eurodoc Newsletter

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The Official Newsletter of
The European Council of Doctoral Candidates and Junior Researchers

For more information on Eurodoc visit www.eurodoc.net or make an inquiry at board@eurodoc.net

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Dear Readers,

We are pleased to present you with Eurodoc's newsletter, aimed at informing Eurodoc members and other interested parties about recent activities proceeded by the Eurodoc community.

The following issue is focused primarily of Open Science issues, both from theoretical and practical side. In June 2015 new three strategic priorities were announced and set out as a new R&I policy agenda by Carlos Moedas – Commissioner for Research, Science and Innovation: Open Science, Open Innovation, Open to the World. Currently the EU is leading 3Os Strategy and Open Science priorities, in particular, there is a requirement that all research publications funded under Horizon 2020 be openly accessible, free of charge. To get more engaged into open science agenda Eurodoc will focus an Annual Conference on this topic. This Newsletter will highlight general basic information, groundwork of Open Science, as well as its specific terminology.

Besides H2020 Interim Evaluation made by Eurodoc is also published as well as short presentation of some key policy papers is being made. Please note also information about the future Eurodoc 2017 Conference in Oslo!

Edited by the Board of:

The European Council of Doctoral Candidates and Junior Researchers

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In This Issue…

Contribute to the newsletter and promote your activities!

The Eurodoc Newsletter editorial board welcomes any contribution from our member associations and from partner associations or external organizations. We especially encourage our members to send us short reports on events organized by their associations or any national news that may be interesting to others.

If you are organizing an event or taking part in discussion/actions concerning PhD candidates and junior researchers in your country, please write a story about it and get the whole Eurodoc community familiar with your activities!

OPEN SCIENCE AND OPEN ACCESS – AN INTRODUCTION

"Open Science is the practice of science in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods."
https://www.fosteropenscience.eu/taxonomy/

Open science is umbrella term that includes a variety of practices of the research process, all aiming to make research and its outputs more open and accessible. It refers to all stages of the research process, from research design, the collection of data to the publication of results and on to the assessment of their impact (open peer review, open metrics).

The aims of open access and open science are multi-faceted. It strives to make research results accessible and reproducible by all, following a fundamental assumption of research integrity. Research is and has always been an endeavor without boundaries and is becoming increasingly international. Many of today's greatest challenges like the SDGs are global in nature and must be addressed in collaborative ways. Any researcher or interested person shall have access to the current and publicly (with tax-payers money) funded research outputs, regardless of location and discipline area. Combining different sources, which were otherwise not available, and checking the validity of findings, can help to develop new ideas and foster innovation. The movement exists in a larger policy context of increasing transparency, accessibility and accountability – and are reinforced and made possible by developments in information and communication technologies.

A number of aspects fall under the definition of Open Science, like open access to publications, open access to research data, open educational resources, open monographs, open source software, open peer review, open metrics, open labs. However, the most well-known, most discussed and certainly most contented is for sure the topic of open access to publications.

Open access to publications is certainly the best known aspect of the openness movement, possibly also the most competitive. Open Access is the free and unrestricted access to research outputs via the internet, "permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited." (Definition of the Budapest Open Access Initiative (BOAI) of 2002) (see fig.1)

Over the last decade, open access has become an everyday part of scholarly communication, even though not yet fully implemented. A real driving force in the transition process have been (and are) the funder policies, on national as well as on European level. The European Union has made open access the publications the default mode for projects funded under Horizon2020. Since the beginning of 2017, research data must also be published as Open Data.

Open science is a multifaceted topic and a key matter in scholarly communication, research management and research policy.

Undoubtedly, it opens up opportunities for access to research results, citizen science and innovation for all.

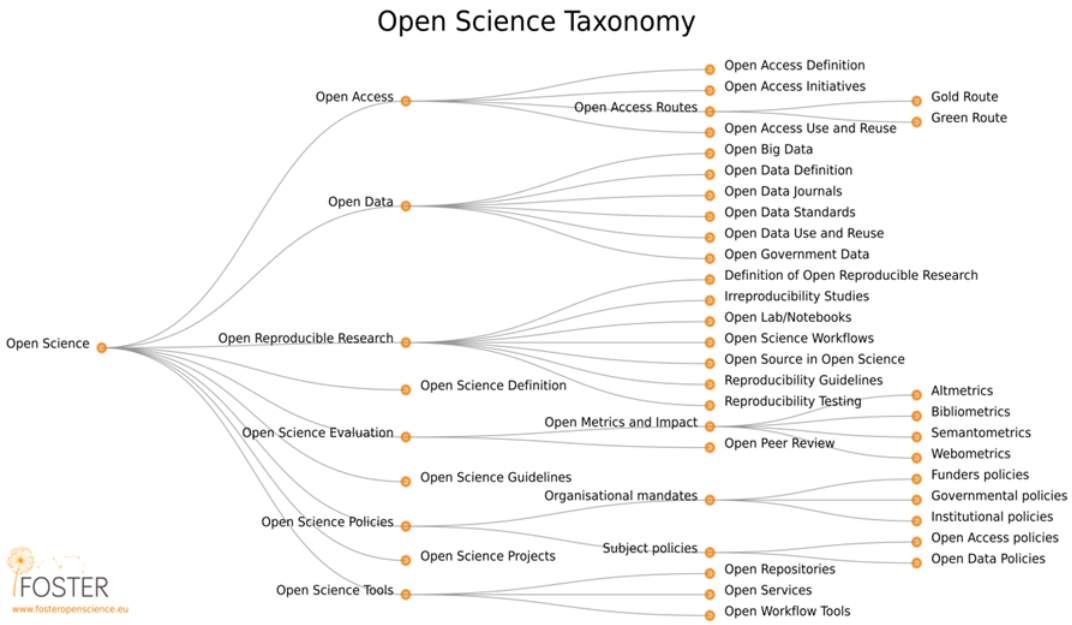

Fig.1. Knoth, Petr; Pontika, Nancy (2015): Open Science Taxonomy. Figshare. https://dx.doi.org/10.6084/m9.figshare.1508606.v3.

