Open Science in European Universities

Dr. Ignasi Labastida
on behalf of
Prof. Jean-Pierre Finance, Prof. Bernard Rentier, Dr. Lidia Borrell-Damian, Dr. Bregt Saenen, Lennart Stoy

Ciencia Abierta - Ecos, Retos y Oportunidades de los PlaneS
VIII Jornadas OS Repositorios y XVIII Workshop de Proyectos Digitales de REBIUN y CRUE
Universidad de León, España
25-27 Septiembre 2019
Open Science: key objectives and conditions

Key objectives:
• Sharing of research-generated knowledge
• Quality of research and research ethics and integrity
• Transparency of the research process and outcomes publication
• Easy and affordable accessibility to research publications and data

Conditions:
• Investment in Open Access business models (cost of publications)
• Investment in e-infrastructure (deposit and access – FAIR principles)
• Policies fostering Open Access to research publications and data
• Researchers motivation and careers
Constraints for Open Science:
Limited engagement of a large part of researchers for many reasons

Necessary (although not sufficient) conditions to make Open Science a reality

• Clarification of legal issues concerning sharing and reuse of publications and data – copyright regulation
• Original authorship respect – ethical considerations
• Reputation and research career progression – linked to research assessment and outputs
Share of Scholar Publications in Open Access worldwide is far from 100%

Piwowar, Heather; Priem, Jason; Larivière, Vincent; Alperin, Juan Pablo; Matthias, Lisa; Norlander, Bree; Farley, Ashley; West, Jevin; Haustein, Stefanie (2018-02-13). "The state of OA: a large-scale analysis of the prevalence and impact of Open Access articles". PeerJ. 6: e4375. doi:10.7717/peerj.4375. ISSN 2167-8359. PMC 5815332. PMID 29456894.
Share of Open Access scholarly publications is far from 100%.

Estimation OA < 35% of the total of scholarly publications

EUA Open Access Survey 2017-2018:

Existence of OA policy

- Yes: 62%
- No, but we are developing a policy: 26%
- No: 12%
Key information

- Data collection: August-November 2018
- Respondents:
  - 31 Consortia negotiating on behalf of the university sector and other higher education and research performers
- Focus: Periodicals
- Data analysed in aggregated fashion
- Most data refers to big deal contracts ongoing in 2017 or 2018
Total annual expenditure on big deals

For all subscriptions to electronic resources (including periodicals, databases, e-books) by national consortia:

Total (30 European countries) = ~ 1 025 253 055 EUR (estimate 2018, 3.5% yearly increase)

This is a conservative figure not including:
- Article Processing Charges (APCs)
- Consortia other than those participating in the Survey
- Individual institutional contracts with publishers

For periodicals only in the surveyed consortia:

Total (31 consortia, representing 30 European countries) = ~ 726 350 945 EUR (average yearly increase 3.6%)

Proportion of costs covered by universities in the consortia = 519 973 578 EUR (~72%)
Origin of funds for big deals

- Only universities: 7%
- Universities and government/governmental agency: 36%
- Only government/governmental agency: 42%
- Other: 16%

Publicly available information on expenditure on electronic documentary resources

- Yes: 61%
- No: 39%
University leadership role in the negotiation of big deals

The university leadership has a role:

- As part of the negotiating team: 18%
- As the lead negotiator: 24%
- Other: 59%

Other includes: negotiation only for some publishers; defining strategy.
Big Deals Survey 2018

Relationship between amount spent on five big publishers per year and GDP per capita

**Calculation:** Amount spent annually on 5 big publishers / GDP per capita

**Interpretation:** the result represents the number of people that need to work for one year (person/year), given a certain GDP per capita, in order to reach the same monetary value as the cost of the five big publishers in that country.

**GDP per capita:** source Eurostat (data from 2016)
Summary – Institutional policies on Open Access to Research Publications and Research Data

Existence of institutional policies
- OA to research publications: 62% of universities
- Research and data management (RDM): 21% of universities
- OA to research data: 13% of universities

Existence of institutional repositories: 89% of universities

After the adoption of an OA policy: 75% of universities saw an increase in publications’ deposit rates in the repository

Monitoring the number of publications in OA:
- Green OA: 69% of universities
- Gold OA: 43% of universities
The dominance of the journal impact factor leads to two main problems:

1. the quality of an article produced by researchers is not evaluated directly, rather through a proxy, i.e., the reputation of the journal it is published in;
2. this situation reinforces the dominant position of commercial academic publishers and disproportionately adds to their power in shaping the way research is funded and conducted.

**EUA commitment**

Raise awareness and support universities in the improvement of research assessment approaches that focus on research quality, potential and future impact, and that take into account Open Science practices.
Researchers, universities and other research performing organisations, research funders and policymakers are revisiting their approaches to research assessment:

• Current approaches related to negative trends in academia
• Discussion about the current state and future direction of scholarly research, as well as technical discussions
• Sprawling field involving a wide variety of actors, creating the need for a concerted approach

Source:
EUA (2019) Reflections on University Research Assessment: Key concepts, issues and actors
EUA Actions with its universities and other stakeholders

- Briefing on key concepts, issues and actors (Apr-19)
- EUA surveys (Institutional Polices, Big Deals, Research Assessment)
- Publish & Read Study (Technopolis & Van de Vooren)

Engaging in dialogues

- Workshop on institutional researchers’ assessment and careers (14-May, Brussels)
- Dialogue with other actors, e.g. Science Europe, Open Science Policy Platform, EOSC, MPDL, etc.
- Partner in VSNU Event on (15 November 2019)

Developing policy and good practice recommendations

- Joint statement EUA-Science Europe
- Policy/Political Positions (e.g. input to Plan S)
- Support to university leadership: rectors and vice-rectors, deans, heads of laboratory, etc.

