EOSC and the future of Research & Innovation in Europe

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Content

- 8 pillars of Open Science
- LEARN project
- Reward systems
- Skills development
- EOSC, FAIR and Open data
- Model infrastructure
- Conclusions
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Plaster Relief by John Flaxman, Flaxman Gallery, UCL
European Commission: Open Science Policy Platform – 8 pillars of Open Science

<table>
<thead>
<tr>
<th>Future of Scholarly Communication</th>
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<tbody>
<tr>
<td>EOSC (European Open Science Cloud)</td>
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<td>FAIR Data</td>
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<tr>
<td>Skills</td>
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<td>Research Integrity</td>
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<td>Rewards</td>
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<td>Altmetrics</td>
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<tr>
<td>Citizen Science</td>
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</table>
LERU has produced an Open Science Roadmap for universities


41 Recommendations
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LEARN – LEaders Activating Research Networks

- Purpose is to develop the LERU Roadmap for Research Data to build a global co-ordinated global e-infrastructure

- To embrace all RDM stakeholders
  - Researchers
  - Support services
  - Policy and decision makers
  - Publishers

Horizon 2020
Call: H2020-INFRASUPP-2014-2
Topic: INFRASUPP-7-2014
Type of action: CSA
Proposal number: 654139
Proposal acronym: LEARN
LEARN Deliverables

- Model Research Data Management Policy
  - Fed by a study of RDM policies and input from Workshop attenders

- Toolkit to support implementation
  - Issues identified in Workshops and in literature
  - Surveys and self assessment tools

- Executive Briefing (in six languages)

http://learn-rdm.eu

Wilkins Building, UCL, 1826
Presentations

65 Presentations to Policy Makers, Higher Education Professionals, Librarians, Data Specialists

LEARN Review, Brussels, 31/01/17
What is the problem LEARN seeks to address?

- How prepared are you and your institution for research data management?

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UCL survey by Research Data Advocacy Officer

- 130 research departments, institutes, centres and units represented in survey
- Response rate – 306 completed surveys out of 619
- Respondents
  - 18% early career researchers
  - 39% experienced researchers
  - 30% research students
45% of respondents used a personal computer for storage

Options included Cloud services; others used paper...

Central UCL facility used by only 5%
Qu.64 Would you be interested in some help with data management? Please tick up to FIVE preferred elements from the list below. (308 respondents; multiple choice)
Qu.61 At what stage of the project did you think about data management? (217 respondents; free text)
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Delivering on institutional Mission and Strategy

- 2019 UCL Research Strategy aims to ‘foster open and engaged research’
- With ‘policies and developments in open access (most notably, the establishment of UCL Press, the UK’s first fully open access university press) and open science’
Valuing your colleagues

- Insert Open Science principles into career frameworks
- Develop institutional policies for rewarding Open Science
- Apply to appointment, promotion, induction and appraisal procedures
  - UCL has included openness into its new academic promotions framework
  - [https://www.ucl.ac.uk/human-resources/sites/human-resources/files/ucl-130418.pdf](https://www.ucl.ac.uk/human-resources/sites/human-resources/files/ucl-130418.pdf)
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Workshops / Training

- Annual Open Science Workshop being held in UCL to introduce Open Science concepts, funded by UCL HR
  - One of the Focus on Open Science Workshops 2019

- Bibliometrics Officer / Head of Library Skills to lead skills development programme for Library and academic Departments
  - Open Access
  - Research Data Management
  - Responsible use of Metrics

- Early career researchers a principal target
- Challenge to engage with established researchers
Challenges
- Omitting null results
- Weak experimental design
- Underspecified methods
- Errors
- Underpowered studies
- Meaning of Reproducibility in an AHSS environment?
- UK network enough?

Answers
- Open Data
- Open Methods
- Automation
- Open Materials
- Reporting guidelines
- Collaboration
- Pre-registration of experimentation with approval first
- European/global network

Support mechanisms
- Training
- Embed training programmes in Doctoral School Programmes
- Recognise in Research Evaluation criteria

Incentives
- Include in appointments criteria
- Use for annual appraisals
- Embed in promotion criteria

Reproducibility

Thanks to Professor Dorothy Bishop, University of Oxford
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European Open Science Cloud & FAIR data: Issues

- Prepare to participate in the EOSC
- Each organisations should have an RDM policy, ideally modelled on LEARN
- Ensure you have access to correct infrastructure(s)

- Research data should be as open as possible, as closed as necessary
- Where access to research data is restricted, provide free access to the metadata, fulfilling FAIR principles
- Collect information about where your researchers publish

Learn: http://learn-rdm.eu
The EOSC and FAIR data

- See [https://ec.europa.eu/research/openscience/index.cfm](https://ec.europa.eu/research/openscience/index.cfm) for a general overview of current activity

- Turning FAIR data into reality
  - Advancing the global Open Science movement and the development of the European Open Science Cloud is the unambiguous objective for this report, turning FAIR into reality

- Research organisations, universities and other users will benefit from a copyright exception in the recent EU copyright reform to carry out text and data mining on large sets of data
  - This will also enhance the development of data analytics and artificial intelligence in Europe

- EU could save 10.2 billion euros annually through the use of FAIR data – see [Cost Benefit analysis for having FAIR data](https://ec.europa.eu/research/openscience/index.cfm)
## LERU Recommendations for the EOSC

<table>
<thead>
<tr>
<th>Infrastructure development</th>
<th>Has your university established a data repository, or does it have access to a 3rd party repository/repositories which can interact with the EOSC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure development</td>
<td>Does your university have a search and discovery service, enabling users to find what research data is available, and where it is located?</td>
</tr>
<tr>
<td>Policy development</td>
<td>Has your university signed the EOSC Declaration as a statement of commitment at a local level?</td>
</tr>
<tr>
<td>Co-operation and collaboration</td>
<td>Will your university develop their research data management offering so that it is aligned with the principles of engagement with the EOSC, once the latter are agreed and available?</td>
</tr>
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</table>
Challenges in a Roadmap for EOSC

- Knowledge about EOSC in universities is not high
- Publications count for reward and promotion, not research data
- Rules for university engagement with EOSC unclear
Challenges in a Roadmap for EOSC

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| ADVOCACY |
|-----------------|-----------------|-----------------|
| Governance      | Infrastructure  | Services        |
The future for EOSC?

- Collaboration
- Sharing
- Ground-breaking discoveries
- Global leadership
- Cost saving
- Income generation

But…

- Rules of engagement need to be clearer
- Universities yet to buy in
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Research Data – a new currency

- Data is FAIR
- Develop pan-LERU approach for Big Data
- Data is Open by default
- Repository will interface with EOSC
- Institutional Research Data repository

Graphic from: H2020 Online Manual
http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm
Conclusion

- Open Science is good for the researcher
- It is also good for research
- Research Data is the new currency in research outputs
- Open Science is an opportunity, not a threat

- Over to you...

UCL Student Centre, opened 18/2/19