 [70]

#### Atmospheric imaging tech

The Canadian Space Agency invites tenders for the definition of industrial activities to complete phase 0 for the atmospheric imaging mission for northern regions (AIM-North). The contract is for approximately 18 months. Web id: 1209674

Deadline: 22 November 2018 [71]

#### **Science innovation**

The Iranian Research Organization for Science and Technology invites applications for the Khwarizmi international award. This recognises scientific achievements made by researchers, innovators and inventors from all over the world. The award is worth USD 7,000 ( $\epsilon$ 6,000). Web id: 138968

Email: khwarizmi@irost.ir Deadline: 20 November 2018 [72]

#### **Japanese studies**

The International Research Center for Japanese Studies invites applications for its visiting research scholarships. These enable scholars to conduct research on Japanese studies while in residence at the centre. Scholarships last up to 12 months. **Web id: 1199055** 

Email: vrsinquiry@nichibun.ac.jp Deadline: 16 November 2018 [73]

#### tenders

#### Antenna measurement \*ESA

The European Space Agency invites tenders for a Hertz positioner upgrade. The tenderer will design, manufacture, install and validate a new positioning subsystem for the device under test and the compact range feed of the Hertz facility, including all required controllers and auxiliary mechanical ground support equipment, and electrical ground service equipment. The contract is worth at least €500,000. Ref: 18.1ET.315. Deadline: 21 November 2018

#### Ultra-cold atoms \*ESA

The European Space Agency invites tenders for its call on hybrid, grating magneto-optical traps and magnetic chip trap, approach to compact high frequency Bose–Einstein condensate production in space. The tenderer will develop a large single-input beam grating magneto-optical trap as a source of dense sub-Doppler cooled atoms. The contract is worth up to €500,000. Ref: 18.129.14. **Deadline: 21 November 2018** 

#### **Radio frequency** \*ESA

The European Space Agency invites tenders for radio frequency interference mitigation for L-band radiometers. The tenderer will develop an on-board data processing technique to detect and to mitigate the effects of the radio frequency interference observed by interferometric radiometers. The contract is worth up to  $\xi$ 500,000. Ref: 18.18I.05. **Deadline: 23 November 2018** 

#### High frequency antennas \*ESA

The European Space agency invites tenders for a compact high frequency-very high frequency tubular deployable antenna. The tenderer will study the state of the art of deployable tubular antennas focusing on low mass and stowed volume in order to achieve a global signal penetration for various different penetration for surgent measurements positions for near Earth asteroid. The contract is worth up to  $\xi$ 500,000. Ref: 18.1ET.30. **Deadline: 26 November 2018** 

#### **Robotic arms** \*ESA

The European Space Agency invites tenders for a sample transfer arm breadboard lander evaluation. The tenderer will conduct two parallel system studies which shall look at the lander, the Mars ascent vehicle and the two possible sample delivering rovers and design a robotic arm based sample transfer system. The contract is worth at least  $\notin$ 500,000. Ref: 18.1MS.12. **Deadline: 26 November 2018** 

#### **Biomass observations** \*ESA

The European Space Agency invites tenders for a forest scan. The tenderer will set up validation sites covering the major forest types, and test and demonstrate disruptive forest mensuration technology such as terrestrial and unmanned aerial vehicle lidar for estimating above ground biomass and forest height. The contract is worth up to €500,000. Ref: 18.155.23. **Deadline: 27 November 2018** 

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

#### usa

Alzheimer's Society/Assocation of Frontotemporal Degeneration clinical trials for frontotemporal degeneration **Web id: 1192217** 

**Deadline: 9 November 2018** [81] US Department of Energy big data analy-

sis of synchrophasor data Web id: 1209180

#### Deadline: 9 November 2018 [82]

US Department of State internet freedom – advancing and promoting anticensorship transport libraries **Web id: 1207512** 

**Deadline: 9 November 2018** [83] Foundation Fighting Blindness individual investigator research awards

#### Web id: 1208644 Deadline: 12 November 2018 [84]

American Physiological Society/Data Sciences International Dean Franklin young investigator award Web id: 1187674

Deadline: 13 November 2018 [85] American Physiological Society/S&R Foundation Ryuji Ueno award Web id: 1199073

Deadline: 13 November 2018 [86] Chan Zuckerberg Initiative seed networks for the Human Cell Atlas Web id: 1208725