Recommended resources and starting points for further reading, by Eurodoc Open Access WG:

⇒ European Commission, DG Research and Innovation (2016): Open Innovation, Open Science, Open to the World - a vision for Europe. https://ec.europa.eu/research/openvision/index.cfm

⇒ European Commission Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020 (version 3.2, March 2017): http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf,

⇒ UNESCO: Open Access to Scientific Information. http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-access-to-scientific-information/

⇒ "Piled Higher and Deeper (PHD Comics): Open Access Explained", http://bit.ly/1dJj4vB, short and highly recommended video introduction,

⇒ National information websites exist for many countries, e.g. open-access.net for German-speaking countries, https://openaccess.be for Belgium,www.openaccess.si/ for Slovenia, http://www.openaccess.no/ for Norway etc.,

⇒ events and workshops held by many universities during the international open access week (annually during the 3rd week of October): http://www.openaccessweek.org/,

⇒ On the European level, OpenAIRE (Open Access Infrastructure for Research in Europe) is an infrastructure including all member states and beyond, offering information and services on both European and national matters: www.openaire.eu,

⇒ SPARC Europe (Scholarly Publishing and Academic Resources Coalition) offers a collection of reading materials: http://sparceurope.org/resources1/,

⇒ Creative Commons Licenses: https://creativecommons.org/share-your-work/licensing-types-examples/ (available in different languages),

⇒ German Commission for UNESCO (2014): Open Content - A Practical Guide to Using Creative Commons Licences. http://www.unesco.de/fileadmin/medien/Dokumente/Kommunikation Open_Content_A_Practical_Guide_to_Using_Open_Content_Licences_web.pdf

⇒ FOSTER (Facilitate Open Science Training for European Research): www.fosteropenscience.eu, a large collection of training materials on open science

⇒ Open Researcher and Contributor ID: www.orcid.org, offers a permanent and individual numeric ID for researchers.

Registries with helpful references:

⇒ DOAJ (Directory of Open Access Journals):http://doaj.org/
⇒ OpenDOAR (Directory of Open Access Repositories):http://www.opendoar.org/
⇒ ROAR (Registry of Open Access Repositories):http://roar.eprints.org/
⇒ re3data (Registry of Research Data Repositories): http://www.re3data.org/
⇒ Sherpa/ROMEO: http://www.sherpa.ac.uk/romeo/index.php, publishers- and journal policies on copyright and self-archiving

Katharina Mueller,
Coordinator of Eurodoc Open Access WG
THESIS e.V. (The Interdisciplinary Network for Doctoral Candidates and Doctorate Holders in Germany)

THE PUBLIC STAKEHOLDER CONSULTATION – EURODOC INTERIM EVALUATION OF HORIZON 2020

Brussels, 31st January 2017

Preface

Horizon 2020 is the biggest European Union Research and Innovation programme and the largest in the world providing nearly €80 billion of funding available until the year 2020. Its main objectives are referred to inducement of breakthroughs and discoveries by transferring innovative ideas from the laboratory to the market. By offering funds for promoting the scientific and technological excellence, it aims at lifting the European Union's economic competitiveness and addressing the very important societal challenges.

The Horizon 2020 programme has just entered its 4th year and time for midterm evaluations has come. Eurodoc welcomes and supports the initiative of the European Commission in public stakeholder consultations and is willing to provide its contribution to this appraisal. We believe that Eurodoc opinions will bring to light early career researchers' concerns and priorities and will make a valuable input to the future discussions on the implementation of EU research and innovation funding.

The funding for innovation and research based on grants and open calls at the EU-level create added value and are key to retain promising early career researchers and to boost Europe's overall competitiveness. Nevertheless, the severely low success rates of Horizon 2020 calls, due to a lack of funding at both EU and national scales have harmful effects, limiting the early career researchers in their careers. These are, among others, high participation costs, wasted research ideas, and greatly reduced competitiveness of public investment.

This situation is caused by several independent flaws. Among them we can highlight the variations in lawregulations concerning the settlements of grants from one country to another, the lack of continuous financial and career management, the low success ratio and the ranking based evaluation which rewards only ideas from the strongest scientific units, the settlement of grants which impacts mobility and prevents the creation of permanent positions.

Furthermore, despite progress on simplification, Horizon 2020 projects require a tremendous administrative and financial commitment given accounting and reporting complexity, as well as insufficient coverage of indirect costs. Sustainability and capacity in retaining and attracting scientific talent is undermined by rigid and costly implementation, early career researchers are often seen as disposable workforce.

Starting from the key principle of research matching criteria of excellence, multidisciplinarity, and collaboration for the selection and support of research projects, there is to find ways to connect more researchers to funded research projects and strongly encourage and support the involvement of early stage researchers.

