



Deliverable 4.2

Open Educational Resources (OER) on Responsible Research and Innovation



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2.1	CRG	Minor corrections and layout

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1. Introduction

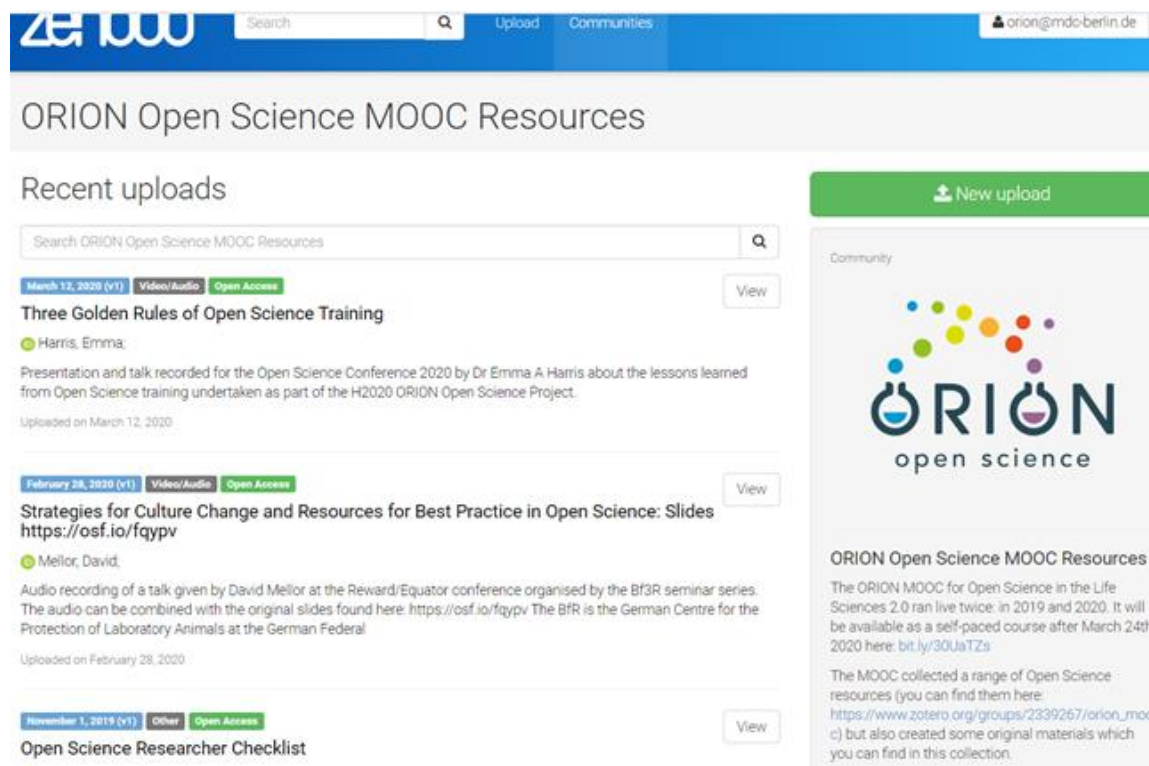
The advantage of online learning is that it is flexible for the participants and permanently available for use and adaptation for future learners. WP4 has worked to create a range of Open Educational Resources (OER) and make them available on various platforms. OER are available to be used and shared by everyone. These include: a 6-module MOOC (Massive Open Online Course), webinars, infographics, podcasts, and factsheets. These have been produced in collaboration with internal ORION partners and a variety of external experts from across European and international institutions and projects. These resources have and continue to be shared and hosted by platforms, e.g. the podcasts are on RRI Tools.

2. Online OER Collections

Zenodo

Following a philosophy of Open Science and Open Access, the training materials and learning resources created in WP4 have been put into a newly created collection on Zenodo: https://zenodo.org/communities/orionmooc_resources/

These include everything that was created by ORION for the MOOC, workshop materials and handouts, and recorded talks. The resources are available under a CC-BY License. Each resource on Zenodo has a DOI, which can be used to share and access the materials. In addition, they are tagged with keywords and credit the project funding. The resources are also indexed in OpenAIRE expanding the findability and reach of the resources. A link to the ORION Open Science MOOC Resources Zenodo Collection is on the [ORION website](#).



