

Opening up to an ERA of Innovation: The 'Three Os'

"As the new Commissioner, I spent the last eight months listening, visiting the Member States, looking at evidence [and] developing my own views", said the European Commissioner for Research, Science and Innovation, Carlos Moedas, at a conference organised by his Directorate General to unveil the plan that he intends to implement for European research and innovation policy during his tenure.

The strategy for Moedas' mandate had been hitherto the subject of speculation within the research policy community; the Commission had given signals of its intention to give more prominence to innovation policy and to take up the results of the 'Science 2.0: Science in Transition' consultation that it launched last year. However, what form this would take was not known.

The conference, entitled 'Opening up to an ERA of Innovation', took place in Brussels on 22 and 23 June, and brought together key players in research, innovation and business to discuss the European Commission's (EC) new policy agenda. This special edition of the Science Europe (SE) Newsletter reports on the agenda as it emerged from the conference, as well as on the discussions amongst participants.

In his opening address, Commissioner Moedas sought to turn the page on European Research Area (ERA) policy in order to open "a new chapter". The Commissioner emphasised how ERA policy so far has mainly been about the physical world and increasing researcher and resource mobility, as well as cross-border cooperation. Moedas stated that the modern world is increasingly digital as opposed to physical (increasing the importance of 'virtual' mobility over physical mobility), and also commented that mobility and co-operation goals have largely been achieved in today's Europe.

The Commissioner announced that ERA policy will be considered as 'complete' once the new RESAVER pension fund (see <u>http://</u><u>ec.europa.eu/euraxess/index.cfm/rights/resaver</u>) is in place in all European Union (EU) Member States, and that he will convene a meeting of all countries with a national ERA Roadmap in June 2016. The meeting will sanction the completion of ERA policy



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European Commissioner Carlos Moedas opening the conference © Michael Chia/European Commission

and the opening up of the new chapter of European policy. The conference was intended to give a glimpse into what that new chapter could contain.

The Commissioner structured his strategy around three main challenges: getting research results to market; fostering research excellence through the new technologies that are changing the way science is performed; and ensuring that Europe does not "punch below its weight" in science diplomacy. Given these three challenges, Moedas announced that the three priorities for his tenure would be 'Open Innovation', 'Open Science' and 'Open to the World'.

'Open Innovation' was said to comprise four initiatives:

• Firstly, creating a methodology for legislation to become innovation-friendly. Moedas explained that while legislation

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takes years to be passed, technology evolves every month. He urged the audience to support the creation of legislation that would remain relevant regardless of technological change, and which would satisfy two 'principles' at the same time: the 'innovation principle' and the 'precautionary principle' (making sure that the potential risks of a new technology do not prevent the reaping of its benefits).

- Secondly, creating a European 'fund-of-funds' to increase the availability of venture capital in Europe.
- Thirdly, introducing a 'seal of excellence' to encourage the use of structural funds to fund 'excellent' Horizon 2020 proposals that cannot be funded by the Framework Programme.
- Finally, Moedas launched the idea of a European Innovation Council (see article on p. 5), modelled after the success of the European Research Council, that should be discussed as part of the mid-term review of Horizon 2020.

'Open Science' was presented as comprising two initiatives:

- Firstly, moving beyond Open Access to publications, to open data. To do so, Moedas announced that the Commission will launch a call for a European Science Cloud project (see article on p. 7), which will look into how to create a cloud for scientists to store their data.
- Secondly, he announced a major European initiative on research integrity – without, however, specifying what the initiative would entail. Nevertheless, the fact that research integrity, not previously high on the agenda at EC policy level, is now one of the priorities of the new Commissioner came as welcome news to Science Europe, which at the conference distributed its brochure 'Seven Reasons to Care about Integrity in Research' (see article on p. 8).

For the third priority, 'Open to the World', the Commissioner mentioned strengthening EU–China co-operation, as well as signing a co-operation statement with the Latin American and Caribbean regions, on the lines of the Galway Statement (https://ec.europa.eu/research/iscp/pdf/galway statement atlantic ocean cooperation.pdf) signed with the North American region. Moreover, the Commissioner emphasised the importance of global co-operation on research in food, water, energy and health. In this context, he underlined the importance of the joint programming with the Mediterranean region on water and food achieved by the Partnership in Research and Innovation in the Mediterranean Area.