Widening the base of excellence in research within the EU is necessary to ensure societal progress and well-being in the long-term.

However, to achieve that, the implementation of regular systems of support for excellence of research should be applied, instead of only short -term financing based on grants. Funded projects should also ensure that the grants are used for creating research opportunities inside and outside academia.

The odds of a project being funded increases with a more senior member being head of the project, In a high performance environment, it is highly unlikely that the Universities back a H2020 funding proposal emanating from an early career researcher.

During the first two years of Horizon 2020, the current Framework Programme (FP) for Research and Innovation has attracted more applications, more actors and more proposals than ever before. Research funded through the FPs is among the best ways to obtain added value from public investment in Europe. While the FP programs becomes more attractive, Universities see national funding opportunities go down, but they tend to be less successful in their bids to Horizon 2020. Many research institutions are less successful with their proposals to Horizon 2020 than they were in the FP7 programme: almost 90% of all and nearly 75% of high-quality proposals remained unfunded.

This is a clear indication that collaborative science is being underfunded. This situation creates more competition than the system can sustain with the current levels of funding and thus greatly reduces the efficiency of public investment. The oversubscription for top- rated proposals affects the entire research and innovation: novel research ideas that could benefit in the long term remain unfunded. The low success rates are discouraging to academia, research institutes and industry alike. Institutions also accumulate multiple losses through a costly proposal development cycle, basic calculations show that between one third and half of the funding that countries receive from Horizon 2020 is the equivalent to the costs of the total number of applications. Finally, grant -based financing is less stable and implies the definition of a yearly strategy and planning, which in case of research is either biased or impossible as well as it jeopardizes early stage researchers' career.

Europe would benefit from sufficient and sustainable funding levels for innovative research projects as they play a fundamental role in the integration of knowledge in Europe and in the implementation of the European Research Area.

Calls for research proposals often mention a technology readiness level (TRL). Unfortunately, funding decisions are too often skewed towards projects with a higher TRL. A lack of funding of middle TRL research jeopardizes opportunities for the most innovative projects and leads to a risk-averse approach. This may eventually lead to an insufficient science base to support the high TRL research. More funding for lower TRL research is of utmost importance to fill the potential gap between low and high TRL research.

Applied sciences serve the people more in this respect, however basic knowledge is the basis to any development in research, and brings also a value that should not be omitted.

The connection between fundamental research and innovation needs to be strengthened, the projects granted should not focus only on short-term future technological applications.

Some forms of innovation, e.g. innovation in social or human sciences, are not given enough importance in the calls, despite these being vital to innovation in society. Innovation can be provided by encouraging interdisciplinary research, too often considered as not cutting-edge research. There needs to be a clearer acknowledgement of the need for 'innovative research' and not just 'innovation as market exploitation'.

Furthermore, the level of funding for collaborative projects, eg "Societal Challenges" and "Industrial Leadership" pillars, is not sufficiently adjusted with expectations. Because of the high level of oversubscription, applicants sometimes promise unrealistic impacts in order to improve their chances of success, far beyond for the real life-time of a project.

The focus on innovation should be reconsidered to be less technically oriented and to include human and social sciences.

The previous and current EU Framework Programmes for Research and Innovation have made a major contribution to reach critical mass, reduce inconsistency, and boost innovation and cutting-edge research in Europe. However, the differences between the countries R&D-TO-GDP ratio are growing, hence a more general view on efforts and investment at the EU level are needed for building more integrated ERA.

The top performing participants in Horizon 2020 consists in universities and research institutions. from 12 countries in Europe, getting around 75% of the funding so far. These institutions often have a vast network that collaborates with similar units throughout the country and abroad. Due to this, they can boast the highest participation and funding levels in Horizon 2020.

The salaries of researchers working on Horizon 2020 projects are tied to basic salary levels in the country where they work. Researchers in poorer countries of the EU are paid less than they would if they worked on projects funded by their national government. This rule's negative impact seems to be affecting more the countries with lower Horizon 2020 participation levels.

A system of quotas could be considered to reinforce support for under-achievers and countries which had a decline in public founding.

The salary rule should be removed or at least weakened to not create lower the inequalities between European countries.

Eurodoc believes that open access to scientific publications is vital for the development of open -science and values the fact that open access to peer-reviewed scientific publications is mandatory in Horizon 2020.

Horizon 2020 should introduce funding to develop new publishing paradigms and encouraging the exchange and sharing of ideas by strengthening the guidelines for openness of publications and data.

However, given the discrepancy and great number of open science policies around Europe, the European Commission should take a more active role in aligning the different open access policies.

Also publications funded by H2020 and submitted should be made open access shortly after the date of publication.