The screenshot shows the Zenodo interface for the 'ORION Open Science MOOC Resources' collection. At the top, there is a search bar and navigation links for 'Upload' and 'Communities'. The main heading is 'ORION Open Science MOOC Resources'. Below this, there is a 'Recent uploads' section with a search bar and a 'View' button. Three uploads are listed:

- March 12, 2020 (v1)** | Video/Audio | Open Access | **View**
Three Golden Rules of Open Science Training
 Harris, Emma
 Presentation and talk recorded for the Open Science Conference 2020 by Dr Emma A Harris about the lessons learned from Open Science training undertaken as part of the H2020 ORION Open Science Project.
 Uploaded on March 12, 2020
- February 28, 2020 (v1)** | Video/Audio | Open Access | **View**
Strategies for Culture Change and Resources for Best Practice in Open Science: Slides
<https://osf.io/fqypv>
 Mellor, David
 Audio recording of a talk given by David Mellor at the Reward/Equator conference organised by the Bf3R seminar series. The audio can be combined with the original slides found here: <https://osf.io/fqypv> The BfR is the German Centre for the Protection of Laboratory Animals at the German Federal
 Uploaded on February 28, 2020
- November 1, 2019 (v1)** | Other | Open Access | **View**
Open Science Researcher Checklist

On the right side, there is a 'New upload' button and a community banner for 'ORION open science'. Below the banner, there is a description of the 'ORION Open Science MOOC Resources' collection, stating that it contains resources from the ORION MOOC for Open Science in the Life Sciences 2.0, which ran live twice in 2019 and 2020. It also mentions that the MOOC collected a range of Open Science resources and created some original materials.

Zotero

In creating the MOOC the WP4 team created a library of 151 resources related to Open Science, some of which were used in the final version of the MOOC. This library has now been made openly available: https://www.zotero.org/groups/2339267/orion_mooc. These resources can be used for future projects or policy makers which are undertaking a gap analysis of Open Science resources, graduate schools who want to find resources quickly to add to training programmes, or by researchers themselves looking for useful materials.

3. MOOC

Development

The MOOC was developed with internal and external partners after a gap analysis to identify learning outcomes and researcher needs. There was a content feedback and creation meeting in Berlin, which was open to all ORION project partners and relevant MDC staff. A focus group was held with PhD researchers at the annual MDC PhD retreat to do a beta test of the MOOC, the researchers assessed the flow, usability, and relevance of several modules.

For a full explanation of the development of the MOOC please see the D4.1 Deliverable Report: <https://www.orion-openscience.eu/node/324>.

Content

The content of the MOOC follows a module structure:

- Landing Page: Introduction, Guidelines, and Pre-survey
- Module 1: Open Access P1
- Module 2: Open Access P2
- Module 3: Data Management
- Module 4: FAIR and Open Data
- Module 5: Sci Comm and Public Engagement
- Module 6: Reflection and Action

Each module ran for a week and requires approx. 90 mins to 120 mins of time to complete. The participants could complete the module anytime within that week (i.e. Participant 1 can do the module on Monday morning, Participant 2 can do the module on Sunday evening, or any variation in between).

The course also includes interactive videos which use H5P in order to make the learning experience as active as possible. The forum was used extensively to build community. There are also clips from the podcast, quizzes, factsheets, infographics, and presentations.









Live Runs

The course did two 'live' runs for 6 weeks each, one between 21st October - 29th November 2019 and one between 10th February - 23rd March 2020. There were 343 enrolled participants considering both editions. The course was adapted and improved between the

first and second runs based on participant feedback and moderator experience to create a 2.0 version for the second run.

The trailer that WP4 created to promote enrolment for the second run of the course captures the experience of one participant and gives a sense of the course: <https://youtu.be/nwaEij-AbOE>

The completion rate was 25%, this is actually much higher than average of 4-10% for e-learning courses¹. The feedback was very positive with participants voluntarily giving 5 star reviews and the majority rating it as 'useful or very useful' in the feedback forms. Additionally, several participants shared their experience of doing the MOOC on social media, such as Twitter and LinkedIn, which increases the potential impact and awareness of Open Science online resources.