Finally, Moedas stated that science can help in Middle East peace processes, by bringing together researchers from countries in conflict, and that the EU should therefore invest in the SESAME particle accelerator to be built in Jordan. Despite the international component being one of three parts of Moedas's vision, it was striking that the conference did not have a single session dedicated to this topic – perhaps a hint that concrete plans for this priority are yet to be defined by the EC.

Overall, the new Commission agenda has caught observers offguard in some respects. While the prominence of the 'Science 2.0' follow-up was expected, the apparent 'demotion' of ERA policy to essentially a completed detail came as something of a surprise. The practical meaning of this will only become clear next year when the meeting on national ERA Roadmaps is organised.

Moreover, some topics that certainly lie at the heart of European research and innovation policy do not appear to be considered priorities by this Commissioner, on the basis of this speech: notably the question of the knowledge divide and internal 'brain drain' within Europe (see article on p. 3). The lack of prominence for these topics could be seen as coherent with a strategy that proclaims the obsolescence of the material world.

Finally, a surprising element of the conference was the lack of detail in terms of the content or rationale for some of the major initiatives announced, such as the European Innovation Council, or the development of a methodology for the 'innovation-proofing' of legislation.

Videos and images from the conference can be viewed at <u>https://</u> ec.europa.eu/research/conferences/2015/era-of-innovation/index. ofm?pg=streaming. ■

The 'Three Os' – Overview of the Initiatives Announced as Part of the New European Commission Strategy

Open Innovation (p. 5)

- European Innovation Council
- Innovation-proof law-making process
- Venture Capital initiative: European fund-of-funds
- 'Seal of excellence' for unfunded Horizon 2020 projects, to facilitate their access to European structural funds (this is already in the 2016-2017 Horizon 2020 Work Programme)

Open Science (p. 7)

- European Science Cloud project
- European initiative on research integrity
- Continued commitment to Open Access to scientific publications

Open to the World

- New co-operation agreements with Latin America and the Caribbean
- Investment in a new particle accelerator in Jordan (SESAME)
- Commissioner Moedas to co-chair the EU–China innovation co-operation dialogue



ERA, the Knowledge Divide and Diversity

The shift from 'physical world' to 'digital world' priorities in the Commission's strategy – despite offering an opportunity to address the EU knowledge divide in new ways – swept aside two key, related issues for the sustainability of the European Research Area (ERA): the need for research and policies that are adapted to local contexts, and the difficulty of balancing (in a Union of widely-differing research capacities) the free movement of people and resources on one hand, and the creation of strong local and national research systems on the other.

These issues have taken a back seat in EU strategies, and ERA policy has largely underplayed the positive role of policy and research diversity in Europe, preferring to focus on issues of 'fragmentation' and misalignment.

In response to a survey launched by the Commission to prepare for the June conference, Science Europe (SE) called on the Commission to develop a positive narrative towards diversity and place-specificity, stating that "these considerations are not a niche concern: they are key to the long-term sustainability of ERA." SE also noted the stark contrast with European regional policy (which is essentially about innovation), where place-specificity and context awareness are in the driving seat.

Even if no programme slots were devoted to these issues at the conference, the panel session 'On the Road to ERA Implementation' addressed them, following comments from SE Director and panellist Amanda Crowfoot, as well as from an audience member.

In her opening remarks on the biggest challenges for ERA implementation, Amanda Crowfoot singled out "getting the balance

right" between "diversity and harmonisation", and "addressing the knowledge gap". She also emphasised how the goal of a strong ERA can be achieved only if there are strong national systems.

In a follow-up question, an audience member asked why all research funds are not assigned directly by the European Research Council (ERC), given its great success. Agrita Kiopa, Latvian Minister for Education and Science, stated that the ERC is based on the 'excellence' principle alone, meaning it safeguards a small "club" of "elite scientists", making no provision for capacity-building. Amanda Crowfoot highlighted that a single funding body would enlarge, rather than reduce, the knowledge divide, pointing out that the bulk of ERC funding goes to a relatively small number of countries and institutions.

lain Cameron, RCUK and Chair of the SE Working Group on Research Careers, explained how funding decisions are also based on the sense of the national value found in different issues. Such value changes in connection with a country's position and its priorities. Centralised European funding cannot effectively differentiate based on such needs and preferences.