**Deadline: 13 November 2018** [87] Smithsonian Institution artist research fellowship

Web id: 1182783

Deadline: 13 November 2018 [88] American Council of Learned Societies Robert HN Ho Family Foundation grants and fellowships in Buddhist studies Web id: 1197785

Deadline: 14 November 2018 [89] Bill and Melinda Gates Foundation grand challenges explorations grants Web id: 257243

Deadline: 14 November 2018 [90] Morris Animal Foundation first award Web id: 257460

Deadline: 14 November 2018 [91] Morris Animal Foundation wildlife and exotic studies grants Web id: 1161133

Deadline: 14 November 2018 [92] US Department of Defense Duchenne muscular dystrophy research programme - career development award Web id: 1190131

Deadline: 14 November 2018 [93] US Department of Energy advanced systems integration for solar technologies Web id: 1209653

Deadline: 14 November 2018 [94] American Association of University Women international fellowships programme

#### Web id: 193059

Deadline: 15 November 2018 [95] American Foundation for Suicide Prevention distinguished investigator innovation awards Web id: 209100

Deadline: 15 November 2018 [96] American Foundation for Suicide Prevention pilot research grants

Web id: 213770 Deadline: 15 November 2018 [97] American Museum of Natural History Frank M Chapman grants Web id: 189979

Deadline: 15 November 2018 [98]

### policy diary

#### **October** 29 Industrial tech

- 29 Industrial technologies 2018, Vienna, Austria. To 31. https://rsrch.co/2K09qhK
- Quantum Flagship kick-off conference, Vienna, Austria. https://rsrch.co/2mtAGE6
- 30 The European Open Science Cloud, Vienna, Austria. https://rsrch.co/2zc6Ptc
- Innovative Industries for Smart Growth, Vienna, Austria. To 31. https://rsrch.co/2IIFq6z

#### November

- 5 Impact of research and innovation policy at the crossroads of policy design, implementation and evaluation, Vienna, Austria. To 6. https://rsrch.co/2ryN5cQ
- Space conference, Graz, Austria. To 6.
- https://rsrch.co/2LGvJCd
- 6 RTO Innovation Summit, Brussels, Belgium. To 7. https://rsrch.co/2yry9De
- EIT Climate Innovation Summit, Dublin, Ireland. To 8. https://rsrch.co/2NEfWsx
- Future Fit Universities for 2040, Brussels, Belgium. https://rsrch.co/2RD04pw
- EuroTech Universities Alliance high-level event, Brussels, Belgium.
- https://rsrch.co/2RDehTa 8 Earma Thematic Group of Ethics
- and Research Integrity meeting, Brussels, Belgium. https://rsrch.co/2tb2z7J
- 13 EUA annual smart specialization workshop, Graz, Austria. https://rsrch.co/2I58akR
- 15 13th European Quality Assurance Forum, Austria, Vienna. To 17. https://rsrch.co/2Lrupo2
- 21 Open science conference 2018, Brussels, Belgium. https://rsrch.co/2DyJ157
- Innovative Enterprise, Vienna Austria. To 22. https://rsrch.co/20Kf0na
- 23 Launch of the European Open Science Cloud governance structure, Vienna, Austria. https://rsrch.co/2ynIkpp
- 26 10th European Innovation Summit, Brussels, Belgium. https://rsrch.co/2tpyDEp
- Digital innovation hubs annual event, Warsaw, Poland. To 28. https://rsrch.co/20hSnTq
- 28 Impact of SSH for a European research agenda, Vienna, Austria. To 29. https://rsrch. co/2KmZR6a
- Academia Europaea annual conference, Barcelona, Spain. To 29. https://rsrch.co/2wwTerL

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# New shades of green

In an increasingly fraught political world, the environmental movement is choosing to widen its priorities, **Antoaneta Roussi** reports.

Green campaign groups have claimed many triumphs in Europe, from reducing plastic waste to pushing for more environmentally friendly energy sources. But with the rise of populist parties, 'fake news' and an increasingly fragmented political climate in Europe, they are being drawn deeper into broader debates about the future of democracy on the continent.

Jorgo Riss, the director of the European unit of the environmental campaign group Greenpeace, told Research Europe that his unit has four main priorities for 2019. Three of them are familiar for green groups: climate change and emissions reductions, transformation of the agricultural sector and eliminating single-use plastics.

The fourth priority is more unexpected. "It is not environmental but dealing with the deteriorating public debate and populism," Riss said. Greenpeace is fighting fake news.