Prepared by Eurodoc Policy Officers Maximilian Lesellier and Daniëlle van Osch

Representing Eurodoc

Eurodoc was officialy present at these events:

6th International Youth Science Forum "Litteris et Artibus", 24-25 November 2016, Lviv, Ukraine (Julija Baniukevic)

"Careers: Beyond the thesis and beyond the academy": Meeting of EARLI SIG 24: Researcher, Education and Career, 19 September 2016, Porto, Portugal (Sanna Rantakomi)

Science Europe Reception, Celebration first 5 years of activity, 27 February 2017, Brussels (Iryna Degtyarova)

ATEE – Eurodoc meeting, 27 February 2017, Brussels (Iryna Degtyarova)

Sense for Science – Eurodoc meeting, 28 February 2017, Brussels (Iryna Degtyarova)

National Congress of Science « Achieveing Excellence in Science», 24-25 February, 2017, Poznan, Poland (Ewelina Pabjanczyk-Wlazlo)

PhD Studies in Lithuania: reality and aspirations Conference, February 2017, Vilnus, Lithuania (Ewelina Pabjanczyk-Wlazlo)

MCFA: Researchers without frontiers. Career workshop, 18 February 2017, Dusseldorf, Germany (Claudia Dobrinski)

ERC 10 Year Anniversary Event, 21 March 2017, Brussels (Emeline Lesmann)

MCAA Annual Conference, 25 March 2017, Salamanca, Spain (Miia Ijas)

SuperProfDoc Workshop, 10-11 April 2017, Maastricht, the Netherlands (Claudia Dobrinski)

International Workshop on career development and interdisciplinarity for ESRs, 29-31 March 2017, Debrecen, Hungary (Laszlo Cover, Peter Miklos Komives, the Board, co-organizing)

EURODOC ERA REPORT

Eurodoc issued the report entitled „Eurodoc contribution to the European Research Areas“, which was drafted by the Board, contributed by Eurodoc working groups and national associations, and validated by the Annual General Meeting in Luxembourg, April 2016.

In 2011, Eurodoc declared a commitment to ERA to support and full endorsement of its principles and initiatives. As a representative of 32 national organisations, Eurodoc has long been active in promoting best practices in research activities in 2002. By formally endorsing the Charter and the Code, Eurodoc wishes to confirm the importance of partnership in their effective implementation.

We believe that researchers, employers and funders must work together to ensure C&C are fully and properly implemented and promoted. To support this partnership principle, Eurodoc commits to continue with issuing policy recommendations on all aspects concerning the scientific community and engaging in dialogues with our partners in Europe and abroad. W e call on our member organisations to assist in disseminating the C&C through their networks and formal endorsement (Commitment…, 2011).

Eurodoc focuses not only on the implementation of ERA policies but crucially also shaping it through constructively representing early stage researchers' needs and wishes so that the policies are relevant and have support.

Eurodoc’s mission is to represent and consolidate the community of doctoral candidates and junior researchers in Europe in their pursuit of a decent professional life. We aim to be the effective and efficient voice of doctoral candidates and junior researchers at the European level. At present, despite efforts of over more than a decade to develop a single European Research Area (ERA) and the European Higher Education Area (EHEA), there still exist strong discrepancies in how ECRs are treated throughout Europe and across disciplines. Doctoral candidates and junior researchers should be fully recognised as professional workers. As such, they deserve appropriate working conditions and the recognition of their role in policy debates at their respective institution, at all levels of governance, and in all policy circles where such debates are taking place.

In particular, doctoral candidates and junior researchers working in academia have to be recognised as a vital part of the HEIs “work-force” given their major role in the research and teaching environments, and in the long-term sustainability and success of the HEIs. The work of doctoral candidates and junior researchers should be granted with adequate funding, social security and mobility rights. Researchers, funders and employers should work together to ensure this outcome. Similarly, employers and funders outside of academia should recognise that holder of PhDs are an added value to their workforce as highly skilled professionals with research experience.

The Eurodoc ERA Report is available on the official Eurodoc page - www.eurodoc.net.

Iryna Degtyarova, Eurodoc Board Member, RMU Ukraine

INTERNATIONAL WORKSHOP ON CAREER DEVELOPMENT AND INTERDISCIPLINARITY FOR EARLY STAGE RESEARCHERS

On 27-31st of March, 2017, the Eurodoc and Organization of Hungarian PhD and DLA candidates DOSz organized an "International workshop on career development and interdisciplinarity for early stage researchers", which took place at the University of Debrecen, Hungary.

The aim was to bring more focus on the career and disciplinarity issues among early career researchers, on the issues of postdoctoral schemes. Sessions moderators were experienced Eurodocers, coordinators of the working groups (PhD Training, Mobility), Eurodoc adminsitration (the Board, chaired by the President Ewelina Pabjańczyk). During the thematic workshops participants discussed topics about the equal accessibility to research career; about addressing international mobility and interdisciplinarity issues. For Eurodoc Team internal workshops were organized.

Dr. Kata Asztalos held a presentation about the main outcomes of the national PhD survey carried out by the DOSz (Organization of Hungarian PhD and DLA candidates). From all fields of science 1476 candidates gave answers related to their doctoral studies, financial background, motivation, career possibilities and freetime. The main conclusions are the followings: 1) Hungarian PhD candidates are highly satisfied with their supervisors but doctoral curricula are not acceptable by their opinion. Most of them have more status and work places to obtain satisfying salary, on average they work 9-10 hours a day, and have 3 hours as free time which they spend mostly with their family members. However still the academic carrier is the most popular career plan, private sector and self-employed sectors are also became more and more popular, especially among the youngest candidates. The analysis of the data is still in process, the detailed outcomes of the study will be published in Hungarian and international journals related to higher education.

Eurodoc raised the topic: "Future Researchers with Disabilities: Challenges and Opportunities", this session was about unique challenges faced young future researchers with disabilities. Barriers such as little or no knowledge about the concept of disability, low expectations and negative attitude of people impacts their inclusion.