 Rated by 7 user(s)			
	Rating entered. No review given	Charlotte Coales	2 Dec 2019
	Excellent course and I learned lot of things new. Course materials were designed and compiled brilliantly. Did you find this review helpful? <input type="button" value="Yes"/> <input type="button" value="No"/>	Subrat Behera	1 Dec 2019
	I found the course very complete and with very relevant information in each of the subjects. It is focused in a very practical way and with a variety of tools and resources to practice the training received. I appreciate the attention of the tutors and the interventions of my colleagues who have given me new ideas. Did you find this review helpful? <input type="button" value="Yes"/> <input type="button" value="No"/>	Francisco Giner Calatayud	29 Nov 2019
	This a really excellent course on Open science. Just the right amount of interesting knowledge shared each week. Really useful in many ways! Did you find this review helpful? <input type="button" value="Yes"/> <input type="button" value="No"/>	Mary Anderson-Glenna	26 Nov 2019
	I really enjoyed this course, there were a wide range of learning tools, such as videos and articles, and the assignments were interactive. I liked how it was spread out over six weeks, and roughly 2 hours each week meant that you could fully focus on that week's content, rather than being overwhelmed by too much content. Overall, I am very pleased and I feel it has helped my understanding. Did you find this review helpful? <input type="button" value="Yes"/> <input type="button" value="No"/>	Lucy Wust	25 Nov 2019
	Rating entered. No review given	Rolando Trejos Saucedo	25 Nov 2019
	The content was very informative, and I thoroughly enjoyed this course! The various learning methods used were very interactive and overall enjoyable. I learned a lot about different online infrastructures. I'd never heard of before, and I will definitely be utilizing all I've	Clara Lynch	25 Nov 2019

¹ <https://www.ft.com/content/60e90be2-1a77-11e9-b191-175523b59d1d>



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ORION Open Science Champion. Thanks to @ORION_opensci @Emma_A_Harris and all the crew.

MOOC for Open Science in the Life Sciences



#openscience #openaccess #opendata
#FAIRdata #sciencecommunication



Rolando Trejos Saucedo • 1st
Master of Public Health - MPH at University of South Florida
4mo •

When I started this MOOC my intention was to understand how to do open science as a graduate student. However, this course gave me tools on research and management of open science projects, data visualization, peer review and pre prints, and more. Highly recommend.



Statement of participation

Rolando Trejos Saucedo

has passed the free course including all mandatory tests for:

ORION MOOC for Open Science in the Life Sciences

This MOOC gives you an introduction to open science principles, attitudes and workflows in biomedicine and life sciences. It was created as part of the EU-funded project ORION.

Issued date: 25 November 2019

Issued by: ORION

Licence Attribution: Attribution-NonCommercial: CC BY-NC

Self-paced

The MOOC is now available on the platform OpenLearnCreate: <https://www.open.edu/openlearncreate/course/view.php?id=4633> for those who wish to take the course self-paced. WP4 and partners are continuously making improvements to the course so that it best matches the learning outcomes and participant requirements. The entire course is hosted on the Open University platform: Open Learn Create. This platform is dedicated to Open Source and Access principles and the entire MOOC is openly available. It is also available on the ORION website under [Training Materials](#).

As detailed above, all the individual resources from the MOOC are available as OERs.

Other Online Training

WP4 has also done a series of webinars and talks. Several of these are available on the Zenodo collection and the ORION and ORION MOOC YouTube channels. For example, the Live Chat on Open Science webinar that ORION and the Wellcome Trust co-presented is here: <https://www.youtube.com/watch?v=X9lcHnjmNxM&t=183s> and currently has 57 views. The Three Golden Rules of Open Science talk, recorded for the Open Science Conference 2020 in Berlin, is here: <https://www.youtube.com/watch?v=0aa4vnAWXJ0&t=285s> and currently has 64 views.