While the group's main mission is to expose global environmental problems and to help protect biodiversity, Riss said that the present public distrust of experts makes it easier for big companies to influence policymaking in underhanded ways. "Having a media landscape where facts are increasingly less valued and at the same time corporations with vested interests influencing public policy, the combination of those two is toxic," he said.

These shifts make the watchdog function of groups such as Greenpeace increasingly difficult, he believes.

In response to these challenges, the organisation plans to launch a social media campaign to "expose lies" and contribute to developing a more informed social media sphere. "We're still looking at how exactly we are going to do this campaign so that it can be heard," he said.

Friends of the Earth (FOE) Europe, another environmental campaign group, is also gearing up for a battle outside its usual remit: protecting citizens' political interests in the 2019 European election. Together with some 200 other civil society organisations, it launched a manifesto in September with core demands for the electoral candidates.

"Recognising the challenges of the current situation in Europe, we, as citizens, should not limit ourselves in the debates on the future of Europe to the question: 'Do you want more or less Europe?' but focus on our needs for the future and our rights," the group's manifesto says. "The key question is: 'What kind of Europe do we want?'"

Jagoda Munic, the director of FOE Europe, said her group would continue to work on its more traditional areas of interest, such as bringing about a fossil-free Europe, but that it is also pushing a broader sustainability agenda. In response to a 2017 European Commission white paper outlining five future political scenarios for Europe, FOE Europe and other not-for-profit organisations came together to outline their own 'sixth scenario' focused on citizens' rights and environmental issues. Bringing together green groups, social justice non-governmental organisations (NGOs) and more, the document pushes phasing out fossil fuels alongside closing income gaps, realigning trade policies and hosting refugees.

"We want to have a wide debate on the future of Europe, what does it mean for us, what kind of Europe do people want. So it's not just Brussels-based organisations that are going to develop the vision of the future Europe, but we want to have a broad debate, across different countries of Europe with different people, and different sectors of civil societies," said Munic. "FOE was taking into account this social and environmental and economic justice more than 10 years ago, on a global level...what's maybe new in Europe now is that there is more cross-sector cooperation across networks, and that people are recognising more and more the importance of media and fake news on the influence of politics and elections."

National NGOs with traditionally more niche remits are also broadening their agendas. In the UK, the Royal Society for the Protection of Birds is campaigning to safeguard the country's environment ahead of Brexit. By some estimates, 80 per cent of the UK's environmental rules originate in the EU, including rules on packaging and waste recovery.

"Effectively it could mean rewriting the entirety of our environmental regulations, and fisheries and agriculture policy for potentially four countries in the UK," said Stephen Hinchley, head of European policy campaigns at the RSPB.

The British government has said it intends to set out a new overarching framework for such regulation post-Brexit by transferring EU rules into British law. But Hinchley says the group is "concerned whether [the laws] will be as strong as they are now". He also worries about the loss of enforcement from the European Court of Justice.

Hinchley says the RSPB is devoting so much time to Brexit that it does not have capacity to work on other wishes it has for EU policy. But for other environmental organisations, the preservation of the EU is now a green issue. *Something to add? Email comment@ researchresearch.com*  'We want to have a wide debate on the future of Europe.'

#### news

# Germany's rectors urge universities to shield researchers from predatory publishers

Germany's association of rectors has called for more training and less emphasis on publication track records to help protect early-career researchers from predatory publishers.

In a statement on 2 October, the HRK said that although the problem of predatory publishing was not yet widespread in the country, it could damage the credibility of science in Germany. Predatory publishers produce journals that charge to publish papers but lack quality control and peer review.

The rectors called for action from universities in three areas to tackle the problem.

First, early-career researchers looking to get published for the first time should be offered more support, the HRK said. Supervisors and experienced co-authors should give subject-specific advice, and centralised institutions such as libraries should provide information and training to help young researchers identify which publications carry out questionable practices.

wc Green light for Venice

### **news** in brief

science campus Venice is to get its own research

and innovation district in a

€30-million project led by the Università Ca' Foscari Venezia to provide more research facilities and student housing. A complex of historic buildings will be renovated into the Campus Santa Chiara, which will include a science gallery set to open in 2019, before the rest of the project.

#### **Inserm head moves to French Council of State**

The former head of France's national agency for health research, Inserm, has been given a senior role with one of France's most important government bodies. Yves Lévy, whose marriage to health minister Agnès Buzyn led to concerns over conflicts of interest with his research role, was confirmed as an extraordinary member of the Council of State in a presidential decree published on 11 October.

