Eurodoc Conference 2020

22-23 July 2020, Warsaw

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Open up your science!

Summary

Eurodoc Conference 2020

Ministry of Science and Higher Education
Republic of Poland

eurodoc
The European Council of Doctoral Candidates and Junior Researchers

Krajowa Reprezentacja Doktorantów

Eurodoc Conference 2020 is financed by the Ministry of Science and Higher Education Republic of Poland

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More info about conference including presentations:

http://www.eurodoc.net/online-conference-agm-2020

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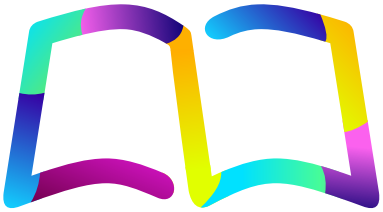

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Summary

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The Eurodoc 2020 conference "Open up your science!" took place on July 22-23, 2020. It was the first online Eurodoc Conference in history, due to the epidemic situation. The event was organised by Krajowa Reprezentacja Doktorantów (KRD) and Eurodoc - the European Council of Doctoral Candidates and Junior Researchers with the financial support of the Ministry of Science and Higher Education Republic of Poland.

Each year Eurodoc organizes conference which the main aim is to provide a platform to bring together Eurodoc members i.e. National Association (NAs), early-career researchers (ECRs), higher education policy makers, universities, funding institutions, businesses, and other stakeholders to address issues relevant to ECRs, higher education, and research. The conference is a great opportunity to meet and network with other ECRs from across Europe. The conference was addressed to the entire academic community, in particular to early career researchers (doctoral candidates and postgraduate researchers) as well as anyone interested in issues related to open science.

This year the main theme of the conference was "Open up your science!". Currently in Europe there is a trend towards dissemination of research results, analysis and open access to data. It is hard not to agree that open science is the future. It seems to be worthy to think about what kind of challenges are related to the assessment of this scientific activity in the context of Open Access policies? For these reasons, at the Eurodoc international conference we wanted to engage in a discussion with international and national experts on these topics. The conference was divided into six sessions:

1. Open Science for Early-Career Researchers
2. Opening Up Access to Research Publications
3. Managing Research Data in a FAIR Framework
4. Collaborating across Research Disciplines
5. Popularising Research to the Broad Public
6. Evaluation of scientific activity in the context of individual assessment of scientific achievements of scientists.

We had invited following specialist to talk with them about Open Science: Rene Von Schomberg - Directorate General for Research and Innovation, European Commission, Gareth O'Neill - Ambassador for Plan S, cOAlition S, Oleksandr Berezko - Eurodoc Open Science Ambassadors' Coordinator, Lidia Borrell-Damian - Secretary General of Science Europe, Toma Susi - Vice-Chair Young Academy of Europe, Claudia Dobrinski & Katharina Müller - The Interdisciplinary Network for Doctoral Candidates and Early Stage Researchers in Germany (THESIS), Karel Luyben- Chair of Executive Board of European Open Science Cloud, Barend Mons - President of CODATA; Leader of GOFAIR, Laura Bardura-Morgan - Open Science Officer, National Science Center, Daniel Jensen - DocEnhance, Michael Markie - Publishing Director at F1000Research, Salomeya Vanagienė - Chairwoman of Lithuanian Society of Young Researchers, Joachim Wyssling - European University Foundation, Matthias Girod - Secretary General Euroscience, Yevheniia

Polishchuk - Young Research Council at the Ministry of Education and Science in Ukraine, Conor O'Carroll - Independent Consultant on Research and Higher Education policy and funding, SciPol, Alexander Hasgall - Head of the EUA Council for Doctoral Education (EUA-CDE), Karen Stroobants - Board Member of the Marie Curie Alumni Association and Bartłomiej Banaszak - Head of Science Department, Ministry of Science and Higher Education Republic of Poland.

The conference was addressed to the entire academic community, in particular to early career researchers (doctoral candidates and postgraduate researchers) as well as anyone interested in issues related to open science. For the conference there was registered almost 500 participants from 19 countries. The conference was also broadcast live on KRD Facebook, the recordings from the conference are available on the Eurodoc website, where the amount of visualizations still increases. It is a great success, that we had opportunity to reach such a broad public around the world. It is also worth to underline that in previous Eurodoc annual conferences we had never before had so many participants. That was caused by the online form of the conference, which made it easy to reach for many people.

To sum up, despite of the fact of the necessity to change the form of the conference from stationary to on-line, the conference succeed. The speakers undertaken very current topics concerning open science for early career researchers, FAIR data, collaborating across disciplines, popularising research and evaluation of scientific activity, which is nowadays very important topic, especially in Poland. The public was really involved in the discussion with experts, which showed the importance of the topics undertaken during the conference. We also received as a organisers many acknowledgments from conference participants for organising a great event, which was about current, important issues.

Eurodoc Conference 2020

Summary of

Session #1: Open Science for Early-Career Researchers

by Agnieszka Żyra

Speakers:

Rene Von Schomberg, Directorate General for Research and Innovation, European Commission

Short bio: *Dr. Dr.phil. RENE VON SCHOMBERG is a philosopher and a STS specialist. Author/Editor of 15 books. He is currently Guest Professor at the Technical University of Darmstadt. He holds Ph.D's from the University of Twente (NL) (Science and Technology Studies) and J.W.Goethe University in Frankfurt (Philosophy). He has been a European Union Fellow at George Mason University, USA in 2007 and has been with the European Commission since 1998. He runs a personal blog with resources on Open Science and Responsible Innovation: https:/renevon-schomberg.wordpress.com/*

Gareth O'Neill, Ambassador for Plan S, cOAlition S

Short bio: *Gareth O'Neill is a principal consultant on Open Science at Technopolis Group where he is working on the European Open Science Cloud (EOSC). He is an ambassador for Open Access and Plan S at cOAlition S and a theoretical linguist at Leiden University. Gareth is an expert on Open Science and Higher Education for the Dutch government and European Commission and is a former president of the European Council of Doctoral Candidates and Junior Researchers (Eurodoc).*

Oleksandr Berezko, Eurodoc Open Science Ambassadors' Coordinator

Short bio*: Oleksandr Berezko is a seasoned web professional and researcher, Open Science advocate and Eurodoc activist. He is an associate professor and head of web services support and development unit at Lviv Polytechnic National University, Ukraine. He holds a Ph.D. in computer science and his research focus includes information and knowledge management, social networking, virtual communities building, user- generated content processing and application of Open Science.*

Chair: **Agnieszka Żyra** – Eurodoc Workshop Officer

Short bio: *Coordinator of Eurodoc Conference 2020, EURODOC Workshop Officer, Eurodoc Open Science Ambassadors, former Polish National Association of Doctoral Candidates vice-president (2018) and Plenipotentiary for international cooperation (2019). Doctoral candidate in the field of mechanical engineering and lecturer at the Faculty of Mechanical Engineering at the Cracow University of Technology in Poland. Scientifically deals with unconventional machining methods, especially with electrodischarge machining processes.*

Eurodoc Conference 2020

Session #1: Open Science for Early-Career Researchers

When entering the research world, Early Career Researchers (ECRs) may encounter difficulties building a good reputation for their research, its quality and the research results. Open access is the movement that could assist ECRs to:

a) widely disseminate their scholarly outputs,

b) demonstrate the research and societal impact of their work and,

c) organise online research portfolios that can be accessed by all researchers, as well as prospective employers.

(Nancy Pontika Open Access: what's in it for me as an early career researcher?)

The first speaker in the session was Rene Von Schomberg. During his presentation entitled: Practising Open Science: Dilemma's for early career researchers, he undertook several, very important aspects for people starting their "adventure" with science.

The open science can be defined as: "sharing knowledge and data as early as possible in the research process in open collaboration with all relevant knowledge actors" (Von Schomberg, 2019: in: International Handbook on Responsible Innovation, a Global Resource). Sounds simple, however we don't do this in the science. Rene tried to give the realistic picture how open science is being seen at the European level from 2014. It addresses all the aspects of research level from open review and research assessment, through knowledge dissemination and outreach, building open research agenda and finally scientific discovery and analysis. Open Science is making science more efficient, reliable and responsive to societal challenges. Practising open science causes few dilemmas especially for early career researchers. The problem is that scientists are aware of the relevance of their scientific results, they know that it would be good to science to share them with others, however they do not do it, because it is bad for their career.

The current system is rewarding individual competing scientists -gaining scientific prestige, occurs as publishing as much and as fast as possible. What is more excellence is defined largely on the basis of where scientists publish their work. It also incentivises researchers to produce specific outputs (mainly publications). It is driven by metrics system all based on quantitative metrics. Moving to open science idea we need to start rewarding collaboration and sharing to achieve societal impact. The essential idea of open science is to share knowledge, data as early and as openly as possible. What is more there is a necessity to include rewarding collaboration, knowledge/data sharing and impact. The key point is that it should incentivises researchers to share, collaborate, increase quality and impact; while considering diversity of outputs and research cultures. Unfortunately it is happening slowly in most countries. We should want to move to the system where open science is a standard.