Dr. Fabio Faraguna and Ms. Katarina Novak (Croatia) presented the Croatian case on accessibility to research career and obstacles which are present before starting and after obtaining PhD degree. According to the current situation, there is a higher productions of PhDs in comparison with the demands of the labor market, which results in the higher unemployability rate and outbound mobility for PhD researchers in Croatia."

Mr. Dodik Setiawan Nur Heriyanto (Indonesia) made a presentation on joint collaboration and research opportunities in Indonesia. To increase innovations and human resources, Indonesia motivates for each Indonesian researchers to make collaboration research with foreign researchers. This motivation has been realized by national policy through supporting huge fund of research under the scheme of Ministry of Higher Education, Research, and Technology and also Ministry of Finance (LPDP). Using this scheme fund, foreign scholars especially European researchers are possible to conduct joint collaboration research with the Indonesian research institutions and/or Indonesian scholars."

Outcomes of the Workshop:

⇒ To promote opportunities in Eurodoc committee and working groups to have different perceptions and more diverse talent.

⇒ New agenda on the Inclusion of researchers with disabilities to discussed at AGM, Oslo (Norway).

⇒ To include a separate working group focusing on the integration of PhD students/ young researchers with disabilities.

⇒ Re-visit gender equality working group objectives at AGM, Oslo (Norway).

Promoting skills PhD candidates needed to be included into doctoral training:

In Academia
- special teaching skills
- academic writing skills
- research methodology
- valorization –result communication
- language skills
- social skills
- networking skills
- funding skills
- flexibility
- date management
- leadership

Out of Academia
- good connections between people from industry
- self confidence
- communication skills
- cooperative skills
- flexibility
- design thinking
- intellectual property
- project management
- networking

Laszlo Kover, Eurodoc Board Member, DOSZ

THE CHALLENGES AND POSSIBILITIES OF INTERDISCIPLINARITY

The current stage of development of scientific knowledge associated with the formation of new research approaches is based on the integration of various sciences, the dialogue of ideas and concepts. Breakthroughs in science, education and in the information society are impossible without the cooperation of researchers from various branches of scientific knowledge as a problem of objective reality in the world is difficult, complex, dynamic and uncertain. Under these conditions, in research, the importance and relevance of the interaction of various branches of scientific knowledge, disciplines, requiring expansion of interdisciplinary research.

Interdisciplinarity is a major trend in educational and research fields at national, European and international levels. In 2004, the European Union Research Advisory Board (EURAB) published a report on the role of interdisciplinarity in research. The report points recommendations for supporting increased interdisciplinarity in research and education in Europe. Among framework programmes (FP), the main funding instrument to support research activities in the European Union, FP5 (1998-2002) was considered a "major departure from previous Framework Programmes" in terms of its focus on interdisciplinary science, but an analysis conducted in 2004 found few projects that were really interdisciplinary [1,2].

As authors note, "subsequent Framework Programmes focused on interdisciplinary research within the European Union's 8th Research Framework Programme "Horizon 2020" based on societal needs".

The Europe 2020 Growth Strategy and the Horizon 2020 Framework Programme for Research and Innovation call for interdisciplinarity and new solutions to tackle Grand Societal Challenges 4. Challenges in society are in the centre of the European Union's Horizon 2020 Framework Programme for Research and Innovation.

Interdisciplinarity is an inherent part of new way of doing science and Science 2.0. There are a lot of lessons on directed research programs and organised research units at universities, research institution but no empirical evidence on how to achieve interdisciplinarity and how the organisations can effectively cross close disciplinary boundaries and perspectives [4].

The need for multiple disciplines and multiple perspectives to illuminate the human context could not be more evident, challenging as it has proven to attain in practice. Real world problems do not exist independently from their sociocultural, economic, political context [6].

In order to solve the problems of development of science and education in Europe to overcome the limitations of traditional disciplinary thinking and make full use of the possibilities of interdisciplinary research.

For today, the progress of interdisciplinary research is restrained by, among others: differentiation and isolation of scientific disciplines and theories; educational systems need new interdisciplinary research areas; weak interdisciplinary career structures; lack of effective organisational methods and forms of cooperation in interdisciplinary teams; new-field, interdisciplinary journals can take time to become established...

Interdisciplinarity is the basis of modern research, reflecting the integrated nature and complexity of the social phenomenon and needs to build on top of the academic environments, where the researchers, teachers or students combines different subject areas in new and effective ways so that it solves complex societal challenges.

Today we face several tremendous social challenges, such as climate changes, health benefits, demographic changes and increased globalisation. The most important challenge is the way in which we structure the public knowledge production, where research councils tend to allocate funds to monofaculty and monodisciplinary units and the way in which we train young researchers, create career paths for researchers, train university students and others in the higher education system [2].

In its response to the British Academy's call for evidence on interdisciplinarity (2015, p.1), The Royal Society notes the following: "Many of the major challenges that society faces today will require solutions developed through interdisciplinary research (IDR) and cross-disciplinary collaboration. Improving support for and addressing the barriers to this work could contribute to major scientific breakthroughs at the interface of disciplines, develop new technologies and ultimately support the economy and develop novel solutions to societal challenges." [7].

The challenges are especially clear from our interviews that we conducted among leading actors within research, education and the business community. For example, respondents point out that there continues to be a lack of incentives for the education institutions to place more emphasis on increased cooperation and development of interdisciplinary educational programs and to give the students even better possibilities to move across disciplinary fields in relation to the needs of society [8].