#### CNRS penalises researchers after misconduct probe...

France's largest publicly funded research organisation, the CNRS, has concluded an investigation into alleged scientific misconduct by senior researchers Olivier Voinnet and Patrice Dunoyer. The two were penalised over published corrections to "lapses" in research papers for which they were disciplined in 2015. Voinnet told Research Europe he strongly contested the CNRS statement and questioned why the CNRS had publicised his minor sanction when its investigation had not found any evidence of misconduct. Dunoyer did not respond to requests for comment. by Martyn Jones news@researchresearch.com

Second, the number of publications that can be included on application forms for university jobs and professorships should be limited, so that the focus shifts to quality rather than quantity. Limitations should be specific to disciplines and career stages, and should reduce the publication pressure on junior researchers.

Third, institutions should compile lists of questionable journals to be avoided, to go alongside positive external lists such as the Directory of Open Access Journals. But HRK stressed that researchers should always examine publications themselves and not rely entirely on lists, which can never be complete or fully up to date.

The recommendations, agreed at the 140th meeting of the HRK's senate, are a response to a media investigation earlier this year, which found that more than 5,000 German researchers had published in journals that "fail to uphold basic standards of quality control".

#### ... as row over former interim head continues

Anne Peyroche, former CNRS interim head, appears "partially or completely" responsible for several instances of scientific fraud in papers on which she was first or corresponding author, according to a leaked report. The CEA, the French public research organisation for energy, defence and technology, announced an investigation into allegations of scientific misconduct in January. At the time the CNRS, France's largest public research organisation, said that Peyroche was "unable to fulfil her role" as interim president, without giving further clarification. The CNRS declined to comment.

#### Funders aim to boost university 'innovation hubs'

The Stifterverband, an association of German research funders, has launched a contest to promote the development of innovative learning spaces at universities. Institutions can apply for funding to build innovation hubs to increase knowledge transfer and cooperation, the association said.

#### Ministries join forces for bioeconomy strategy

Germany's federal education and agriculture ministries have teamed up to develop a strategy for the country's transition to a bio-based economy. The strategy, due in 2019, will outline how all areas of industry can increase their use of biological resources and environmentally friendly production processes, the education ministry said. Core topics will include sustainability in agriculture and forestry, and the development of innovative biobased alternatives to existing products and processes.

## uk & ireland

## EU 'needs UK cash for Horizon Europe'

A UK contribution will be crucial for the EU to meet the European Commission's proposal to spend €100 billion on Horizon Europe between 2021 and 2027, UK science minister Sam Gyimah has said.

EU plans to spend €100bn or more on Horizon Europe are well underway. But with Brexit talks poised on a knifeedge, Gyimah suggested the "tens of billions of euros" the UK would pay for access was a big motivator for the EU to allow the country to associate to the programme.

Despite the tumultuous negotiations for a UK withdrawal agreement, Gyimah says he is confident that a science deal remains within reach; research ministers in the remaining 27 member states have all told him that they want the UK to take part in Horizon Europe.

But Gyimah dashed hopes that a science deal could be done outside the main negotiations. "I wanted the science negotiations to happen first because this is an area where there is so much goodwill between us and the EU. But the EU's terms are that 'nothing is agreed until everything is agreed'," he told Research Europe's sister publication Research Fortnight on 10 October.

"We haven't got to the stage where we have to talk specifically about our subscription number. But if the UK associated fully with the programme, we would be

#### uk&i Ireland's 2019 budget holds in brief ness, enterprise and innovation

research funding boost... Ireland's department of busi-

is set for a 9 per cent budget increase in 2019. A briefing document on Ireland's proposed budget, which is still to be voted through parliament, showed that the department will have €950 million to spend in 2019, a €79m increase on 2018. The budget includes 4.5 per cent more for research funding and an 11 per cent rise for capital investments. Research spending will total €750m. More than half—about €385m—will be disbursed through Ireland's three main research agencies Science Foundation Ireland, Enterprise Ireland and IDA Ireland.

#### ...but universities decry education budget

Ireland's proposed 2019 education budget has brought a lukewarm response from universities, which said it would only allow them to "tread water". Education in total will receive €10.8 billion, a 7 per cent increase on this year. The government estimates this will provide for 3,500 extra university places. But the Irish Universities Association said the budget would do little to close the higher education spending gap between Ireland and other nations.