People wonder what are the benefits from practising open science. First of all it allows to establish a network, communication and collaboration with other scientists as well as society. The second benefit is that open science is focused on motivation on societal impact: contribute to societal challenges and socially desirable outputs. Sharing and publishing information happens very quickly and is easily accessible. It is very easy to reach swifter and higher citation rate practicing open science than while practicing closed

science. It is much easier to move to other scientific centres and engage the in the network. It seems that open science can be a necessity in the near future – because of data-intensive science, where the learning of digital and data-skills is required. The great example of good practice of the open science cloud which was established recently is open data portal concerning the research results on Covid 19 virus. It was a response to the current epidemiological situation in the world.

The second speaker was Gareth O'Neill with presentation titled The Future of Open Science.

The beginning of opening science can be dated to Renesas time – where the alchemist started to share their knowledge in the letters. We understand open science more specific since 2016, when the following policies were introduced in European Commission:

Open Innovation - involve more stakeholders in innovation process

Open Science - facilitate more open research via digital tools

Open to the World- support more societal impact & collaboration both inside and outside of Europe.

To define open science more detailed it is possible to use Foster taxonomy, including many different aspects and divisions. Open science is a whole spectrum of different practices, now open science is focused on open access to the research publications, open/fair data linking to the review publications of data. We do open science to have open access to research publications, to increases discoverability, to increases (social) impact, to facilitate reproducibility, to share & save resources. With open science we want to share resources and we want to safe resources (digital tools, money, technology). The main aim of open science is to make science as open as possible and at he same time as closed as necessary.

We spend 10 billion euros/dollars per year strictly to publish academic reports, academic publications. These amount of money is unacceptable, the research libraries cannot afford to buy all of these closed subscriptions. Researchers need to pay for publications and then they also need to pay to have access to closed publications. It cause the increasing amount of frustration in scientific community. That problem which is significant lead us strictly to concept of open access which is 25 years old. The main differences which can be pointed between closed and open access are: in closed access the journals are subscribed, for library closed access, for all others the access is paid; in open access the access to read is free for everyone online, draft versions are available in repositories (that costs nothing) and final version which is in journal (there are few ways of opening up, some are totally for free, in others some small amount of money is required to make it open).

The next point of Gareth's speech was Plan S. It is an initiative of a collection of research founders generally in Europe that decided that they want to take more control of the scientific publication system.

Session #1: Open Science for Early-Career Researchers

They are trying to get back control what people are exactly paying for. The main aim of plan S is to make all the research on articles fully and immediately open access . Fully means all journals are available. The next practice is open peer review. Conventionally is “closed review” the authors submit their work to editors, than the review is blind and the versions of the article as well as reviews are not published. In the peer review concept author submit the article, all are available to see and read the article, the whole process of review is transparent, it is possible to put comments there, most often the names of authors as well as reviewers are known, the draft version is placed in the repository, and final version is placed in the journal.

The next important thing was Open data. Open data basically means to have data from the experiments and put it online, in the way the people can access it. Very often data are not described with metadata, are not standard formatted, machines are not able to read it. As you see open data do not need to be fair. The idea of fair data is to be findable, accessible, interoperable and reusable. Fair data are machine actionable, what is important data can but not need to be open.

The future is research publication platform, open peer review, open access to the article, open access to all the versions of article. It is important that anyone can see how does the peer review looks like, who are the reviewers, it is possible to see authors comments, see how many people downloaded it, how many have read it. Whole the procedure is transparent.

In Europe the future is open science cloud, all research results should be made fair.

The third speaker was Oleksandr Berezko with presentation titled: Eurodoc Open Science Ambassadors: the distributed network of action. In his speech he focused on ways how Eurodoc promotes an open science.

Oleksandr started his talk with short definition of ambassador. An ambassador is an official envoy, especially a high-ranking diplomat who represents a state and is usually accredited to another sovereign state or to an international organization as the resident representative of their own government or sovereign or appointed for a special and often temporary diplomatic assignment. The word is also often used more liberally for persons who are known, without national appointment, to represent certain professions, activities and fields of endeavour.

There are a lot of groups – ambassadors promoting open science. The question is if we need another ambassador cohort? Yes, we do. Self-adoption is needed. If we think of open science as an innovation it is clear we need to develop it – remembering how does the reaching critical mass looks like. Action is needed on each level. We offer and open educational resource.

The Eurodoc Open Science Ambassador Training is a course designed by Gareth O’Neill and Ivo Grigorov to train researchers in key practices in Open Science. At the moment the training consists of 10 modules with great speakers in each, encompassing all the issues from open science to open clouds. To become an open science ambassador in our program you need to be trained and then to pass the special exam. Majority of Eurodoc member counties have sent their volunteers to become the Eurodoc Open

Session #1: Open Science for Early-Career Researchers

science Ambassadors. There are now 24 volunteers located in 18 European countries. Being an Eurodoc Open Science ambassador means being a representative at national and international level. Eurodoc Open Science ambassadors were working on Optima project (Open Practices, Transparency and Integrity for Modern Academia). OPTIMA's main goal is bringing Open Science ideas and practices to Ukrainian academia in order to boost academic integrity and transparency, which will positively influence the quality of National academic services and content.

Another interesting project which is realised by Eurodoc is 2020 Eurodoc Survey on Publishing in Open Science. Eurodoc ambassadors network helped to promote the survey. It is an online survey dedicated to all the researchers, checking the level of awareness about publishing in Open science and the actual level of open publishing.

Eurodoc Conference 2020

Summary of

Session #2: Opening Up Access to Research Publications

by Aleksy Borówka

Speakers:

Lidia Borrell-Damian, Secretary General of Science Europe

Short bio: *Secretary General of Science Europe, the association representing major public organisations that fund or perform excellent, ground-breaking research in Europe. She holds overall responsibility for the strategy and functioning of the organisation. Prior to this she worked for the European University Association (EUA) between 2006 and 2014. During the last five years in EUA she served as its Director for Research and Innovation (R&I), holding responsible for the overall strategy and activities of EUA in the area, working with EUA individual universities as well as the National Rectors' Conferences. Her areas of experience cover a wide range of EU R&I priorities, including the EU Framework Programme; European Research Area; research infrastructures; research ethics and integrity; research assessment processes; university-business cooperation; regional innovation; gender issues in research; Digital Agenda and Open Science. She also worked on doctoral education through the EUA-Council for Doctoral Education (EUA-CDE), and coordinated scientific policy input to the European Strategic Energy Technology Plan (SET-Plan) through the European Platform of Universities in Energy (EUA-EPUE). Lidia Borrell-Damian holds a Doctorate in Chemistry (Chemical Engineering Specialty; Solar Energy) from the University of Barcelona. Prior to joining EUA, she was Director of Research at Universitat Pompeu Fabra in Barcelona from 2003-2005. Before then she was Visiting Scholar at the University of Western Ontario (1999-2001) and at the North Carolina State University (1997-1998).*

Toma Susi, Vice-Chair Young Academy of Europe

Short bio: *Born in Helsinki, Finland, Toma Susi received his award-winning doctorate in nanomaterials from Aalto University in 2011. After moving to Austria for a two-year Austrian Science Fund (FWF) fellowship in 2013, he stayed to lead a three-year stand-alone project. In 2017, Toma received an ERC Starting Grant that allowed him to establish a research group at the Faculty of Physics of the University of Vienna to explore a new way to manipulate materials at the atomic level, since 2019 an Assistant Professor on Tenure Track. He has worked on materials synthesis, spectroscopy, electron microscopy and modeling, authoring over 50 peer-reviewed articles and reviews mostly on heteroatom-doped carbon nanotubes and graphene.*

Claudia Dobrinski & Katharina Müller, The Interdisciplinary Network for Doctoral Candidates and Early Stage Researchers in Germany (THESIS)

Short bio*: Since March 2018, Claudia S. Dobrinski is a board member (two years president, now cooperation and symposion) of the German National Association THESIS, one of the founding associations of Eurodoc. Before that she has been editing the journal THESE for 2 years. Claudia S. Dobrinski is a PhD. candidate in the Department of History, especially Medieval Archaeology, at the University of Paderborn, where she enrolls at the Theological Faculty of Paderborn as well. She studied art history, archaeology, history, and Byzantine studies in Würzburg, Heidelberg and Münster (Germany) where she did her master´s degree. She also acquires additional qualifications in didactics and gender studies. She works in museum pedagogy and independently as a scientist. Her doctoral thesis deals with the Abdinghof Monastery, Paderborn. She worked for 15 years on excavations in Germany and e.g. Egypt.*

Eurodoc Conference 2020

Session #2: Opening Up Access to Research Publications

Chair: **Aleksy Borówka**, President of Polish National Association of Doctoral Candidates (KRD)

Short bio: *PhD student at the Faculty of Social Sciences of the University of Wrocław, President of the Polish National Association of Doctoral Candidates . Author of several scientific papers devoted to security scien- ces, political and administrative sciences and international relations. Speaker at several international and national conferences. Winner of the 1st and 2nd International Geopolitical Olympiad. A former employee of the Regional Center for International Debate in Wrocław. Member of the Council of the Doctoral School of the University of Wrocław.*

Opening up access to science is one of the most important issues of current systems of higher education and science. Particularly, the open science issue significantly impacts on development of early career researchers. The fundamental role of open science was underlined by the nowadays challenge of global community, the COVID-19 epidemics. Within days, the growing number of infected people has forced societies to temporal closing of universities, libraries, laboratories and other scientific infrastructure. Even in countries where the epidemic was developing, the access to sources has been strictly limited. Prohibition of national and international scientific motilities also has influenced the opportunities of accessing valuable sources. Thousands of research projects has been cancelled or suspended so far. In the result, the lower economy growth makes it difficult to create a sufficient fund covering all losses of research blackouts.