Working in Partnership to Achieve the ERA

With the adoption of the ERA Roadmap in May 2015, the EU Member States have taken a leading role in its implementation and affirmed the role of national research and innovation systems. Additionally, the signing of the new Joint Statement on ERA reinforces the partnership approach as central to its realisation. The panel session 'On the Road to ERA Implementation' addressed the issue of who should do what in building ERA and the opportunities and challenges of working together to develop its next phase.

SE's Director Amanda Crowfoot, participating as a panellist, challenged the concept of ERA being 'completed', which had been repeatedly mentioned in the course of the two days as a key objective. She stressed that ERA is an ongoing process of improving the European science system, and as such it cannot have a completion date; rather, it has a set of collectively-agreed measures and targets, which evolve over time as the system develops.

Addressing the importance of collaborative effort, she stressed that the strength of ERA is not having a 'one size fits all' approach, but rather having the capacity to capitalise on strong national systems and to understand the added value of how they contribute to the process. She highlighted the recently-published European Charter for Access to Research Infrastructures (http://ec.europa.eu/research/ infrastructures/pdf/2015_charterforaccessto-ris.pdf) as a concrete 'success story' in terms of collective commitment. In developing this, numerous stakeholders worked together to deliver principles and guidelines for access to research infrastructures. Several panellists stressed that this is why the role of the ERA stakeholders is crucial: they bring to the table resources, experience and understanding of different environments, which are contributing to the design of ERA policies: they are, as lain Cameron, RCUK and Chair of the SE Working Group on Research Careers explained, "different boxes with different capabilities".

The President of the European University Association (EUA), Professor Helena Nazaré, reinforced the commitment of the European universities. In a changing world of Open Science, their missions are adapting to support better international collaboration, better engagement with industry and better education for people and citizens, not just students.

In response to a question from the floor, panellists also addressed a provocative issue of potential ERA legislation. Amanda Crowfoot responded that SE does not support central ERA legislation, such as a Framework Directive. Legislation is essential in certain specific areas – such as pensions, copyright and data protection – in order to get the right conditions for research. Aside from this, development of ERA requires nurturing and supporting national systems. Deep collaboration and mutual understanding can be time consuming, but are worthwhile because they ensure a 'soft buy-in' which will deliver long-lasting and stable results.



New ERA Joint Statement Renews Commitment to ERA Partnership

As reported in the June edition of this newsletter, Science Europe (SE) signed a new Joint Statement on ERA (<u>http://www.scienceeurope.org/urls/newstate</u>) together with four other Stakeholder Organisations and the European Commission (EC), agreeing to continue the ERA partnership that was established in 2012 with the signing of the first Joint Statement (see https://ec.europa.eu/research/era/pdf/era-communication/joint-statement-17072012_en.pdf).

Then, as now, SE's decision to sign was not taken lightly. The Member Organisations (MOs) discussed the merits of the partnership and of the Joint Statement in the General Assembly, and provided a mandate to the SE Governing Board and Director to safeguard some important points for SE.

An essential point was that the partnership and the Statement should be of real use and value. Therefore the Governing Board and the Director were very actively involved in ensuring that the Joint Statement stressed the importance of fundamental principles for the partnership, such as the transparent circulation of information about ERA-related studies launched by the EC, which is now explicitly mentioned. Another fundamental issue for SE MOs was to maintain the independence and ability to follow SE's own strategic plan and commitments as laid out in the Roadmap. Finally, it was important to ensure that the partnership has direct communication channels with the rest of the decision-making parties of ERA.

With these principles safeguarded in the text of the Joint Statement the chances are good that the ERA Partnership can focus on real discussions about the substance of ERA-related issues, as this is where best use is made of the collective expertise of the partners. One such discussion must be the future of the monitoring and provision of evidence on ERA actions. It is hard to imagine a better pool of potential expertise, readily available to share decades of experience with some of the ERA-related topics, than the partners who signed the ERA Joint Statement; indeed, not tapping into that pool would be a missed opportunity.



Amanda Crowfoot and Carlos Moedas O Michael Chia/European Commission

Science Europe Speech on Signing of New ERA Partnership

After the formal signing of the new Joint Statement, each organisation's representative was invited to make a two-minute speech. On behalf of Science Europe, Amanda Crowfoot said the following:

"Science Europe is pleased to sign this Joint Statement and to recommit to the ERA partnership. Contributing to the development of the European research system and working in partnership with others are central components of Science Europe's mission and vision.