#### UK scheme could offset Brexit borrowing worries

Expanding the remit of the UK Guarantees Scheme, which supports private investment in infrastructure

by Cristina Gallardo	cgnews@researchresearch.com
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making a contribution that would be larger than all the current associate members put together and of all the existing EU members but France and Germany."

The UK government has said it wants full access to Horizon Europe, as long as the scheme remains focused on excellence and innovations can be commercialised in the UK as early as in the EU. But as the European Parliament and the European Council are still to finalise their positions on the programme, it is not yet clear what the rules and levels of access will be for non-EU countries.

UK payments to the EU budget have varied over the years, but made up 13.5 per cent in 2016, according to Eurostat. Wealthy associated countries such as Norway pay a contribution to the existing Horizon 2020 scheme based on their GDP in proportion to the EU's. This would suggest a UK contribution to Horizon Europe of more than €10bn.

Gyimah said the UK had tried to smooth the talks by agreeing to remain "very aligned" to the European Medicines Agency regulations and to accept the jurisdiction of the European Court of Justice when it comes to science. This puts the ball in the EU's court, he said.

projects, could help UK universities counteract a fall in lending by the European Investment Bank, according to Philip Harding, director of finance and business affairs at University College London. He told a parliamentary committee that the scheme could be extended to cover

more of the policy range of the EIB, particularly innovation and skills. Total EIB financing to the UK fell from €6.9 billion in 2016 to just €1.8bn in 2017.

#### British universities urged to build ties with Europe

UK universities should forge partnerships with counterparts in Europe to protect themselves from the effects of Brexit, said David Willetts, former UK science minister. Addressing a conference organised by the vice-chancellors' group Universities UK, he said some universities had put more effort into building relationships with India and China than with Europe. "There has to be a new effort in building bilateral partnerships with specific universities in Germany, in France and across the continent, because what previously happened automatically now has to be done [manually]," he said.

#### UK funder seeks external advice to boost efficiency

The UK's main government R&D funder UK Research and Innovation, which has a £6.8-billion (€7.7bn) R&D budget for 2018-19, is hiring a consultant to review its organisational model. The tender, for £0.5m, says the agency wants to "deliver significant effectiveness and efficiency benefits".

## nordic

## Funding shortage could be damaging for Swedish infrastructure, says research council

Sweden's largest public research funder has warned that the country must increase its spending on infrastructure, especially projects dealing with environmental science.

Financing for research infrastructure is falling significantly short of what is needed, a national strategy released by the Swedish Research Council on 16 October says.

Such projects provide vital insights on complex issues, operating over decades and collecting huge amounts of data that need to be stored and processed. To operate properly, they need adequate and secure funding, say report authors Björn Halleröd, the research council's head of research infrastructure, and Jan-Eric Sundgren, chairman of the Swedish Council for Research Infrastructure.

Sweden has excellent capacity in fields related to the environment, particularly climate change, said Halleröd and Sundgren. But funding shortages mean the capacities of facilities such as SITES, a cluster of field stations to study the country's ecosystem, are not fully explored. Infrastructure in this field should be expanded and better coordinated to make the best use of expertise, the report recommended.

The research council also identified holes in the division of responsibility for these projects, with no central by Inga Vesper news@researchresearch.com

body with adequate funding to coordinate all infrastructures. "It is necessary to provide financial resources that enable [the council] to take over national responsibility for Sweden's research infrastructure, and Sweden's participation in international infrastructure," recommend Halleröd and Sundgren.

Another issue they want addressed is the lack of a clear career path for scientists employed at these facilities. While these jobs can be attractive, a shortage of skills development can lead to problems with staff retention, they say.

Sweden is already home to two large, international research projects: the European Spallation Source and the Max IV synchrotron radiation facility, both based in Lund. According to the report, the ESS received 483 million Swedish kronor (€46m) from the Swedish Research Council in 2018, while Max IV got kr330m.

The high visibility of these projects has brought scientific clout to the country, but even here long-term financing may be too insecure. The government should fix this "without any other necessary efforts" on the part of researchers, say Halleröd and Sundgren.





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- The decision on awarding grants is made independently by a sub-group of the Research Committe of the European Pain Federation EFIC<sup>®</sup>.

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Contact: Anja Lehmann, Insignio

## Academics battle against fixed-term posts

All around the world, governments are reducing the share of research funds going into core activities—such as staff salaries at universities—



opting instead to distribute more money through competitive calls and short-term projects.

Norway is no exception. This month, the University of Oslo's rector condemned the increasing use of short-term funding by the government, which he says is to blame for the preponderance of temporary contracts at the country's universities.