Despite the COVID-19 epidemics scientists are able to overcome many obstacles of conducting a research due to open access to science. Due to lockdowns of many systems of higher education and science, the awareness of the fundamental role of the open access was spread within societies. The open access was established in `90 of the XX century as a social movement of librarians. Seeking the resolution for higher and higher costs of access to scientific journals, they put an emphasize on using the Internet as a tool allowing to search and use of scientific papers among the world. The rapid development of open access idea was supported by the Budapest Open Access Initiative of 2002 and Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities of 2003. The official definition of open access (according to the Berlin Declaration, 2003) states that scientific literature should be publicly available, free of charge on the Internet so that those who are interested can read, download, copy, distribute, print, search, refer to and, in any other conceivable legal way, use full texts without encountering any financial, legal or technical barriers other than those associated with Internet access itself. The idea has been dynamically growing since the `90 of XX century. However, opening access to science is a complex challenge and the approach to the idea is diverse around the world.

The 2020 Eurodoc Conference was titled "Opening up access to science for young researchers" and its structure showed a broad approach to the issue. The first session referred to opening up the access for Early-Career researchers. In the second session the topic was opening up access to research publications. The third session concerned managing of research data as a part of the issue. The fourth session was focused on collaboration across research disciplines. Within the fifth session the issue of popularization of research in the broaden public. The sixth session concerned the evaluation of scientific activities in the context of individual assessment of scientific achievements of scientist.

Eurodoc Conference 2020

Session #2: Opening Up Access to Research Publications

Opening up access to scientific articles is one of the most important challenges of current development of the open access idea. The long-life learning plays fundamental role of development of every scientist. Globally, the most common form of spreading research findings are scientific articles. Most of them are published by redactions of scientific journals. However, every scientific article is a creative work of a human being according to law of intellectual property. Thus those are subjects of many limitations, especially imposed by redactions of the journal or the will of an author. Nevertheless, the law allows avoiding all of them without creation of any other barriers. Especially, thanks to use of cyber tools the availability of scientific articles is high. But, the most significant obstacle of opening up access to scientific journals is financial barrier. Because of the fact that the process of publishing articles in many journals is organized in the way of business model, for stakeholders of many scientific journals the most important result of publishing an scientific article are financial benefits, not research findings. Even a short-period access to some journals can be counted in vast sums that are unavailable for many researchers or universities. The situation causes unavailability of valuable sources and leads to delay the time of development further works, basing on newest research findings. It could even create a monopoly of development of the science within particular fields or issues. But, paraphrasing the common sentence, the science is like a human mind – it does not work properly if it is not opened.

The #2 Session of 2020 Eurodoc Conference hosted 3 speakers: Lidia Borrell-Damian, the Secretary General of Science Europe; Toma Susi, Vice-Chair of Young Academy of Europe; Claudia Dobrinski, member of The Interdiscplinary Network for Doctoral Candidates and Early Stage Research in Germany. The first presentation was delivered by Lidia Borrell-Damian and titled "The need for concerted efforts toward Open Access". During the speech, the first speaker provided a general view of open access issue. Lidia Borrell-Damian emphasized the influence of the digital tools and the role of research assessment process. The presentation was summed up with a set of recommendation for further development of the open access, such as acceleration and intensification of activities in terms of implementation of the Plan S or the Horizon Europe OA policy, connecting all instruments and policies of open access and underlining roles of researchers, research institutions, founders of the research, librarians, publishers and R&I stakeholders organizations. The second presentation was delivered by Toma Susi. During the presentation, the speaker answered comprehensively to the presentation title`s question: "Why open access is good for researchers?". According to Toma Susi, the open access accelerate careers of researchers. The speaker proved, that the open access is the most efficient way to publish scientific papers, both in terms of views and citations. The presentation was ended with a forecast showing that by 2025 even 44% of all journals will be open access journals and up to 70% all views of scientific papers will be done by the use of open access tools. The third presentation was devoted to "Opening up access to research results for all views from German network for PhD candidates and doctorate holders". Claudia Dobrinski presented the open access taxonomy and challenges in the German system of science and higher education related to reaching the newest research findings during limitations imposed because of the COVID-19 epidemics. The third speaker summarized the presentation by the call of implementing a complex education for all members of academic societies.

Eurodoc Conference 2020

Session #2: Opening Up Access to Research Publications

The session was filled with questions stated by the moderator and the audience. By answering the question referring to most important factors of opening up science, speakers indicated the need for change the research culture, the role of research founders and policy makers, development of systems of rewarding of researchers and the role of education and training of society to explain all benefits of the open access. The second question stated by the moderator was concerning threats of development of open access idea. Toma Susi claimed, that geopolitics understand as polarization of great powers could be a challenge for opening up access to science worldwide. According to Claudia Dobrinski, actual challenges are adjustments of the law of intellectual property due to experience of people taking part in opening up access process. Lidia Borrell-Damian claimed, that the challenges are fakes news connected with research findings that can undermine viewer`s confidence. Answering the last moderator`s question, Claudia Dobrinski advised young researchers that they need to use they curiosity to explore all tools of open access and that will allow them to take an active part in opening up access to the science. Answering this question, Toma Susi based the support of young research in terms of opening up science on developing their own career on the base of open access benefits. Lidia Borrell-Damian indicated both mutual benefits of using the public funds to conduct research that is publicly available and the awareness of young researchers in terms of understanding of the system of self-development within academic community.

Profits of open access are very important for the development of careers of young researcher. Publishing by the open access tools can significantly lower all cost of publishing scientific papers. The research paper publish in open access can even double the number of average citation and also significantly increase the number of views. It is also very important to notice that open access allows to reach research findings without any financial barriers.

In addition, the use of the intellectual property will most probably not cause any legal implications. The open access also makes it possible to find particular research results by the use of simple and worldwide available software. All those benefits proves that the open science creates the circumstances for rapid development of science, researchers and societies.

Eurodoc Conference 2020

Summary of

Session #3: Managing Research Data in a FAIR Framework

by Emanuele Storti

Speakers:

Karel Luyben, Chair of Executive Board of European Open Science Cloud

***Short bio**: Karel Luyben is Rector Magnificus Emeritus of the Delft University of Technology. He was Rector Magnificus of the Delft University of Technology from 2010 until 2018. Before that he served as Dean of the Faculty of Applied Sciences for almost 12 years. In 1983 he was appointed full professor in Biochemical Engineering at the Delft University of Technology, and from there has gained experience in research, starting a SME, research leadership, leading European organisations like the European Federation of Biotechnology and CESAER. Among others he presently is a Board member of CESAER; Chairman of the Investment Board of Zuid- Holland; Chairman of the Board of the Dutch Techcentre for Life Sciences; National Coordinator for Open Science in the Netherlands; Chairman of the Task Force Open Science of CESAER; Member of the Open Science Policy Platform of the EU and chairman of the Executive Board of the European Open Science Cloud (EOSC).*

Throughout his career he has provided consultation services to research organisations, industries and governments in the areas of Technology and Strategy & Policy.