More information:

© EUA 2019
Autonomy to develop and implement research assessment procedures for the purpose of careers in research

- I consider that our institution is highly autonomous in developing and implementing its procedures: 41%
- I consider that our institution is mostly autonomous in developing and implementing its procedures: 38%
- I consider that our institution has some autonomy to develop and implement its procedures: 17%
- I consider that our institution has low autonomy to develop and implement its procedures: 4%

Number of responses: 197/197
Which types of academic work matter most for research careers?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Don't know</th>
<th>Unimportant</th>
<th>Of little importance</th>
<th>Moderately important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research publications</td>
<td>9</td>
<td>10</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attracting external research funding</td>
<td>4</td>
<td>14</td>
<td>24</td>
<td>57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research impact and knowledge transfer</td>
<td>8</td>
<td>23</td>
<td>34</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching activities</td>
<td>9</td>
<td>25</td>
<td>31</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research collaborations within academia</td>
<td>11</td>
<td>23</td>
<td>34</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research collaborations outside academia</td>
<td>11</td>
<td>30</td>
<td>28</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research supervision activities</td>
<td>6</td>
<td>28</td>
<td>42</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research networking</td>
<td>8</td>
<td>32</td>
<td>37</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentoring activities</td>
<td>7</td>
<td>16</td>
<td>29</td>
<td>28</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Social outreach and knowledge transfer</td>
<td>5</td>
<td>22</td>
<td>27</td>
<td>29</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Other types of research output</td>
<td>7</td>
<td>19</td>
<td>24</td>
<td>34</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Open Science and Open Access</td>
<td>14</td>
<td>22</td>
<td>23</td>
<td>26</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

Number of responses: between 191-195/197
How is academic work evaluated for the purpose of research careers?

<table>
<thead>
<tr>
<th>Evaluation Method</th>
<th>Don’t know</th>
<th>Unimportant</th>
<th>Of little importance</th>
<th>Moderately important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metrics measuring research output based on number of publications and citations</td>
<td>14</td>
<td>29</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualitative, peer-review assessment</td>
<td>17</td>
<td>26</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research impact and knowledge transfer indicators</td>
<td>19</td>
<td>33</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metrics measuring collaborations within academia based on co-authorship</td>
<td>25</td>
<td>30</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Science and Open Access indicators measuring the open accessibility of research outcomes and data</td>
<td>24</td>
<td>23</td>
<td>20</td>
<td>19</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Altmetrics measuring the societal outreach of journal publications, books, reports, data and other non-traditional publications based on downloads, tweets, news mentions, etc.</td>
<td>31</td>
<td>23</td>
<td>19</td>
<td>16</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Metrics measuring academic attention and uptake based on number of views and downloads</td>
<td>27</td>
<td>24</td>
<td>19</td>
<td>18</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Number of responses: between 194-195/197
Metrics measuring research output based on number of publications and citations

<table>
<thead>
<tr>
<th>Metric</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Impact Factor (JIF)</td>
<td>75%</td>
</tr>
<tr>
<td>h-index</td>
<td>70%</td>
</tr>
<tr>
<td>Field normalised citation index</td>
<td>39%</td>
</tr>
<tr>
<td>SCImago Journal Rank (SJR)</td>
<td>31%</td>
</tr>
<tr>
<td>CiteScore</td>
<td>25%</td>
</tr>
<tr>
<td>Source Normalized Impact per Paper (SNIP)</td>
<td>9%</td>
</tr>
<tr>
<td>Eigenfactor</td>
<td>5%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4%</td>
</tr>
</tbody>
</table>

Multiple-choice question
Number of responses:
185/186
Main barriers and difficulties to review research assessment procedures

- Complexity of research assessment reform: 46%
- Lack of institutional capacity: 38%
- Resistance to research assessment reform from researchers: 33%
- Concerns over increased costs: 33%
- Limited awareness of research assessment reform and its potential benefits: 31%
- Absence of incentivising policies or guidelines from external actors: 29%
- Alignment of institutional assessment procedures with nationally and internationally dominant procedures: 26%
- Lack of evidence on potential benefits of research assessment reform: 21%
- Lack of coordination among the relevant actors within the institution: 19%
- Resistance to research assessment reform from academic leadership: 19%
- Lack of institutional autonomy due to rules and regulations imposed by research funding organisation: 9%

Multiple-choice question
Number of responses: 233/254
Key messages – Outlook at European systemic level

• **Transparency of costs and conditions** – research investments, research publication costs, related transparency laws

• **Evolution of research assessment exercises in a context of Open Science**

• **Reinforcement of application of Open Science policies** – institutional, national, supranational (e.g. Plan S).

• **Investment in research infrastructures** – national, supranational, e.g. European Open Science Cloud (EOSC).

• **Engagement, at system level, of researchers and university leaders, and research organization leaders, funders**

• **Doctoral Education has a clear role in addressing the future of the European Research and Innovation System**
Thank you for your attention

Lidia Borrell-Damian
lidia.borrell-damian@eua.eu