The key aims of the League of European Research Universities (LERU) are to identify and support areas where interdisciplinary collaboration is likely to create new knowledge, create the next generation of interdisciplinary researchers, promote a culture of interdisciplinarity and continually improve the system. All of these aims are very important challenges for interdisciplinarity today [2].

The illustration is taken from www.123rf.com

Overcoming the challenges is possible by building a professional team, a team of people who think across fields and disciplines. So, effective IDR can require longer timeframes for the formation of teams. It should be noted creative initiatives and a successful team are needed to build a successful interdisciplinary research at all levels of research activity.

According to W. James Jacob's article [9], which published list provides 10 key characteristics essential for successful interdisciplinary teams:

- leadership and management;
- effective communication;
- personal rewards, training and development;
- appropriate resources and procedures;
- appropriate skills mix;
- positive and enabling climate;
- individual characteristics;
- clarity of a shared vision;
- quality and outcomes;
- respecting and understanding roles.

Involve all categories of relevant stakeholders along the entire process of building an interdisciplinary research project also very important select an experienced coordinator who can community building in the early stages [5].

In addition, strong research communities abroad, e.g. Stanford and Oxford worked toward enhancing interdisciplinarity in education and research. In these interdisciplinary teams have been established consisting of several researchers from other fields and all of whom work together on business-oriented problems. So, interdisciplinary cooperation is a factor of progress in modern society.

In order for IDR to be successful, it is necessary to build interdisciplinary cooperation and attract experienced partners. In most successful cross-disciplinary research projects more than 10-16 reviewers are involved. Creating an effective cross-disciplinary partnership, we create the basic principles of partnership interaction, analyse risks and develop a joint plan for the implementation of the project. Numerous initiatives have been launched throughout the European Union to inspire cross-disciplinary collaboration.

By focusing on the interdisciplinary path, we can create some good conditions for the research and education institutions to launch new initiatives.

President of Harvard University, Charles Eliot played a key role in the development of the "liberal arts education", so his radical interdisciplinary views on world educational system are still relevant today. Students are able to combine multiple disciplines and pursue different ways of thinking about the same problem. It is a really revolutionary way of learning that encourages cross-disciplinary collaboration, enables students to develop critical thinking skills, open new opportunities for growth [10].

IDR as an objective of ERA could be done identify smart models for incubators and also support researchers exchanges in order to exchange the best IDR practices [3].

We must create new forms of interdisciplinary communities, which paying particular attention to their use in the development of IDR in society – Incubators, Networks of Excellence, Hubs, Co-workings, "Virtual Laboratories" and "Virtual Research Centres".

An Interdisciplinary agenda still challenges vested interests and practices of the traditional academic establishment, which includes not only universities and research institutes but also scientific associations and powerful publishers.

As an example of the best practices – the FUTURAGE project aimed at developing a Road Map for European Ageing Research. A project serves as a successful example of Interdisciplinarity in practice. The presence of young people in the project was very helpful in "thinking outside of the box" [11].

So in this fields, Eurodoc comprises researchers of many different disciplines and cultural backgrounds and, therefore, ideally positioned to promote the discussion about the future interdisciplinary collaboration and develop of IDR initiatives inside and outside academia. Within the structure of Eurodoc works an Interdisciplinarity Working Group (WG).

The strategic aim of the Interdisciplinarity WG is improving dialogue and joining forces with other National Associations (NAs) to create an interdisciplinary research community as a European online platform to facilitate interdisciplinarity, international scientific exchange and collaboration, exchange of ideas, as well as to create a database of contacts of young researchers in Europe who have significant achievements in the field of interdisciplinary research.

Eurodoc Interdisciplinarity WG began work on the creation of a database of the best interdisciplinary projects in the field of education and research in Europe. First, there is a need for analysis of literary sources, basic documents, strategies for the development of the largest higher educational institutions, research centres. At the second stage, we plan to hold workshops for presentation and exchange of best practices in the field of interdisciplinarity. This database will be an interdisciplinary informational platform for NAs, a strong motivation for ECRs to develop interdisciplinary initiatives, create interdisciplinary research consortia, to be in the trend of innovative projects and programs in Europe.

In conclusion, we are stressing, that interdisciplinarity is a motivative power of innovation, necessary venture unexpected synergies in research and development in Europe. Universities, Research institutions, Funding Agencies and the European Commission Services play a critical role in providing researchers with the flexibility and appropriate resources to undertake such research.

Interdisciplinarity is driven by powerful scientific and societal needs. In a highly competitive environment, academic institutions that are able to further capitalise on interdisciplinary research and teaching will reap a major share of the scientific benefits of its transformative potential. These benefits will translate into societal gains, which are at the core of academic institutions' social responsibility and which have become even more important in addressing the challenges of sustainability that we are facing in this early 21st century [2].

References

[1] Bruce, A., Lyall, C., Tait, J., and Williams, R. (2004). Interdisciplinary integration in Europe: the case of the Fifth Framework programme. Futures, 36(4), 457-70.