When the first Joint Statement was signed in 2012, Science Europe was a very new organisation: just a few months old. Since then we have made considerable progress towards strengthening ERA. To mention a few areas, we have launched our own Roadmap; we have provided evidence and guidance to inform and support cross-border collaboration; we have developed principles on Open Access to Research Publications and Open Access Publisher Services; we have helped develop the Charter for Access to Research Infrastructures as well as fostering networks of infrastructure actors; and we have promoted the importance of research integrity. We have shared best practices and gathered information on research careers, on research data, and on gender. We have made sure that the voice of active researchers feeds into the ERA debate through our Scientific Committees, and we

have campaigned for the appropriate regulatory frameworks and conditions for research, such as in the areas of data protection and text and data mining.

We believe that ERA progress can only be made with the full engagement of governments, national research organisations, universities, individual researchers, innovators and the EU. This partnership is hugely important in facilitating a dialogue between these, in terms of jointly devising technical solutions to overcome obstacles to ERA, and in terms of contributing to policy making.

Strong European research capability requires strong national research capability, and a recognition that diversity is part of Europe's strength. Harnessing the expertise of national actors, such as the research funding and performing organisations that make up Science Europe, is an essential element of this.

We would like to thank all of our ERA partners for the collaboration so far, and we look forward an even more effective co-operation in the future, in the context of an extended partnership."





Plenary session at the ERA conference

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A Stronger Role for Innovation

One of the main objectives of the European Commission's (EC) ERA conference was to pave the way for a stronger role of innovation within research policy, ensuring that more research results turn into market applications.

This hardly comes as news, since the European Union's main strategy (Europe 2020) contains a 'flagship initiative' called 'Innovation Union'. The primary rationale for this initiative is explained on the EC's website as follows: "We need to do much better at turning our research into new and better services and products, if we are to remain competitive in the global marketplace and improve the quality of life in Europe." (http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=why).

The completion of the European Research Area, as well as the enhancement of access to funding for innovative companies, are part of the Innovation Union strategy. Compared to the Innovation Union, the elements of novelty now brought in by the 'Three Os' are: the proposal to create a European Innovation Council; the involvement of the Commissioner for Research, Science and Innovation in Commission efforts to establish 'innovation-proof' law-making processes; and an initiative to 'recycle' unfunded Horizon 2020 proposals as structural funds projects (which could be seen as a way to deal with the very low success rates of Horizon 2020).

The conference also devoted a session to the skills that a 'modern researcher' should have in order to support innovation. However, no concrete proposals seem to be on the table in this respect as yet.

Some of these ideas floated as part of the first 'O' (Open Innovation) were: the European Innovation Council, 'entrepreneurial thinking' and 'citizen innovation'. Further detail of these are as follows:

European Innovation Council

Commissioner Moedas' announcement of the European Innovation Council (EIC) was ambitious, if vague at this stage.

The ambition for this "world class scheme" is clear. Moedas associated it with the European Research Council, the most highprofile scheme in his portfolio. He also announced a complete review of existing innovation schemes, indicating that he intends the EIC to be the flagship of an overall rethink of the EC's strategy.

The announcement left a great margin of uncertainty. The lack of commitment, indicated by the absence of budget intention and implementation deadlines, leads observers to wonder if the EIC is a policy commitment or a 'trial balloon'. Jerzy Buzek MEP, Chair of the European Parliament's committee in charge of research matters (ITRE), starkly criticised the lack of an obvious rationale for an EIC, given that many European innovation funding schemes exist, notably the current flagship initiative, and the European Institute of Innovation and Technology (EIT). It is also unclear which beneficiaries the EC has in mind: start-ups close to research or large industrial champions.

Judging by Buzek's reaction, the Commission may have a hard time convincing law-makers that a centralised European innovation bureaucracy like an EIC can offer better value than a networking scheme leveraging existing institutions, such as the EIT.



Entrepreneurial Thinking

Should researchers be entrepreneurs? This question took centre stage in a panel discussing 'Modern Skills for the Modern Researcher', within the section of the programme explicitly dedicated to ERA. This focus on entrepreneurial skills was perhaps unsurprising from a panel that was predominantly composed of people engaged in innovation.