Barend Mons, President of CODATA; Leader of GOFAIR

***Short bio:** Barend Mons (born 1957, The Hague) is a molecular biologist by training and a leading FAIR data specialist. The first decade of his scientific career he spent on fundamental research on malaria parasites and later on translational research for malaria vaccines. In the year 2000 he switched to advanced data stewardship and (biological) systems analytics. He is currently a professor in Leiden and most known for innovations in scholarly collaboration, especially nanopublications, knowledge graph based discovery and most recently the FAIR data initiative and GO FAIR. Since 2012 he is a Professor in biosemantics in the Department of Human Genetics at the Leiden University Medical Center (LUMC) in The Netherlands. In 2015 Barend was appointed chair of the High Level Expert Group on the European Open Science Cloud. Since 2017 Barend is heading the International Support and Coordination office of the GO FAIR initiative. He is also the elected president of CODATA, the standing committee on research data related issues of the International Science Council. Barend is a member of the Netherlands Academy of Technology and Innovation(ACTI). He is also the European representative in the Board on research Data and Information (BRDI) of the National Academies of Science, Engineering and Medicine in the USA. Barend is a frequent keynote speaker about FAIR and open science around the world, and partic- ipates in various scientific advisory board of international research projects.*

Eurodoc Conference 2020

Session #3: Managing Research Data in a FAIR Framework

Laura Bardura-Morgan, Open Science Officer, National Science Center

Short bio: *Dr. Laura Bandura-Morgan is a graduate of Master's and PhD studies at the Faculty of Biology and Earth Sciences of the Jagiellonian University in Krakow. She received the title of Doctor of Biological Sciences in 2003. In the years 2003–2006 she completed a postdoctoral internship (post-doc) at the University of Louisville, in the United States. Then, she has stayed at the University of Louisville where she worked for several years at the Institute of Cell Therapy and at the James G. Brown Cancer Center. She participated in several research projects, and her main scientific interest was the involvement of Treg cells in the induction of local tolerance to transplanted pancreatic islets and the FasL immunomodulatory potential to induce tolerance to auto- and allo-antigens for the prevention and treatment of type 1 diabetes (T1D). The result of her work are several publications in scientific journals. She had returned to her homet- own and in September 2013, she began working in the National Science Centre as a discipline coordinator in the Life Sciences group by organizing the work of medical panels. In October 2015, she took the position of the Head of Compliance and Audit Team. She co-created the Code of Scientific Research Integrity of the National Science Center and was a member of the Committee for Scientific Research Integrity at the Center. Dr Bandura-Morgan on behalf of the National Science Center is a representative in the European Network of Research Integrity Offices (ENRIO), member of Science Europe Working Group OA Publications, SE WG Data Sharing and Supporting Infrastructures and Experts' Group of cOAlition S.*

Chair: **Emanuele Storti**, EOSC Officer and an Open Science Ambassador, Eurodoc

Short bio: *Emanuele Storti is a postdoctoral researcher in computer science and an adjunct professor of Information Systems at the Polytechnic University of Marche, Italy. His research interests include knowledge management and discovery, semantic technologies for Business Intelligence, open and collab- orative platforms. Recently, he started focusing on methodologies for integration of Key Performance Indicators with application to smart cities, open government and social innovation. He has been a visiting researcher at the CWI in Amsterdam and the TU/e in Eindhoven. He also works as a database, Process Mining and Linked Data consultant for manufacturing and software development companies. As a developer, he contributed to several open source and open data projects.*

As researchers, today we are witnessing a transition towards more open and inclusive science, which is capable to radically change the way research is conceived and conducted every day. At the same time, some concerns are arising about how this change will affect their career, and whether we will be capable to actually use Open Science tools for research management.

The purpose of the session "Managing research data in a FAIR framework" was to bring together some of the most influential experts on Open Science and discuss with them how FAIR data and the EOSC (European Open Science Cloud) will have a role in advancing research data management and what are the main open challenges.

The first talk was given by Karel Luyben, Chair of Executive Board of the European Open Science Cloud. According to Karel, Open Science can be defined as the transition from science as we know it, namely Science 1.0, to future Science 2.0. Three key enabling factors for this transition are Open Access, FAIR data and Citizen science (i.e., the involvement of the public for evaluating results and participating to research

Eurodoc Conference 2020

Session #3: Managing Research Data in a FAIR Framework

The second talk was given by Barend Mons, president of CODATA and leader of GO FAIR, which showed how relying on FAIR and Open research data today is needed and critical, with a practical case related to COVID-19.

Barend started by introducing VODAN (Virus Outbreak Data Network), a quickly built network of FAIR Data Points for data-driven research on the topic (co-supported by CODATA, GoFAIR, WDS, and RDA). The motivations behind the creation of the network are multi-fold: on the one hand, the research on this topic is going fast, with more than 250 papers published on COVID-19 on average per day. This number is such that no researcher can ever read the whole literature produced in this field. Secondly, the immensely valuable real-data of epidemics is not always equally accessible for different research groups and countries. Finally, in most cases, fine-grained observations are not actually accessible because either research groups that produced the datasets or their countries have strict privacy policies on data sharing (due to the fear to lose control of their data, once they are published).

By establishing a network of FAIR Data Points, each storing and serving FAIR datasets, helps to address these issues. In fact, each Data Point is a FAIR data repository enabling automated software, i.e. Virtual Machines, to "visit" data locally. In such a way, the local custodian (e.g., a hospital or a center for disease control and prevention) grants permission to these Virtual Machines to ask queries or perform local computation and aggregation.

As for privacy issues, personal data of patients never leave the database of the local institution and are provided with specific licenses, in order to control what can or cannot be made public, without violating GDPR, patient rights, or laws and policies of the individual jurisdictions.

Discovery of Data Points, access to data and querying will be done in an automatic fashion through a machine-to-machine distributed and collaborative interaction, based on the metadata of each digital resource, which describes its license, its provenance and the documentation in a machine-understandable format. Finally, data quality issues are not taken into account by the FAIR principles, as they focus on metadata and interoperability.

In the example, also discussed in a preprint available online, Barend showed how data coming from different sources (e.g., papers, clinical measurements, case reports, self-reports, traditional databases) have been made FAIR and available through FAIR Data Points. Virtual Machines have then been used to aggregate information offered by different data providers according to their rules of access and usage, in order to make hypotheses that could then be considered and investigated.

The last part of the talk was devoted to discussing a novel approach to publishing Open Science, which in Barend's view will reverse the approach used so far in the literature: instead of a paper with a supplementary dataset, the focus will be on publishing a dataset in FAIR format on a FAIR Data Point. This will be linked to a supplementary foundational paper aimed to describe it and will be commented following an Open Review approach.

Reviews will guide authors to improve the original paper and model, and a new version will be published similarily. According to Barend, publishing closed un-FAIR resources should be possibly done only under a fee, such that closed science will pay for Open Science.

In order to make this scenario happen, Barend advocates that at least 5% of the research funds should be dedicated to data stewardship. This investment will pay off in a short term, as today a large share of researchers' time and budget is wasted due to inefficiencies in data management (e.g., lack of documentation or data loss due to lack of data management plans).

A different perspective, from the point of view of a funding agency, is offered by the last talk given by Laura Bardura-Morgan, Open Science Officer at the National Science Center in Poland.

Laura recalled that the process towards the definition and adoption of FAIR data has been long and involved much effort from different communities, particularly public administrations and funding organizations.

Laura summarized the practical challenges for researchers in data sharing that have been identified in a survey published in Springer Nature in 2018, according to which 46% researchers claim that organizing data in a presentable and useful way is time-consuming and costly, 37% are unsure about copyright and licensing, 33% are not aware of official repositories for digital research objects, 26% lack time to deposit data (due to the "publish or perish" culture) and 19% cannot sustain costs for data management plans (that should be provided by funders).

Although several funders encourage or mandate research data sharing, the survey reports that 30% of researchers lost their research data at least once and 60% rarely or never created a Data Management Plan.

For what concerns Poland, the development of a Data Management Plan recently become mandatory for the whole life cycle of a project for the National Science Center, also following the "Practical Guide to the International Alignment of Research Data Management", released on January 2019 by the Science Europe Working Group on Research Data.

According to the lesson learned by the Center, one of the major issues that should be addressed in the next future is that researchers lack enough skills on data management, including understanding the meaning and purpose of metadata, estimating the size of their research data and the storage needed, choosing the right license for their data and the Open Access repositories.

Much work should also be done to overcome established habits and attitudes in order to make data management perceived as an important tool instead of a bureaucratic obligation. Finally, as a funding agency, saving a part of the budget for data management tasks will be challenging but needed.

During the Question & Answer session, all speakers agreed that the full adoption of Open Science is still yet to come and will take place in the next decade. The major obstacles, however, are not technical, since the enabling technologies are already available. On the other hand, a cultural shift will be needed, from the traditional way of doing science to a more open and collaborative mindset. Moreover, the definition of incentives and rewards for Open Access able to speed up this transition largely depends on the adoption of specific actions at the political level.

Session #3: Managing Research Data in a FAIR Framework

For Karel, the transition is unlikely to proceed at the same pace in all countries and disciplines, being some of them more technologically or culturally ready. To ameliorate this issue, the interaction for the final user should be simple, as in "Eduroam" where the technical complexity is hidden behind a simple interface for the final user.