[2] http://www.intrepid-cost.eu/wp content/uploads/2016/12/ Interdisciplinarity_and_the_21st_century_research-intensive_university.pdf9

[3] https://ec.europa.eu/research/eurab/pdf/ eurab_04_009_interdisciplinarity_research_final.pdf

[4] https://ec.europa.eu/research/innovation-union/pdf/expert-groups/rise/allmendinger-interdisciplinarity.pdf

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NATIONAL ASSOCIATIONS NEWS
PREPARING FOR THE NATIONAL ELECTION IN GERMANY

In 2017, several European countries are holding important elections. The Dutch just had their general election in March, the French are going to the polls for the presidential election in May, and Germany is going to have its national election in September. Even though higher education (HE) and research issues are usually not the "hot topic" to be discussed during election campaigns, our national association THESIS e.V. is currently preparing a survey for the parties in collaboration with seven other associations representing early career researchers' (ECRs) interests. The questionnaire is addressing several HE and research topics and has two major aims:
- to raise awareness among the politicians for issues that are important to ECRs and to show them that we are voters whose matters of interest are to be taken seriously;
- to raise awareness among ECRs for HE and research policy, and to encourage them to make their interests known and consider these issues for their election decision.

The survey addresses questions related to five fields: (1) Research in society and politics, (2) Graduation and career in research, (3) Framework conditions for doctoral candidates, (4) Communication of research, and (5) The international level of research. Among others, we are interested to know how the parties intend to improve the working and employment conditions of ECRs, how they want to ensure gender equality and compatibility of family and career in research, and what measures they plan to implement for providing attractive career paths in the German research system. Further, at the international level we ask the parties to explain their position regarding international research collaboration and mobility, and how important they consider the European Research Area and the European Higher Education Area.

In times of Brexit and nationalisation movements gaining strength in several countries, a clear commitment to the European idea should be a strong vote-decision criterion for all ECRs who believe that research can only be successful if we collaborate intensely, irrespective of national borders, and that research has the potential to help overcoming yet existing unnecessary segregation and boundaries.

Anna Tschaut, President of THESIS e.V. -
The Interdisciplinary Network for Doctoral Candidates and Doctorate Holders in Germany

The European Charter for Researchers: The Code of Conduct for the Recruitment of Researchers was translated into Ukrainian language under the support of RI-LINKS2UA project. https://ri-links2ua.eu/object/document/307/attach/Book_pdf_ok.

THE EUROPEAN CHARTER FOR RESEARCHERS: THE CODE OF CONDUCT FOR THE RECRUITMENT OF RESEARCHERS OFFICIALLY ISSUED IN UKRAINIAN LANGUAGE

The Young Scientists Council, under the Ministry of Education and Science of Ukraine has brought C&C agenda to Ukrainian policy makers and academic community.
During H2020 peer review R&D system RMU raised the importance of C&C. In our letter to the experts team we highlighted that European Charter for Researchers and Code are not translated, or widely discussed and not introduced into the HR policy in academia. That is why we proposed to translate and introduce the European Charter for Researchers and the Code of Conduct for Recruitment of Researchers as a part of ERA and main benchmarks for recruitment policy for researchers, junior researchers and PhD candidates, ensuring proper working conditions and professional development. RMU conducted a translation and sent it to the Ministry and EU experts. In March 2017 it was officially issued by the European Commission.

Iryna Degtyarova, PhD, Board Member, RMU

NA'S CONTRIBUTION TO ERA – HUNGARY, LUXEMBOURG, THE NETHERLANDS

DOSZ, Hungary

1. NA's contribution to development of more effective national research system. DOSZ is trying to participate in the policy making system related to higher education. The new higher education acts, governmental statues are generally sent to the DOSZ executive committee for comments. DOSZ discuss it with its' member associations (e-mail lists, general assemblies) and our comments are always sent back to the ministry with the support of our member associations (they always vote on DOSZ's proposal). DOSZ also participates in the ministry working group on the National Excellence Program, which provides grants for master students, doctoral candidates and postdoc.

DOSZ has a wide partnership with the relevant stakeholders of higher education: Hungarian Accreditation Committee, Rectors' Conference, National Students' Union, Hungarian Academy for Science, National Research Development and Innovation Center etc. => Common discussion. strategies and policy documents are sent among these associations.

2. DOSZ experience to demonstrate strong commitment to ERA values. Our greatest success story is the new 2+2 year PhD training system. The ministry decided to change the structure and the funding of the PhD training in the summer of 2015. Then a working group was formed including the above-mentioned organisations. DOSZ was asked by the state secretary for higher education (Dr. László Palkovics) to prepare a proposal document for the new PhD training including: background calculations, international outlook, statistics etc. DOSZ prepared the proposal and then it was discussed by the partner associations.

Then DOSZ's proposal document was almost 100% involved into the official ministry document, which was supported by the government, and then by the Hungarian Parliament in autumn 2015.

Then in 2016 DOSZ was involved into working group who is responsible for the content (e.g. modules) of the new training systems.

3. European Charter&Code promotion. Direct activity was not applied for the European Charter and Code, although it was cited together with other European policy documents in our proposals. I think it is possible to conduct a workshop, or to prepare a presentation in one of our regular meetings to our member associations. For example we have the Milestone Conference in November, where our year activity will be evaluated with the representatives of our member associations.

LUXDOC (LUXEMBOURG)

LuxDoc represents junior researchers by periodically meeting with national decision makers and collecting feedback from doctoral candidates and trying to relay those problems to the concerned parties. Further there is the organisation of a national PhD candidates welcome day and a PhD day in cooperation with the industry.

Taking as reference the slogan "A unified area open to the world, in which scientific knowledge, technology and researchers circulate freely" then it can be said that LuxDoc experiences a growing awareness among policymakers to allow free movement and easy access of researches coming to Luxembourg (also for non EU researchers). Further, the National Research Fund and other entities are working on quality frameworks for research as well as making scientific results reproducible.