With this in mind, the panel proposed that 'modern researchers' should be 'T-shaped', with the vertical bar being deep expertise, and the horizontal bar being transversal skills. These should mostly be 'soft skills' that favour innovation. The panellists were harsh in their judgement of the current level of soft skills. They noted the lack of motivation to engage in team efforts rather than individual work, and highlighted a lack of capacity to understand the needs of, and communicate effectively with, those outside of researchers' immediate peer groups.

The impact of this rather bleak assessment, however, was diluted by a confusion about who these 'modern researchers' are. The panel rightly recalled that most university-educated people will not have a career in academic research, including young researchers in a doctoral or post-doctoral position. Universities should teach skills that support innovation-related jobs. Much of the criticism of the 'modern researcher' was actually aimed at university-educated people entering the job market, a reference to the importance of education in the debate (see article on p. 9).

When it comes to researchers in an academic career, the panel was less critical. Although similar criticism was levelled regarding their soft skills, they noted that researchers have a particular role, and that specialised disciplinary skills are at the heart of excellent research. While calling for the development amongst researchers of a culture of 'open sharing' and a heightened willingness to engage with societal stakeholders, the panel's opinion, on balance, seemed to favour giving academic researchers freedom in developing a relevant skill-set and conducting their own 'talent management'.

The more fundamental question of researchers' place in the innovation ecosystem was addressed in depth at the Science Europe Round Table on Innovation, organised in Vienna in March and the ERA High-level Workshop in April (see April newsletter), and in the work of the SE Scientific Committees (see SE website).

Citizen Innovation

The EC brought in the idea of 'citizen innovation' by inviting two prominent speakers, who described the phenomenon of innovation generated by individuals in their free time, driven by their own needs, for fun, or sometimes to help others.

Professor Eric Von Hippel, from the Massachusetts Institute of Technology (MIT), argued that the impact of this type of grassroots innovation is drastically underestimated by policy makers. As a result, its potential is under-exploited, despite consumer innovators outnumbering traditional innovators by a hundred to one, and almost half of all start-ups originating in user innovation.

Citizen innovation is primarily driven by self-reward rather than profit motivation. Development is collaborative and incremental. Innovation is diffused through free, peer-to-peer channels. The absence of patents, in most cases, allows ideas to diffuse more freely. Researchers, with their technical skills and creative minds, are natural citizen innovators and may even take a professional interest in supporting this. Examples of citizen innovation abound in the health sector, for example, where those who suffer from chronic diseases or disability constantly come up with small innovations that help them live better.

There are also challenges in citizen innovation. Von Hippel stressed one in particular: how citizen innovation is diffused to a large user base. Profit-driven innovation will always seek new users, spending significant capital on it, but citizen innovators may be content with keeping the innovation for their own use and that of their immediate circle, especially if making it available to others will cost them. He called for policy makers to support the distribution of citizen innovation.



Professor Eric Von Hippel (MIT)

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An example of such a policy was given by the second speaker, Professor Pedro Oliveira, from the Católica-Lisbon School of Business and Economics. His Patient Innovation platform (www.patient-innovation.com) is a forum for citizen innovators and interested patients to share their ideas. He also emphasised the value of 'makers' spaces', combining public workshops, support groups and places to socialise.

The inspiring presentations left the audience with a question: are universities in an Open Science world destined to become vibrant centres of citizen innovation?



Open Science: a Cultural Change

Open Science has been on the European Commission (EC) agenda for some time, and was put firmly in the public debate when the EC launched its consultation on 'Science 2.0: Science in Transition' in 2014. With the announcements on Open Science at the ERA Conference, this has now become a key part of the ERA agenda.

Open Science has profound implications on the way that research is conducted and calls some of its core principles into question. As stated by Science Europe in its response to the consultation (http://www.scienceeurope.org/urls/20), and as was also made clear at the Conference, this challenge can only be embraced by understanding Open Science as a deep cultural change.

The discussions at the Conference contributed to this by proposing a broader idea of who the users of science are, including both the research community and society as a whole. Participants debated the necessity of promoting awareness of research integrity as a key priority for the research community, reinforcing Open Science literacy, and pushing researchers to better engage with society; they also discussed the need to match existing research infrastructures, or build new ones, to support research-driven new practices, collection and sharing of data.

This requires a multi-stakeholder approach within an increasingly open research community. It was apparent that the scientific system should first be supported through incentives and removal of barriers, enabling continuation of open sharing and incremental exploitation of ideas and data.

