PhD Training on Open Science in French Universities

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“Education and skills training is one of the eight pillars of open science” (LERU)

- PhD students are “harbingers of change” of the traditional system of academic science and publishing (David Nicholas).
- Open science is one key factor driving this change.
- What they need is a favorable, rewarding environment, i.e.
  - incentives for open access publishing and data sharing, and
  - opportunities to acquire awareness and knowledge about open science and to develop new, open science relevant skills.

Source: Wikimedia Commons (CC-BY 2.0)
Questions

• How do research universities train their PhD students regarding open science?
  • Structured doctoral education
• Is this training program visible?
• Are the training events clearly identified as open science relevant?
• Good practice?

Source: Wikimedia Commons (CC0 1.0)
Methodology

• Assessment of PhD training programs of 10 research universities
  • Shanghai ranking ARWU
  • French excellence program IDEX

• 12% of the French universities
  • 493,000 students (>25%)
  • 34,000 PhD (>45%)

• Open science contents
  • Open access, research data management, citizen science, ethics/integrity...

• August 2019 / January 2020 / August 2021
  • 1,549 research laboratories
  • 174 graduate schools
Number of open science events*

- 1,139 PhD training events (922 in 2019)
- 129 identified as relevant (65 in 2019)
- 11% of all events (7% in 2019)
- Range from 2% to 35%

- Excluded: conferences and other events (OA week) if not clearly identified as part of PhD training

* All figures are from 2020
Topics of open science training

- Training courses, workshops or other events on open access publishing represent nearly half of all training opportunities.
- One part puts the focus on the deposit of the PhD dissertations.
- Other events inform about the OA landscape and/or teach how to publish scientific results in OA.
- Ethics is mandatory.
Objectives

- Awareness (often)
  - for a better understanding (French or European context)
- Knowledge (often)
  - to learn more about (STI market)
- Skills (less)
  - how to do (OA publishing of thesis)
Disciplines

- Mainly cross-disciplinary
  - Ethics
  - Awareness open science
  - Research data management
- Some events designed for specific audience
  - Open access publishing
  - Information retrieval in open access ecosystem
  - In particular SS&H

Disciplinary
- 22

Multidisciplinary
- 107

19-20 October 2021

MPDL Open Science Days
Format

- Preferred format: short face-to-face, in-class training (workshop, lecture, seminary...)
  - 0.5 to 1 day
  - On campus
  - Sometimes supported by intranet (learning management system)
- French/English
- MOOC on platform FUN (ethics)

Source: Collège doctoral Sorbonne Université
Staff

- Academic librarians more involved in OA publishing
- Researchers more involved in ethics/integrity
  - But not in research data management
- Few events by both library and faculty

Librarians 58

Scholars 51

MPDL Open Science Days 19-20 October 2021
## Limitations

- Data are not exhaustive
  - Short assessment period
  - “Photography”
  - But: 2x more than in 2019

- Data are incomplete
  - Online available and accessible sources (web pages, catalogues)
  - Lack of description (abstracts)
  - Update 2021: catalog under construction... (continuity)

- Underestimation of training
  - Disciplinary training by labs

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**Source:** Collège des écoles doctorales Université de Bordeaux

### MOOC: Éthique de la recherche

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<th>Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>MOOC</td>
<td>La science constitue une valeur centrale de nos sociétés démocratiques, qui pousse le désir de connaissance du monde et de l’homme. Néanmoins, les nouvelles performances technoscientifiques et l’accélération des innovations affaiblissent. Par ailleurs, l’ampleur des ressources mobilisées, un régime de compétition internationale et des conflits d’intérêts entre bien privé et bien commun suscitent aussi une crise de confiance. Comment assumer nos responsabilités en tant que citoyens et chercheurs à un niveau personnel, collectif et institutionnel?</td>
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<tr>
<td>MOOC</td>
<td>Sensibiliser les jeunes chercheurs aux différents enjeux associés à l’intégrité scientifique et les inciter à développer le sens des responsabilités, et à se comporter en vigie de l’intégrité scientifique</td>
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<td>MOOC</td>
<td>To sensitize young researchers to the various issues associated with scientific integrity and to encourage them to develop a sense of responsibility, and to behave in a spirit of scientific integrity</td>
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<tr>
<td>MOOC</td>
<td>Acquérir des éléments de réflexion, d’analyse et de mise en situation, alliant connaissances théoriques et pratiques. Avoir une approche concrète de la place et de la fonction de l’éthique dans la démarche scientifique</td>
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### Address postale

Université de Bordeaux
Collège des écoles doctorales
351 Cds de la Libération – Bât A33
Good practices and recommendations

• Topics: coverage of the whole range of open science relevant contents
• Objectives: clear distinction between awareness, knowledge and skills
• Formats: tailored for PhD students; i.e. skills development organized on-the-job, near-to-the-research-bench
• Staff: mixed teams

• Networking: regional and national partnerships, with explicit labelling
• Status: PhD training on open science should be mandatory for universities; and one part of this training should be mandatory for the PhD students (OA awareness, DMP, data preservation and sharing)
• Excellence: application of the international Innovative Doctoral Training Principles (IDTP) within the framework of open science
Networking: the link with other services

A.10. La science comme bien commun : quelles pratiques de chercheurs ? (Fr) | Unistra

METHODOLOGIE DE LA RECHERCHE • science ouverte • pratiques des chercheurs • communs de la connaissance

Public : doctorant-e-s de toutes disciplines

Prérequis : aucun

Descriptif : notion sur les Communs • projets existants • projection des projets possibles, individuels et collectifs.


Training on science as a common good – based on a partnership between graduate school and STI research unit
“To embrace Open Science, universities and researchers need to embrace cultural change in the way they work, plan and operate” (LERU)

- The importance of community
  - disciplines, infrastructures, tools...
- The need for marketing
  - visibility, excellence, labelling, communication
- The interest of opening
  - other topics are relevant for open science, e.g. project management, licensing, author’s rights

Source: Libguide humboldt.edu (CC-BY-NC-ND 2.0)
Marketing: one single page for Open Science
Merci

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