Such contracts have long drawn complaints from researchers due to the uncertainty they bring to academics' personal and professional lives. In Norway, the debate has been given new emphasis after representatives of the Norwegian Association of Researchers at the University of Oslo warned on 10 October that 25 per cent of academic positions at the institution were on fixed-term contracts.

The university's rector Svein Stølen told Research Europe that he agreed the number of academics in temporary employment in Norway "has long been too high". He cited significant changes to university financing in the country as a main reason for the high number of temporary contracts.

"The state budget covers an increasingly smaller proportion of the total budget, whilst externally funded projects covers a larger one," he said. "Timelimited funding has largely been used for temporary employment."

Anders Hanneborg, executive director for science

#### nordic Nordic universities throw weight behind Plan S in brief Nordic universities have backed

Plan S, an initiative to boost open-

access publishing. Suhf, the Association of Swedish Higher Education Institutions, announced that the Nordic University Association (NUS) has endorsed the plan, under which funders will demand that researchers they support make any resulting research papers openly available immediately from 2020.

#### Danish government sets out spending plans

The Danish government has started talks on how to distribute the 2019 reserve research budget, which is worth 958 million Danish kroner (€128m). The biggest item on the menu for the planned reserve budget is Innovation Fund Denmark, which is set to receive kr400m. Of this, kr220m would be set aside under a 'new technology options' heading for funding risky innovations. The gov-

#### by Ben Upton

bunews@researchresearch.com and the research system at the Research Council of Norway, said that widespread temporary employment

and the long-term use of fixed-term contracts are a "serious challenge" for both institutions and staff. He fears that the lack of stability will deter the

brightest and best from going into academia. However, he points out that grant applicants that receive council funding have to have career plans in place.

Steinar Sæther and Belinda Eikås Skjøstad, members of the Norwegian Association of Researchers, wrote on the University of Oslo news website Uniforum that the problem of fixed-term contracts had been on the radar for more than 10 years. "Much has happened since then, but the conditions are not much better," they said.

Sæther and Eikås Skjøstad warned that temporary contracts leave researchers exhausted by constant worries about their futures. Many academics fear that their current or next jobs could result in a "dead end", they said.

They called for a binding plan to resolve the problem. "We need concrete results and rapid progress."

In the meantime universities are trying to adapt. Stølen said that a shift towards project-based funding had not been matched by updated personnel policies and that his university is developing a new policy based on conversations with unions and working groups. Although the university's policy must support career development among temporary staff, he said that "permanent employment is the main rule".

ernment published its proposal for the reserve research budget on 12 October. Spending must be agreed between the government and parliament.

#### Norway's researchers lament 'efficiency cuts'

Norway's university budget is set to be cut for the fifth year in a row, leading to accumulated cuts totalling more than one billion Norwegian kroner, academics have warned. Calculations by the National Association of Researchers show that between 2015 and 2019 universities will have lost kr1.08bn (€114m) to a series of so-called "efficiency cuts" in higher education.

#### Tampere 3 offers access to data

The Tampere 3 university cluster in Finland has launched a service to provide free access to data from its researchers. The website will host datasets from the three Tampere universities and partner institutions, which anyone will be able to download and use.

### u s a

# Complaints over environment agency's advisory board reshuffle

A chorus of disapproval has greeted moves by the Environmental Protection Agency to dismiss advisers on air quality, as scrutiny of the Trump administration's approach to science continues.

Andrew Wheeler, the acting administrator of the EPA, announced on 10 October that he had appointed five members to the seven-person Clean Air Scientific Advisory Committee, as required by the Clean Air Act. But policy watchers including the Union of Concerned Scientists swiftly pointed out that the EPA also appeared to have disbanded a panel reviewing particulate matter, and given responsibility for this to the Casac.

The move comes as the Trump administration's approach to science advice is under huge scrutiny. Many government agencies are facing questions over topics ranging from health to climate change.

Gretchen Goldman, research director of the Center for Science and Democracy at the Union of Concerned Scientists, said that dismissing the particulate matter review board and handing over the task to political appointees was sidelining science.

"Every action taken by the EPA's political leadership

## usa In in brief Pr

#### Industry spent \$375bn on US R&D in 2016 Private businesses spent \$375 bil-

lion (€326bn) on R&D in the

United States in 2016, an increase of 5.3 per cent on the previous year, according to the National Science Foundation. Of the total, \$25bn was spent on basic research, \$61bn on applied research and \$289bn on development. Companies dished out \$318bn of their own resources, while the federal government accounted for \$24bn of the remaining \$57bn of funding.