On the other hand, Barend claimed that the democratic power of FAIR data will be one of the keys to its adoption. Indeed, by revolutionizing the access to FAIR data, namely moving from data sharing to data visiting, even low-income countries with no huge infrastructures will have the same rights as more advanced ones. Following the vision of George Strawn[1], former director of the National Science Foundation, when Open Science will be fully adopted, as a research community, we will be able to move from a scenario with many separated datasets hosted by different independent servers to a single integrated virtual environment enabling the access to a network of interconnected datasets.

Junior researchers will play a vital role in advancing the adoption of Open Science, as they are likely to adapt to this new way of doing science first. According to the speakers, they need to be aware of how the research environment is changing in order to be ready to face challenges and seize opportunities.

[1] G. O. Strawn, "Open Science, Business Analytics, and FAIR Digital Objects". In 2019 IEEE 43rd Annual Computer Software and Applications Conference (COMPSAC), Milwaukee, WI, USA, 2019, pp. 658-663.

Eurodoc Conference 2020

Summary of

Session #4: Collaborating across Research Disciplines

by Ewelina Pabjańczyk-Wlazło

Speakers:

Daniel Jensen, DocEnhance

Short bio: *I am 26 and currently working as a researcher at the Norwegian College of Fishery Science, University of Tromsø (UiT). I have a Bachelor's degree in Business and Administration, and a Master's degree in International Fisheries Management that I graduated from summer 2019. Both degrees were taken at UiT. Not only did I do both of my degrees in Tromsø, but it is also the city I am from. Since graduating, I have worked as a research assistant (now researcher) as well as a project manager for a shrimp company called Lyngen Reker for a short period. My work related expertise lies within sustainable management of marine ecosystems and industries (read; fisheries and aquaculture). To be more specific: how to manage the industries sustainably without damaging the marine ecosystems, as well as keeping mind of climate change and climate adaptations. Through my studies and work, I have gained an interdisciplinary understanding of these topics, and I find them greatly interesting as well as important with respect to how we want to shape the future of this planet. Contact: docenhance@uit.no*

Michael Markie, Publishing Director at F1000Research

Short bio: *Michael Markie is the Publishing Director at F1000Research. He is an open science, open data and open research advocate leading F1000's effort to change the way science is communicated. He played a pivotal role in devising the open research publishing model and launching F1000Research in 2013, and now oversees the development of the publishing platform services F1000 provide for leading funders European Commission, Wellcome and Bill and Melinda Gates Foundation. Michael is an active member of the open science community and gives many talks/seminars/workshops on the subject at international conferences and research institutions. Michael previously studied Chemical Biology at the University of Leeds, where he worked on synthesising a range of potential anti-tumour compounds. Contact: @mmmarksman*

Salomeya Vanagienė, Chairwoman of Lithuanian Society of Young Researchers

Short bio: Salomeya is an active member of academic and early career reseaerchers' community. Currently she is holding the posisition of the Chairwoman of Lithuanian Society of Young Researchers. Privately a geographer, teacher and tourism manager. Doctoral candidate at the Center for Natural Research - Ecology and Environmental Science. She is pursuing doctoral thesis titled "Public communication of science in Lithuania: opportunities, challenges and good practices".

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Eurodoc Conference 2020

Session #4: Collaborating across Research Disciplines

Chair: **Ewelina Pabjańczyk-Wlazło**, PhD, Eng., Director of the Interdisciplinary Doctoral School at Lodz University of Technology

Short bio: *Director of the Interdisciplinary Doctoral School at Lodz University of Technology. Her professional interests are focused around broadly understood quality of education and research, researchers' career paths, as well as concepts of open science and internationalisation of science and higher education. Her research background and current activity focuses on biomaterials in particular for the application in regenerative medicine. She is an active member of ECRs community of national and international scope e.g. as former president of EURODOC and of the Polish Representation of Doctoral Candidates. She is currently a member of the Polish National Agency for Academic Exchange Council and of the Young Scientists Council at the Ministry of Science and Higher Education.*

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Year by year Eurodoc is organising conferences and events bringing important topics to the table. Eurodoc, as a representative of early career researchers at the European level in matters of education, research and professional development and providing forum for discussion and co-operation between national associations representing doctoral candidates and junior researchers within Europe, plays an important role in the European scene of higher education, science and research.

For centuries, general education was conducted in the field of broadly understood literature, art and science. Together with the rise of academia and the development the higher education sector, we deal with specialization in many sectors, which cause narrowing down the scope of our expertise into particular disciplines. Which is a natural path of development, however life brings different scenarios and shows that inter/multidisciplinary education and cooperation is inherent part of our global existence. Especially now in the pandemic times is very visible. The session will be intended for topics connected to collaboration across disciplines and analysis why it is so important in today global context and what is the role of Open Science in it.

Open Research is The practice of making everything in the discovery process fully and openly available, creating transparency and driving further discovery by allowing others to build on existing work. Open Research publishing across disciplines entails diverse approaches and different ways of working which is based in discipline-specific practices, however there are common principles that should be taken into account: transparency, accountability, fairness and trust. These principles can lead to a more global, equitable and connected research community. Within this framework an Open Research publishing model at F1000 was presented which included main important rules: dissemination without delay; open, author-led publishing and peer review; source data/software/materials availability and no gatekeeping & article flexibility.

These concepts bring multiple benefits for researchers, as enable them to decide what to publish and provide credit & recognition for a wider range of research outputs. It accelerates process of development by inducing the access & sharing of findings & data, meantime acknowledging the research assessment based on value of the research, not the venue of publication. Finally, it has a major impact for society because it reduces the barrier to collaborative research, remove the bias in our understanding of research and enables others to build upon new ideas right away. ECRab initiative (https://think.f1000research.com/ecrab-data-sharing/) for sharing and focusing on Open Data Across disciplines was presented as well. ECRab involves presentation case studies analysis, Myth Busters – cutting through perceptions, how to Guides – practical steps to sharing data and supporting Institutes – working with data stewards.

The final conclusion concerned the statement that researchers need to collaborate across disciplines because Open Research across disciplines is more important than ever as we try to tackle the words biggest problems. We need interdisciplinary research to advance solutions holistically, given the multifaceted and interrelated nature of the challenges e.g. Sustainable Development Goals, climate change, COVID-19 and addressing the problem of racism and inequalities.

The talk aimed at presenting the project "Enhancing skills intelligence and integration into existing PhD programmes by providing transferable skills training through an open online platform (DocEnhance). Project is realised within a Consortium of universities, academic organisations, organisations with expertise in career transition and non academic collaboration, SMEs within PhD training, innovation and open science from France, Germany, Spain, Portugal, Belgium, Netherlands, Czechia, Finland, Norway, Sweden, Luxembourg, Switzerland, Greece. The overall objective of the project is to build the DocEnhance network and online platform, develop and integrate transferable skills training into PhD education in Europe, and increase interaction with and exposure to the non-academic sector.

The need to involve transferable skills into education of ECRs steam from the need of the European market for highly skilled professionals. European Commission launched New skills agenda for Europe aiming at matching skills to industry skills as a result of the survey which presented that the 40% of EU employers cannot find people with right skills. The project deliverables will be digitalized and available free and in open access as Open Educational Resources (OERs): curriculum addressing transferable skills, career tracking survey for PhD graduates, good practice recommendations and guidelines and roadmap guide to improve and modernize PhD programmes. The OERs will be published on an online platform that is adaptable and sustainable. It is expected to deliver, apart from the establishing the DocEnhance network and online platform, a European voluntary standard (CWA) for how to implement the career tracking survey.

As public debates over issues like climate change and vaccination continue, researchers increasingly encouraged to get involved in public communication of science. Scientists, it is argued, have not only the capacity, but also a responsibility to reduce these conflicts through more frequent interactions with the public and dissemination of scientific facts. Involvement of scientists in communication or popularization of their work, however, historically has been somewhat problematic. Therefore, among one of the longstanding questions in science communication research is - what motivates scientists to get involved in science

outreach and what factors reduce their public engagement motivation? The talk presented Auste Valinciute (Vilnius University) results of a national survey examining Lithuanian scientists' attitudes and beliefs about science communication, with special focus placed on the perceived barriers to more frequent engagement with the public. Results of the survey will be explored within the broader literature on public engagement, and implications for practical work in the area will be discussed. The survey results indicated among others that e.g. 30% of respondents were not engaging in science communication at all within a year, while over 40% of respondents engaged 1-2 times per year and less than 15% of them 3 - 5 times per year. The survey results confirmed relatively high level of understanding of the role of science communication in the community of researchers: 67% of respondents admitted that science communication has benefits not only for the public, but for the scientists as well almost 60% that scientists should regularly communicate with the public.

This was followed by a presentation of the Lithuanian Society of Young Researchers (LYSA, https://www.ljms.lt) and its work in science outreach. LYSA uses several tools to communicate with the public. It organizes the Lithuanian Young Scientists' Forum, where it encourages debate about the status of science in society and its problems, as well as the Best Dissertation Contest, in which it honors young researchers and presents their work in public awards. Salomeja Vanagiene as LYSA President discussed the functionality of existing platforms for science outreach and present good practices on public engagement with science from Lithuania.