Furthermore, with Open Science broadening the definition of users, the public would take a new role in the centre of science policy. Citizens and non-research actors at all levels would codevelop the ecosystem of Open Science. ■



Panel discussion "Creating Incentives and Removing Barriers" on Open Science at the ERA conference

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Open Science Cloud Initiative

In the context of the Digital Single Market Strategy (DSMS) released last May, the European Commission (EC) will soon be launching a European Open Science Cloud (EOSC) initiative. It might have expected that such an initiative would be discussed in more detail during the ERA Conference's thematic session on 'Developing Research Infrastructures for Open Science', but this was unfortunately not the case. Although the panellists in this session were asked whether they thought Europe needed an Open Science cloud, the EC gave very little information about their concrete intentions.

According to a joint blog post by Commissioners Oettinger and Moedas, the EOSC "will combine existing and future data infrastructures, offering secure and seamless access to European researchers for storing, managing and processing data from different sources." Previous interactions with the EC have suggested that the EOSC is not expected to be a centralised European database, but rather an interfacing platform for existing clouds. The EOSC would also go beyond interfacing at a technical level, as it includes policy elements to foster joint data governance at EU level. In general, panellists were in favour of initiating a multi-stakeholder debate on the future of data infrastructures in Europe; a few of them were, however, wary with regard to developing a potential EOSC. The panellists flagged the following as key actions: mapping existing infrastructures and integrating them; adopting a servicesoriented approach in order to meet users' needs; accommodating disciplines' specificities and various maturity levels; and devising a governance model to avoid the risk of overregulation. The coming period (autumn 2015 to spring 2016) will offer opportunities for advancing Open Science actions under DSMS, including the so-called 'research cloud'.



Citizen Science: a Question of Co-creation of Knowledge

'Open science and Society', one of the focal points in the Commission's Open Science agenda, was discussed by a panel of representatives from the Leibniz Association, the Rathenau Institute, the Copenhagen Business School, the Fraunhofer Institute and Elsevier, who presented themselves as key intermediaries between science and society.

Much of the discussion focussed on the lack of a 'warm welcome' to citizen science by the research community, rather than around the opportunities of increasing societal expectations towards science. Highlighting that scientists do not seem to be willing to engage with society as much as society is asking to engage with science, they stressed that something must be improved, particularly where changing researchers' behaviour and mentality was concerned.

Most speakers had doubts about the quality and efficiency of science produced through a citizen-driven approach. They nevertheless called to develop the institutional capacity to support flexible funding strategies for bottom-up, co-designed and cuttingedge research projects.

Researchers should leverage the existing trust the public has in them and build relations with organisations like NGOs in order to match society's and researchers' needs. Co-creation of knowledge is at the core of citizen science. For it to happen there must be close co-operation between scientists and citizens, based on responsibility and excellence.

Another crucial risk was linked to open data/open access practises: the reliability of data and the increase in scientific knowledge is not guaranteed by Open Science per se.

While citizen science is a process that cannot be interrupted, the main concern is about its governance: how can new inputs and mechanisms of knowledge production be translated into real benefits for society and a stronger capacity to answer societal challenges effectively?

Furthermore, the question remains: are researchers ready to sit at the same table with citizens to join experimental Open Science initiatives like open platforms and labs including 'non-research actors'?

European Initiative on Research Integrity Announced but not Explained

During his keynote address at the ERA Conference, Commissioner Moedas announced that the European Commission (EC) will "launch a new European Research Integrity Initiative, with clear standards and mechanisms to tackle scientific misconduct, by the end of this year."

This is a positive signal for change, given that so far, the concept of research integrity was somewhat absent from the science policy debate in the ERA context, as has been highlighted by Science Europe (SE) on several occasions. However, no further information was publicly shared on the objectives, scope and format of such an initiative – neither during the conference plenary nor during the thematic session on 'Meeting our Responsibilities: Research Integrity and Gender Equality' – and so it is not yet clear what such an initiative might encompass.

In the thematic session, Dr Daniele Fanelli (Stanford University) presented the results of a recent study which contradict the widespread belief that pressures to publish are a major driver

of misconduct. Dr Fanelli said that "high-impact and productive researchers, and those working in countries in which pressures to publish are believed to be higher, are less likely to produce retracted papers, and more likely to correct them."