#### Michigan 'breaks records' for public funding

The University of Michigan in Ann Arbor has topped all records by becoming the first public university to fundraise \$5 billion (€4.3bn), it has claimed. Since 2013, more than 380,000 donors have contributed. Of the \$5bn, \$1.1bn will go towards student support including scholarships and fellowships, and \$1.4bn will go towards advancing patient care, research and education at Michigan Medicine, the university said.

#### International enrolments at US universities fall

The number of international students pursuing graduate education in the United States has decreased for the second consecutive year, according to data from the US Council of Graduate Schools. First-time enrolment fell by 3.7 per cent between autumn 2016 and autumn **by Antoaneta Roussi** arnews@researchresearch.com has been aimed at pushing independent science out of the process so they can gut the rules that protect the public from pollution," she said in a statement on 11 October.

Lianne Sheppard, a researcher at the University of Washington and a recent member of the committee, told CNN: "A lot of us do this because we want to serve the public health, and we want to use our expertise to do that. The EPA has dismissed us. It doesn't want our input."

Under the Clean Air Act, the EPA has to conduct a review on the standards for particulate matter, ozone and four other common pollutants every five years with help from outside experts. While the seven-member Casac leads in the review, topic expert panels are supposed to provide additional advice.

In a statement released to the media, the EPA said: "Consistent with the Clean Air Act and Casac's charter, acting administrator Wheeler tasked the seven-member chartered Casac to serve as the body to review key science assessments for the ongoing review of the particulate matter and ozone national ambient air quality standards."

2017, the CGS said. Suzanne Ortega, the council's president, said the consecutive declines were "worrisome". The cause is not known, but "the current policy climate around US visas and immigration may be a contributing factor", she said.

#### NASA audit of Boeing rocket predicts further delays

The Office of Inspector General of NASA has forecasted further delays for the launch of the alreadybehind-schedule Orion spacecraft. The warning comes after what the watchdog calls "poor performance" by the company Boeing, which is contracted to build parts of the rocket that will carry the spacecraft. The largest rocket in NASA's history won't be ready for a planned mid-2020 liftoff because of cost and scheduling problems stemming from Boeing's underestimation of the scope of work and the skills of the workforce required, the body says.

#### More trouble at Sloan Kettering

Top scientists at the Memorial Sloan Kettering Cancer Center in New York City have filed seven corrections with medical journals regarding previously undisclosed financial relationships, according to The New York Times. The researchers, including the hospital's chief executive Craig Thompson, reported links to 32 drug companies, it says. The move follows the resignation in September of José Baselga, the former chief medical officer at the centre, according to the newspaper.

# Worldwide academic journal market estimated at \$10bn a year

English-language journals generated revenues of \$10 billion (€8.7bn) in 2017, according to an analysis produced for international publishers.

The International Association for Scientific, Technical and Medical Publishers—which represents around 150 publishers in 21 countries—said publishing activity has surged in the past decade. The association, which published its report on 9 October, claims its members publish about 66 per cent of all journal articles.

The \$10bn English-language journal market in 2017 was part of a broader \$25.7bn market for scientific, technical and medical publishing, the group said. About 41 per cent of the global revenues for that broader market came from the United States. This was followed by 27 per cent from Europe and the Middle East, and 26 per cent from the Asia Pacific region.

Publishing activity has been growing steadily for more than 200 years, the report found, with an increase in journal numbers of around 3.5 per cent a year and in article numbers of 3 per cent a year. But in the past decade, journal numbers have grown by more than 5

## world in brief

## Competitive funding on the rise, study finds

Governments of 35 OECD countries have been allocating an

increasing proportion of their R&D funding through competitive calls, an OECD paper has reported. The study used a new policy database to compare public research policies across the 35 countries from 2005 to 2017. It found a rise in the use of project funding, performance contracts and performance evaluations for higher education institutions and public research institutes.

#### Minister pushes decolonisation of universities

The "colonial model of academic organisation" is still very much alive in South Africa, after 24 years of democracy and despite movements calling for decolonisation, the deputy minister of higher education and training has said. Buti Manamela told a conference at the University of South Africa on 15 October that decolonisation should start with "de-privatisation and rehabilitation" of university spaces, which includes changing all colonial names, iconography, and the curriculum.