Speakers were asked to answer the following questions:

1. Can one plus one equal 3 or more? Can we look for synergies in collaboration across research disciplines?
2. What is the recipe for achieving satisfying and valuable collaboration across research disciplines?
3. Have the events of recent months taught us anything? If yes, what are the take-off messages from your own background?

Collaboration beyond research disciplines in inherently build into scientific paradigm and researchers reality since it bring broader understanding of the concepts and allows achieving results that address the problems of today's world in a more comprehensive and holistic way. By including inter or multidisciplinary in collaboration frameworks, our results will be of greater importance, they will introduce sustainable solutions and will contribute to global development at all levels, i.e. scientific, social, economic and cultural. Nevertheless, it is crucial to ensure that this collaboration is conducted in an atmosphere of kindness and respect for diversity of practices, beliefs, cultures and approaches.

Open Science and it's concepts by its nature and established values naturally supports cross/multi/inter-disciplinary cooperation, introducing a broader context and excellent tools for work to scientists who can freely share their thoughts and results, initiate a wide discourse in the international scientific environment, receive immediate feedback on their works, improve their skills and competences and build on their research profile. However, in order to fully use the potential of such collaboration, scientists should acquire the necessary skills and competences, which include transferable competences, e.g.

concerning the practicing of open science, dissemination and popularization of science and many others. Especially in the case of ECRs, this training should be applied as early as possible and should be an important and recognized part of training curriculum. So that every early career researcher will be equipped in transferable skills which allow them to grow and bring b enefit to society. The discussion was followed by Q&A session.

Q & A session

Answers by Michael Markie

1. How long does the discussion of the article usually last before the final say of peer reviewers? Can the article be cited once published on the platform and still being in the process of discussion?

On F1000Research the median time taken to "passing" peer review is 62 days, however the time varies with each article. Typically the discussion and conversation is based on the suggestions made by the reviewers to improve the work. The authors aim address the reviewers concerns and can do that through online conversation and updating their article to reflect any changes. The authors goal is to get the reviewers to approve the article and once they have done so the article is sent to indexing databases such as PubMed, Scopus etc.

2. During the last session of yesterday, some early career researchers expressed the fear that their research idea would be "stealed". Would you clarify how, instead, publishing through an "open process" (pre-print, open peer review, open access) is able to boost the research integrity? Can you also mention more about doi and copyright works through the open science venue platforms, please?

"Stealing" or "Scooping" is a common concern however, the early sharing of research through a preprint or a publishing platform is actually beneficial to researchers as it enables you to officially signpost that you performed the research first and you can establish priority. It can also lead to collaboration and discussion that can help improve the work. There are lots of great case studies on this topic on the ASAPBio website: https://asapbio.org/preprint-info/preprint-faq."

3. Are your funder-oriented journals multi-disciplinary? Will these journals be more suited for interdisciplinary research than the old journals?

Yes, F1000Research is multidisciplinary, covering Science Technology and Medicine and Humanities and Social Sciences. The platforms for specific funders also cover all research areas where they provide funding. So the upcoming Open Research Europe website will cover all academic disciplines.

4. One (unfounded) concern with Open Access is that the quality of the research is lower than in paid journals. How can you avoid such criticism of Open Education platforms, such as DocEnhance? Or another way of expressing the question, when free educational tools are considered inferior to those that come at a price.

The quality of a scholarly journal or platform is a function of its editorial service, authors, editors, and referees, not its open access policy. It is easy to check the quality of a journal by using services such as Think, Check, Submit.

Eurodoc Conference 2020

Summary of

Session #5: Popularising Research to the Broad Public

by Beata Zwierzyńska

Speakers:

Joachim Wyssling, European University Foundation

Short bio: *Joachim Wyssling is Senior Project Manager at the European University Foundation and has contributed to the development of a number of projects in the field of PhD training, notably the European PhD Hub.*

Matthias Girod, Secretary General Euroscience

Short bio: *Matthias Girod is the Secretary General of Euroscience; the non-profit grassroots association of researchers in Europe. Following studies in chemistry at Philipps University of Marburg (Germany), Matthias began his career as a researcher at the BAM – the Federal Institute for Materials Research and Testing in Berlin. He then moved to Trieste (Italy) where he worked as Project Officer for the Central European Research Infrastructure Consortium (CERIC).*

Yevheniia Polishchuk, Young Research Council at the Ministry of Education and Science in Ukraine

Short bio*: Yevheniia Polishchuk represents the Young research council at the Ministry of education and science in Ukraine. In Eurodoc Yevhenia is engaged in the working group "Employment and career development". Participated in conducting research on Science communications in the COVID-19 conditions in Ukraine. Explored the impact of higher education institutions on the regional innovation ecosystem. She is a professor at Kyiv National Economic University named after Vadym Hetman. Participant of EU high- level conferences devoted to Smart specialization process where the issue of science popularization plays a crucial role. During internships at Polish-Ukrainian program "Innovative university and leadership" studied strategies of universities' communication with schools via science popularization events. A project manager with more than 5 years of research project administration and regular popularization of its results at conferences, symposiums, forums related to the explored topic.*

Chair: **Beata Zwierzyńska**, Eurodoc General Board Member

Short bio: *Beata Zwierzyńska is finishing her dual PhD in Teacher Education at University of Lower Silesia, Poland and Masaryk University, the Czech Republic. She is a former coordinator of Careers & Employment working group and a General Board Member at Eurodoc. She is involved at the Conference of INGOs of the Council of Europe with main interest in academic freedom, minorities in academia, and quality education. She is interested in the imbalance in the promotion of STEM based skills vs. ones from social sciences and humanities,in the employment and career development of early-career researchers as well as their transit- ion to the non-academic labour market and collaboration with NGOs for research and society. Beata is also interested in general and higher education policies and governance, countering disinformation and anti- scientific phenomena in online spaces. She has extensive experience as trainer (+1k hours of workshops and webinars, practitioner (teacher, head teacher, and business owner) and NGOs representation and policy-making in Poland and Europe. You can find her on Twitter and Academia.*

Eurodoc Conference 2020

Session #5: Popularising Research to the Broad Public

Research is not meant to be read by a few experts, but rather to enrich science and serve the society. Thus, popularising research could be crucial for academics and society. What is more, quality of research is not the only aspect that influences decision making. There is a need to be able to tailor information about research to different audiences such as general public, decision makers, journalists, and other scientists.

Joachim Wyssling from European University Foundation talked about Attractiveness and impact of PhD training. In order to tackle this topic, Joachim presented some challenges and opportunities. Despite the value of research, there is still untapped potential of PhD research results; we are also missing cooperation with industry and society at large; and cross-border cooperation is not deployed to its full potential. Joachim introduced steps within the initiative PhD Hub as a solution to these issues: a) grow the number of local hubs, b) Reach a critical mass of users(ESRs), c) Expand involvement of industry through stakeholders, d) Improve attractiveness of PhD training for the non-academic world, e) Fine tune the functionalities of the platform phdhub.eu.

Matthias Girod, Secretary General EuroScience, spoke on The Role of Science Festivals in Popularising Research. EuroScience's main target is researchers but also teachers, science communicators and science journalists. EuroScience's flagships are ESOF and the European City of Science which is a pan-European meeting dedicated to open dialogue on scientific research and innovation in, with and for society. There are 4000 participants and 120 program sessions in each edition. Each edition takes place in a European city which is then recognized as European City of Science. When talking about popularizing research to broad public, ESOF is a master in involvement of multiple partners such as scientific institutions, cultural sector, charities, local businesses, universities, art, theater, performances, schools, and media.

Yevheniia Polishchuk, a representative of Young Research Council at the Ministry of Education and Science in Ukraine presented a national perspective in popularizing science in her talk entitled: Science is open for everyone: Ukrainian experience. She focused on who opens science for everyone in Ukraine (private and public sector institutions and NGOs); which events make the Ukrainians smarter, namely science and medical picnics, contest IntelECO Ukraine and science talks; and who supports science popularization in Ukraine on state level, that is, Ministry of Education and Science, Ministry of Economic Development, the Young Scientists Council, state innovation, financial and credit institution, and regional local authorities.