LuxDoc did not feel the need to conduct active promotion since the different actors in Luxembourg are aware of the the European Charter and Code for Researchers as well as the Code of Conduct for the Recruitment of Researchers. As a matter of fact, the actors in the domain of research act accordingly (or do their best to do so) in order to be in line with the values and guidelines stated in these documents.

PNN (The Netherlands)

PNN actively represents the interests of R1 researchers. We remain constantly in contact with our member organisations and meet every 3 months together to discuss problems and goals and to improve policy. As the national Dutch organisation for R1 researchers in the Netherlands, we regularly attend workshops and meetings on a national level, and are regularly invited to discuss topics related to research in the Netherlands with e.g. our Ministry of Education, Culture, and Science as well as the National Scientific Organisation. Furthermore, we conduct our own research which usually makes the national papers and leads to political parties taking up our points where we then get to shape national policy.
We advocate the ERA values (some more than others) in our decision and policy making. Specifically right now we are very busy with (intersectoral) mobility, and not only making PhDs aware of the need for transitioning to the labour market, but also actively helping them gain experience in industry and making industry aware of their potential. See our Professional PhD Program for more information: http://www.hetpnn.nl/en/ppp.

THE IMPORTANCE OF OPEN SCIENCE TO ECRS
EUROPEAN COMMISSION SURVEY ON OPEN SCIENCE & CAREER DEVELOPMENT FOR RESEARCHERS 2017

Open Science has become an increasingly important topic in scientific research. This is clearly reflected in the choice of theme, 'Open Science: Challenges and Opportunities for Early Career Researchers', for the coming Eurodoc Conference 2017 in Oslo. Open Science aims to make scientific research widely accessible and to more engage society in research.

The phrase 'Open Science' is an umbrella term which encompasses various practices such as:
- *open data* = open sharing of research data
- *open source* = open sharing of research software/code
- *open notebook* = open sharing of research notebooks
- *open access* = open publishing of research results in journals/textbooks and/or depositing them in repositories/archives
- *open peer review* = open sharing of research peer reviews
- *open education* = open sharing of education and resources
- *citizen science* = involving the general public in scientific research.

Open Science plays a central role in the European Commission's plans for research and innovation in Europe, and constitutes one of the ***Three O's*** in the New Vision for Europe, together with Open Innovation, and Open to the World. Such policy for researchers is, however, often decided at higher levels of university administration and government. Eurodoc is currently working with the Working Group on Education & Skills under Open Science at the European Commission, to provide input from the viewpoint of researchers on how they feel about Open Science and the skills and facilities they need to practice Open Science.

To gather the opinions of researchers across Europe, Eurodoc and the European Commission have developed a survey on the topics of Open Science, with a particular focus on Open Data and Open Access. The survey also focuses on Career Development and is particularly aimed at early-career researchers. The results of the survey will be used to guide European policy on Open Science, and to improve the Career Development of (early-career) researchers.

The survey takes about 15-20 minutes and is open until 15 May 2017. Please fill in the survey and share your views on Open Science and Career Development for researchers! The survey can be accessed via this link: https://ec.europa.eu/eusurvey/runner/OSCDSurvey2017. Please also distribute the survey widely amongst all early-career researchers in your country!

Gareth O'Neill, Eurodoc Mobility WG Coordinator

Dear Eurodoc delegates, observers, doctoral candidates and junior researchers around Europe, the European Council of Doctoral Candidates and Junior Researchers (Eurodoc) and The Association of Doctoral Organisations in Norway (SiN) have the pleasure to invite you to the 17th Eurodoc Conference, which will take place on 26-27 April 2017 at the University of Oslo, Norway.

We would like to invite everyone interested in Open Science to join the conference and to be part of the discussion to help shape the future of scientific practice. The conference will be guided by the theme "Open Science – Challenges and Opportunities for Early Career Researchers", and aims at bringing together a blend of Open Science visionaries, international experts, and stakeholders.

Open Science means allowing everyone free access to research results. Science must become more accessible, inclusive, transparent, collaborative and cost-effective for it to thrive. Peer-review processes, scientific journals and articles repositories are the main structures that will need to be redesigned to welcome the Open Science innovation in a functional and sustainable way. Researchers of every field, as continuous contributors to the development of science, can increase their scientific outcome via more effective publishing strategies. The Eurodoc 2017 conference themed "Open

Science – Challenges and Opportunities for Early Career Researchers" will provide great insight to the processes behind open access science, highlighting the advantages, risks and problems involved with Open Science.

Our speakers will provide a close look at the problems of today's scientific communication, and explore how Open Science offers ways to overcome issues of inequality, research integrity and result reproducibility. Careful attention will be given to the relevance of Open Science for day-to-day working conditions of Early Career Researchers, and which concrete steps can be taken by decision-makers and individual researchers to promote Open Science. The presented measures will have immediate implications for individual researchers and will help contribute solving global challenges.

The full conference program with a list of speakers and the agenda can be found at http://eurodoc-Oslo2017.org. For more details and registration, please visit the website and the official Eurodoc Conference 2017 event page on Facebook https://www.facebook.com/events/1785893541669970/. The conference will take place from 26-27 April 2017 at the University of Oslo in the Helga Engs Hus.

Looking forward to meeting you in Oslo,
Ewelina Pabjańczyk, President of Eurodoc
Vegard Stenhjem Hagen, President of SiN

www.eurodoc.net
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