#### Rwanda to host physics centre for Africa

Abdus Salam International Centre for Theoretical Physics, based in Trieste, Italy, is opening an African centre for physics in Rwanda. The facility, to be known as the ICTP-East African Institute for Fundamental Research, will be hosted by the University of Rwanda in by Antoaneta Roussi

arnews@researchresearch.com

per cent a year and article numbers by 4 per cent a year. Just over 33,000 peer-reviewed, English-language academic journals existed in mid-2018, collectively publishing more than 3 million articles a year.

Researchers' access to scholarly information "is at an historic high", the report said. But expectations of access are also growing, and might "lead to frustration when not everything findable is immediately accessible".

The report's authors said that the most commonly cited obstacles to access were cost barriers, with the average cost of publishing an article in a subscription journal estimated at about \$4,000 in 2010. But they suggested that the 4 per cent rise in article volumes versus a 2 per cent increase in journal revenues means "further downward pressure on per article costs is inevitable".

Savings "may not be that easy to find" for large publishers, they warned. One estimate found that switching from a subscription-based model to an open-access model would save publishers just 10 to 12 per cent of their costs.

Kigali. Its aim is to bring quality scientific research services closer to African scientists. The centre will offer research programmes in fields including condensed matter physics, cosmology, and astroparticle physics.

#### Global alumni rate UK post-study work rights poorly

The UK has scored lowest for satisfaction on post-study work rights and value for money among international students who responded to the International Student Employment Outcomes and Satisfaction survey. The survey of more than 10,000 international students, carried out by the careers group International Alumni Job Network, revealed that students rated the UK's poststudy work opportunities poorly compared with similar markets such as Canada and the United States. Only 26 per cent of international alumni said they were satisfied with post-study work opportunities in the UK, while Canada topped the list with 56 per cent.

#### ERC extends welcome to Japanese researchers

The EU's flagship science funder the European Research Council is giving researchers with funding from the Japan Science and Technology Agency the chance to temporarily join ERC-funded European teams. This is the second such agreement between the ERC and a Japanese organisation, following a similar deal with the Japan Society for the Promotion of Science in 2015. It is the 11th such agreement signed by the ERC worldwide, with others including deals with China and the United States.

#### 20 comment

## inside out

**AMONG DINOSAURS** The European Commission's research arm is taking a brave approach to evidence-based policy, by saying it belongs in a museum. In collaboration with the Museum of Natural History in Berlin, the Joint Research Centre has launched Artefacts, an exhibition of photographs of environmental issues that concern the public and policymakers. Visitors can chat to JRC scientists and stare at pictures including "waste reservoirs filled with pig excrement", we are told.

**EPONYMOUS ENDEAVOURS** First we had Plan S, a publishing initiative from the Commission's open-access envoy Robert-Jan Smits. The S definitely doesn't stand for Smits, he insists. Now we have the news that the Commission is investing in two new Vehicle Emissions Laboratories, or Velas. The environment commissioner, one Karmenu Vella, announced the initiative. "I promise I didn't pick the name," he said.

**FOOD FOR THOUGHT** On 16 October, research commissioner Carlos Moedas tweeted the aims of the EU's Food2030 programme, including making a world where "we can 3D print our favourite food" and a world where "nobody ever goes hungry". But, the very next day, someone was turned away from the EU table: as the bloc's leaders sat down to one of their regular dinners, UK prime minister Theresa May was ushered out the door unfed. **GAMMA-RAY SKY** For centuries men and women have been gazing heavenwards to see pictures in the stars. Now, researchers at NASA's Fermi Mission team have come up with their own constellations, based on the gamma-ray emitters such as black holes and merging stars that their instrument watches. Time will tell if their pictures, drawn from Doctor Who, Godzilla, Star Trek and other relatively modern sources, have the staying power of the classics.

**WORDS OF THE WISE** Mikuláš Bek, rector of Masaryk University in the Czech Republic, outlined an unusual take on his profession at a European University Association meeting in Barcelona last week. "A rector is something like a judge, a psychiatrist, and a priest," he told assembled colleagues. Lest this be taken as egotism, he immediately clarified the similarities with those other esteemed professions: "All you have is your words."

**LESSON SERVED** Tennis titan Serena Williams provoked fiery debate in September, when she accused the official at a match she lost, and officials as a whole, of being harsher to women than men. Now, an article published on the Wiley website Statistics Views crunches the numbers. Author Allison Goldstein says that 20 years of tennis data show no evidence that overall women are penalised more than men. But she did note that women are penalised more than men for showing anger. Grr...