Eurodoc Conference 2020

Summary of

Session #6: Evaluation of Scientific Activity in the context of individual assessment of scientific achievements of scientists

by Noémie Aubert Bonn

Speakers:

Conor O'Carroll, Independent Consultant on Research and Higher Education policy and funding, SciPol

Short bio: *Dr. Conor O'Carroll is an independent consultant on Research and Higher Education policy and funding with extensive experience of working with the Irish higher education sector, European and national research funding agencies, government departments and industry. He has been involved in policy formulation at various levels, having worked in the European Commission's DG Research and with the Irish science policy advisory agency Forfás. He has practical understanding of the operations of funding agencies through his time with the Marie Sklodowska Curie Programme, Enterprise Ireland and Science Foundation Ireland. He has been a long-time researcher in national and European Science, R&D, Higher Education and Researcher Mobility policy and is an accomplished commentator on R&D and higher education policy and funding.*

Alexander Hasgall, Head of the EUA Council for Doctoral Education (EUA-CDE)

Short bio: *Dr. Alexander Hasgall is Head of the EUA Council for Doctoral Education (EUA-CDE). He is responsible for the largest European network in this field, covering 36 countries and bringing together a community of academic leaders and professionals from over 250 universities awarding doctoral degrees and institutions working on issues related to doctoral education and research training.Before assuming this position, he coordinated the Swiss University Rectors conference's "performances de la recherche en sciences humaines et sociales" programme on research evaluation in the social sciences and humanities and was based in the University of Geneva. Alexander studied philosophy and history at the University of Zurich and the Free University of Berlin. He wrote his Doctorate at the department for extra-European history at the University in Zurich on the topic «Regimes of Recognition. Struggles over truth and justice in dealing with the last military dictatorship in Argentina.» Outside of the higher education sector, Alexander acquired different working experiences in the NGO-Sector incl. being a human rights observer in Guatemala, in market research and as a freelance journalist.*

Bartłomiej Banaszak, Head of Science Department, Ministry of Science and Higher Education Republic of Poland

Short bio*: Bartlomiej Banaszak holds a position of a director of the Department of Science of the Polish Ministry of Science and Higher Education (MSHE). He used to be a member of a ministerial drafting group for the new law on higher education and science. Bartlomiej Banaszak used to represent MSHE in the Bologna Follow-up Group. He was a co-chair of working groups the framework of the European Higher Education Area: the Working Group on Fostering Implementation of Agreed Key Commitments (2015-2018) and Working Group on Structural Reforms (2012-2015). From 2011 to 2016 Bartlomiej Banaszak was holding a position of the Ombudsman for Graduate Affairs. During the Polish Presidency of the Council of the European Union (from July to December 2011), he was a vice-chair of the Education Committee and was responsible for negotiating the draft Council conclusions on the modernisation of higher education. From 2009 to 2010, he was the President of the Students' Parliament of the Republic of Poland. From 2007 to 2008, he was a member of the Executive Committee of the European Students' Union.*

Eurodoc Conference 2020

Session #6: Evaluation of Scientific Activity in the context of individual assessment of scientific achievements of scientists

Karen Stroobants, Board Member of the Marie Curie Alumni Association

***Short bio**: Dr Karen Stroobants is a Board Member of the Marie Curie Alumni Association, in this capacity she supports the organisation's policy work and advocates for more sustainable researcher careers and more inclusive research environments. Karen was a researcher for over seven years, completing her PhD at KU Leuven and performing post-doctoral research as an MSCA Fellow at the University of Cambridge, before transitioning to the learned society sector. Currently, she is leading the Science Policy Unit of the Royal Society of Chemistry, a Unit set-up to support the use of evidence from the chemical sciences in public debate and policy decisions related to the Sustainable Development Goals. Before joining the Royal Society of Chemistry, Karen worked on the research culture programme of the Royal Society, the UK's national academy of sciences, that raised attention for research culture issues - including in areas such as researcher assessment, research integrity and inclusivity in research environments - in the UK. To keep discussions on research culture going past the programme, she co-Founded @MetisTalk, a blog space to debate and challenge ideas around research culture. She also regularly acts as a consultant on research culture, auditing policies & strategies, research programmes and training materials in relation to their alignment with the latest thinking and best practice on creating a positive research culture.*

Chair: **Noémie Aubert Bonn**, Hasselt University, Belgium

***Short bio:** Noémie Aubert Bonn is a young researcher who does research on research. Originally from Québec (Canada) where she studied cognitive neurosciences and psychiatry, Noémie rapidly became concerned about core aspects of research, in particular about the pressures imposed on researchers to publish and compete with one another. Leaving her field aside, she decided to see what could be done to make science better. Through editorial policy work, bioethics studies, and a lot of moving around in Europe, she ended up doing a PhD at Hasselt University, in Belgium, with a young and creative supervisor who encou- raged her motivation to change science. Her current work looks at attribution of success in science, and at the ways in which current research assessments affect research practices and research integrity. More information on her work is available at https:/re-sinc.wixsite.com/project or on her orcid 0000-0003-0252-2331.*

The session 'Evaluation of Scientific Activity in the context of individual assessment of scientific achievements of scientists' concluded the Eurodoc Conference 2020 by addressing a topic that was recurrently raised throughout the conference: issues in researcher assessments. Noémie Aubert Bonn, PhD student in Hasselt University, chaired the session.

The first speaker was Conor O'Carol who is an independent consultant on Research and Higher Education policy and funding. In his talk, Conor begins by describing that early career researchers (ECR) are on a threshold since they are building the path to their future career. In an ideal world, ECR should be in a position where they are encouraged to develop their personal skills and expand their professional opportunities beyond academia. Unfortunately, the current system predominantly prepares ECR to become academics, disregarding the fact that opportunities to continue in academia are very limited. Conor then introduces an important distinction between personal funding (e.g., MSCA fellowships, ERC) and project funding. While personal fellowships support career development and personal training, project funding provides limited opportunities for personal development and generally focuses on project outputs and achievements. After introducing this essential distinction, Conor argues that current research assessments

assessments tend to be based on narrow metrics and that they limit both career options and open science. For instance, Conor explains that, by ignoring key aspects of research activity, research assessments discourage young researchers from participating in open science, interdisciplinary, or intersectoral research, and from developing transferable skills such as leadership, mentorship, and teaching skills. Conor explains that comprehensive career opportunities should, instead, recognize all aspects of research and reward activities that are desirable for science (e.g., open science, FAIR data practices, interdisciplinary research, etc.) and for career progression. Comprehensive career opportunities should also provide skills for life — skills that will help the candidates expand their career opportunities within and beyond academia (e.g., integrity, mentoring, teaching, leadership, etc.). Fortunately, some of these changes are already happening. For example, Conor presents the open science assessment matrix from the Open Science Policy Platform which not only takes into consideration a broad array of research activities, but also the career stage of applicants. Conor concludes his talk on an optimistic note by stating that there has been a real increase in interest for revising policies in the European research policy landscape leading to 2030. The European Charter for Researchers and the Code of Conduct for Recruitment, for example, are planned to be revised, and the Horizon Europe is strengthening its support for open science by making open access and open data mandatory in the coming years.

The next speaker for this session was Alexander Hasgall, head of the Council for Doctoral Education at the European Universities Association (EUA). Alexander brings us back to the original meaning of research assessments: research assessments are not only a method to help advance science, but they are also an expression of what we value in science. Since what we value in science is constantly changing, research assessment should be adapted to ensure that they always bring us closer to what we truly care about. According to Alexander, we are now in a momentum to discuss research assessments. Indeed, the European higher education landscape is changing and we are witnessing a transition towards open science and open access. It is thus prime time to review what we are doing and to make sure the practices we put forward are fit for purpose. Corroborating what Conor discussed, Alexander also supports the need to look at a broad range of research activities to restore the parity of respect for learning and teaching and to allow researchers to take part in the transition to open science. Following this idea, Alexander introduced the results of the 2019 EUA Open Science and Access Survey Results. The survey indicates that publishing — generally measured via metrics — is still a key activity for research careers. Other activities meant to advance science and institutions, on the other hand, are largely overlooked from research assessments. Alexander explains that the main barriers for change reside in the lack of institutional capacity and the complexity of reforming research assessments (i.e., several actors need to be involved and to agree on simultaneous actions). The EUA report proposes two key recommendations for changing research assessments. First, there is a need to expand the range of academic activities incentivised and rewarded and to move towards less specific sets of evaluated practices — a finding that is much aligned with the arguments presented by Conor and, as we will see later on, by all the speakers in this session. Second, reviewing academic career assessments is a shared responsibility and requires a concerted approach

Session #6: Evaluation of Scientific Activity in the context of individual assessment of scientific achievements of scientists

uniting the main actors involved. Alexander explains that doctoral schools and universities have a key role to play in the reform. Being within the reach of both research and policy, doctoral schools provide the ideal forum to bring together different stakeholders and initiate the dialogue. At the same time, doctoral schools have an intimate vicinity to researchers that can enable them to increase capacity through training and to minimize resistance to change through awareness. Alexander ends his talk with an important message that needs to remain on top of the reform of research assessments: a reform should not merely add indicators and rules, but rather refine and adapt indicators in place to allow for diverse profiles and activities to continue advancing research.