In this context, SE will continue raising awareness with regards to research integrity. For instance, the initial release of its brochure entitled 'Seven Reasons to Care about Integrity in Research' coincided with the ERA conference. The brochure (available at <u>www.scienceeurope.org/urls/integrity</u>) sets out seven key reasons why research organisations are concerned about promoting research integrity amongst their research community.

Gender Equality Remains High on Agenda

The important topic of gender equality was somewhat arbitrarily addressed in the same session as the research integrity topic at the ERA conference. The key role that research organisations play, and the expertise gathered in the Science Europe (SE) membership, were demonstrated by the fact that both speakers on this topic had direct links to the Science Europe Working Group (WG) on Gender and Diversity Issues.

The Chair of the WG, Dr Sabine Haubenwallner of the Austrian Science Fund (FWF), presented an overview of its current work, and connected preliminary findings of WG exchanges to the ERA actions on gender equality. Policy actions at the level of the European Commission, mainly the fact that gender equality figures prominently among the ERA priorities as well as genderrelated action within the Horizon 2020 Framework Programme, are generally welcome as catalysts for positive change. Nevertheless,

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the measures with most demonstrated impact are still those being implemented at national level in universities, research performing organisations and through policies of research funding organisations. Therefore, it is significant that the Science Europe WG has found that while most Member Organisations (MOs) have general gender policies in place, few have specific career development programmes for women, and even fewer have incorporated the gender dimension of research content into their policies. Both the WG activities and the ERA priorities address these issues. To find out more about the WG, see <u>http://www.</u> scienceeurope.org/policy/working-groups/gender-diversity.

In a second presentation, Dr Anne Pepin of the Centre National pour la Recherche Scientifique (CNRS) in France, who is also co-ordinator of the GENDER-NET ERA-NET project, outlined its goals and methodology. GENDER-NET aims to analyse institutional change in research organisations, and is therefore of direct relevance to the activities of the WG. Similarly, the WG offers GENDER-NET an opportunity to reach out to research organisations active in the gender equality domain. See more about the project at <u>http://www.gender-net.eu/</u>. All in all, ERA policy as a means of keeping the issue on the political agenda, coupled with real action on the side of the relevant organisations, and in-depth analysis such as the one provided by the GENDER-NET project, should yield tangible results. Rather disappointingly the June conference did not allow much time for substantial discussions of this issue. It was, however, recognised in the conclusions that there was a need for action and that the SE MOs play a central role in generating genuine change.



Participants at the conference

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Let's not Forget Open Education

In his opening speech at the ERA conference, Carlos Moedas presented his 'Three Os': Open Innovation, Open Science, Open to the World. Whilst not a headline theme of the conference, discussions in various different sessions showed how research, education and innovation go hand in hand.

The importance of education was repeatedly mentioned as key for innovation. Although not part of his scripted contribution, in response to questions after his keynote address, entitled 'A World-class R&I Ecosystem for Europe', EC Vice-President Jyrki Katainen said: "If I had all the power in Europe, and I could only do one thing for a better Europe, I would pay attention to teachers' education... I personally believe that this is the one single factor which has the greatest impact..."

Given her ministerial portfolio, it is perhaps not surprising that within the Presidential address on 'Boosting Excellence in Europe', Ms. Mārīte Seile, Latvian Minister of Education and Science, reminded the audience that all levels of education are important. Drawing on a statement by Mr. Esko Aho, former Prime Minister of Finland, who spoke earlier at the conference in the 'Towards an ERA of Innovation' session, that "Europe has more memories than dreams", she said that "if you can change the level of expectations you can change the world [and transform the ERA]." Subsequently, during the 'On the Road to ERA Implementation' panel discussion, Professor Maria Helena Nazaré, President of the European University Association, warned decision makers that while universities are the oldest European institutions, "they are not like ministers recall. They have changed; they now educate citizens."

If all the 'mentions' of education are put together, it is clear that the 'Three Os' hinge on education. The conference, however, did not hint at what a fourth 'O', for Open Education, might look like. Skills, innovative teaching and learning, the changing role of universities, lifelong training or open educational resources, though still part of ERA, are not an explicit part of the Commissioner's new strategy. In his opening address, Commissioner Moedas announced partnerships with several different Commissioners, namely those for Regional Policy, Digital Economy and Society, and Financial Stability, Financial Services and Capital Markets Union. Interestingly, however, no initiative was announced in partnership with the Commissioner for Education.

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