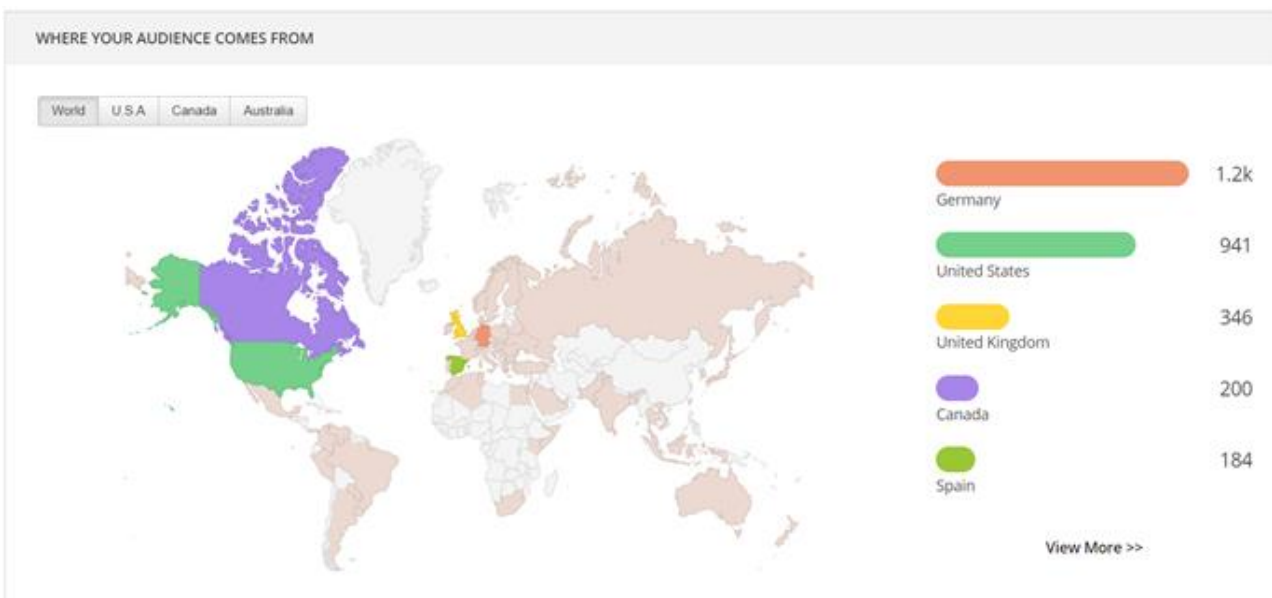
For a full discussion of Other Online Training, see D4.1 Deliverable Report: <https://www.orion-openscience.eu/node/324>

4. Podcasts

The ORION Open Science podcast has been running since January 2019 and is now on its second season. The ORION training team act as producers, hosts, and content editors, and each week there were different topics related to Open Science with interviews with relevant guests. Examples include Open Access - interview with well-known Open Access advocate Bjoern Brembs or the founder of the browser plugin Unpaywall.

The podcast episodes are hosted on Podbean but are archived on another Zenodo collection, so that they can be downloaded and utilised as learning resources, and to ensure they remain after the end of the project: https://zenodo.org/communities/oosp_orionpod/ and they are also available on RRI Tools: <https://www.rri-tools.eu/-/the-orion-open-science-podcast>.

The ORION podcast has been downloaded over 4.400 times by people across the world. The podcast has reached listeners from Germany to Japan, from the UK to the US. The Twitter account for the podcast, @OOSP_ORIONPod, has 450 followers.



TOP 10 EPISODES		
Episode	Released	Downloads
Open Science and Career Pathways	01/29/2019	243
Scaling the Paywall: How Unpaywall Improved...	02/14/2019	241
Aubrey De Grey, Aging, and Alternative Appro...	04/11/2019	223
'There is no spoon': Imagining Science Withou...	07/04/2019	206
Are We Doing Good? Discussing Open Science...	11/28/2019	172
A Public Scandal: Paola Masuzzo on the Absur...	10/03/2019	167
A Skeptic's Guide to Open Science: Steven No...	08/01/2019	166
Preprints: what do scientists think?	03/14/2019	165
A Metric for Optimism: John Ioannidis on Repr...	07/18/2019	161
Retraction Watch, Research Integrity, and Pee...	04/25/2019	157

5. Conclusions

WP4 team has designed and created a range of openly available educational resources. These are available in a variety of media and formats to suit different learning needs and outcomes. All resources are under CC-BY licenses to enable reuse. WP4 will continue to add to and improve these resources as the project continues.

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