The next speaker to join us on the topic was Karen Stroobants who came representing the Marie Curie Alumni Association (MCAA). Karen starts her talk by introducing the key importance of research cultures. Using the definition of the Royal Society research culture program in which she took part a couple of years ago, Karen explains that 'research culture' is a rich term with multiple components. Encompassing the behaviours, values, expectations, attitudes, and norms of research communities, 'research cultures' play into a whole array of topics, including openness and transparency, collaboration and competition, managements and relationships in research, research careers, research integrity, inclusion and diversity, and bullying and harassment. By looking at all of these aspects together, the Royal Society research culture program identified an underlying problem that transpired throughout these topics, namely, research's highly competitive environments and narrow definition of success. Using examples form the MCAA, Karen illustrates some of the relationships that link research assessments to the diverse dimensions of research cultures. For example, the joint Declaration on Sustainable Researchers Careers which supported the need for more emphasis on transferable skills and community engagement clearly links the inadequacy of current assessments to the dimension of 'research careers'; efforts for greater recognition of open science practices from several ECR communities and cOAlition S link research assessments to the dimension of 'openness and transparency'; and the joint New Horizon and MCAA Policy Brief Towards Responsible Research Career Assessment connects research assessments to the dimension of 'inclusion and diversity'. Following these inspiring examples, Karen introduces us to interesting initiatives that are driving the change in research assessments. One of those is the Résumé for Researchers (R4R) from the Royal Society. The R4R aims to recognize a broader range of research activities to encourage the development of colleagues (teaching, mentoring), the research community (open data, open access, peer review), and the contribution of science to society (policy engagement, outreach). The Dutch VSNU Room for everyone's talent provides a similar prospect by diversifying the dimensions considered in research assessments. Several initiatives that were driven by researchers are also beginning to have an impact, such as the Declaration on Research Assessment (DORA), the Leiden Manifesto, and the Hong Kong Principles. Karen concedes that many of these initiatives still need to be implemented, tested, and improved to make sure they are fit for purpose, but she believes that if we succeed in broadening the definition of success with the right objectives in mind, we can expect to see a profound positive impact on the entire research ecosystem and its associated culture.

Eurodoc Conference 2020

Session #6: Evaluation of Scientific Activity in the context of individual assessment of scientific achievements of scientists

The final speaker for this session was Bartlomiej Banaszak, Director of the Department of Science of the Polish Ministry of Science and Higher Education (MSHE). Bartek starts his presentation by making a distinction between institutional and individual scientific evaluations and by explaining that this distinction was central in the perspective of the Reform of the Polish Higher Education System. This reform, adopted in 2018, introduced changes to the infrastructure of higher education institutions (autonomy, funding, quality and relevance of research programs and doctoral training), academic careers, and research evaluations. The reform also introduced a clear distinction between institutional and individual assessments and a new model of research evaluation. Among other things, the new evaluation model offered an interdisciplinary approach to research, included a limited number of metrics (quality of research output, financial outcome, social impact of research) to reduce the temptation of confusing institutional and individual criteria, and also included the participation of two ministerial registers who could, for example, introduce expert feedback to understand the relevance of specific journals and outputs beyond what the metrics can tell. Funding assessments were also reformed, and the National Science Centre which funds basic research in Poland now officially adheres to the DORA principles. In the end of his talk, Bartek reiterates the importance of considering a wide scope of scientific activities in individual assessments, but also emphasises the need to look beyond prestige inheritance and to remember to differentiate between institutional and periodic assessments.

All speakers then get back for an open discussion. The first question asked is whether there is anything that we, as young researchers, can do to tackle the problems of research assessments. Speakers unanimously admit that policy makers, funders, and institutions hold a big end of the stick, but they also emphasise that ECR can play an important role in changing the culture behind inadequate research assessments and that their views are increasingly valued by other actors. One key point brought back by all speakers is the need to engage in the discussion, to discuss what bothers us in with our colleagues and supervisors or even to join ECR organisations to ensure that the topic moves forward. Karen added to this point by saying that we must also rethink how we talk about research on a day-to-day basis. For example, when a colleague publishes a paper, do we first ask what it is about, or where it is published? Realising that our views and voices have an impact is essential in continuing to move the debate forward. The second question asked speakers how we can define excellence in the context of open science. Karen started by emphasising that excellence often lacks a definition and that it is essential to be clear on what is expected from researchers. Conor added that the way in which we measure excellence is often where the problem erupts, and Bartek supplemented this idea by saying that measuring excellence can even be contextual and we should always keep the main goal of the "global circulation of ideas" at the forefront of decisions. Alexander agreed with these perspectives, further stating that our ability to recognize different areas of excellence was essential. Finally, to end the session, Noémie asked the speakers to say one thing they wished would have changed before the next Eurodoc conference. Karen hopes that the conversations between scientists and the culture of science will have shifted towards what we value in science. Alexander wishes that there will be better awareness on the topic in general. Bartek hopes that the pandemic

Session #6: Evaluation of Scientific Activity in the context of individual assessment of scientific achievements of scientists

will have played a positive impact on recognising the role of science in progress and on the need to facilitate systemic changes. Finally, Conor added that he hoped the European Commission would take the lead to implement broad changes in research assessments.

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The European Council of Doctoral Candidates and Junior Researchers

Eurodoc

Eurodoc is the European Council of Doctoral Candidates and Junior Researchers. It is an international federation of 28 national organisations of PhD candidates, and more generally of young researchers from 26 countries of the European Union and the Council of Europe.

Eurodoc's objectives are:

- To represent doctoral candidates and junior researchers at the European level in matters of education, research, and professional development of their careers.
- To advance the quality of doctoral programmes and the standards of research activity in Europe.
- To promote the circulation of information on issues regarding young researchers; organize events, take part in debates and assist in the elaboration of policies about Higher Education and Research in Europe.
- To establish and promote co-operation between national associations representing doctoral candidates and junior researchers within Europe.

Eurodoc was founded in Girona (Spain) on 02/02/02. Since 2005, Eurodoc has its seat in Brussels, Belgium.

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Krajowa Reprezentacja Doktorantów

Krajowa Reprezentacja Doktorantów

KRD (Krajowa Reprezentacja Doktorantów) – Polish National Association of Doctoral Candidates – is the biggest and only official representation of Polish doctoral candidates, based in Warsaw, Poland. According to Polish Act on Higher Education KRD is the voice of Polish doctoral candidates; KRD is currently representing 38 000 Dcs. Our activities are not limited to presenting official proposals and legal documnts. We are the vivid network consisted of representatives of doctoral candidates from all types of HEIs: universities, technical universities, polytechnics, artistic and physical education HEIs. We co-operate with institutions supporting scientific activities targeted to doctoral candidates (NGOs, governmental agencies, scientific publishing houses).

Our permanent annual projects:

- PROPAN and PRODOC – competitions for the most PhD candidates supportive university and Institutes of the Polish Academy of Science,
- Model of Doctoral Training Conference – the main aim is to discuss and evaluate the current state of art.,
- Complimentary legal assistance in higher education matters provided by the Doctoral Candidates' Ombudsman appointed with his team by KRD,
- Providing trainings on legal issues connected with PhD candidates' legal status, Development of PhD Candidates' Compendium.

Ministry of Science and Higher Education
Republic of Poland

Ministry of Science and Higher Education

We deal with the matters of students, universities and scientists. We are responsible for the affairs of the academic community - students, doctoral students and scientists. By programs and initiatives we support scientists in pursuit of scientific excellence, career development and leading innovative research. The implementation of these, is also the goal of the Constitution for Science - a reform created in close cooperation with integrated academic society.

The Constitution for Science rebuilt the model of doctoral students education in Poland. In place of doctoral studies, we have introduced doctoral schools with a universal scholarship system. Each doctoral student receives a scholarship that will allow him to maintain and focus on research work. At the beginning it is at least PLN 2,371.7, and after mid-term evaluation - at least PLN 3,653.7.

Doctoral students can apply for grants, local government scholarships, student loans. The minister may grant scholarships to outstanding young scientists for the most outstanding doctoral students. Doctoral students who have become parents may suspend their education by maintaining the right to a doctoral scholarship. Disabled doctoral students receive an increased scholarship.

Improving the quality of doctoral students' education is possible thanks to: individual research plan, interdisciplinarity in scientific research, mid-term evaluation of progress in the preparation of the doctoral dissertation, introduction of three reviewers from outside entity awarding a PhD degree, openness of the content of doctoral dissertations before defense.

Programs for PhD students and young scientists:

- Iwanowska's Program allows foreign trips to the best centers in the world and the implementation of research projects together with outstanding scientists from abroad.
- Bekker's Program is the support of scientists and academic teachers employed in Polish universities and scientific units by enabling them to undergo a postdoctoral internship, conduct research, and obtain materials in renowned foreign centers.
- Implementation doctorate - its main assumption is to prepare a doctoral dissertation that will help a given enterprise function. This is an alternative way of obtaining a doctoral degree for people who - wanting to develop their scientific careers - do not want to give up their professional career outside the university.

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22-23 July 2020, Warsaw

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