

## Building Research Data Management (RDM) expertise and training resources in ELIXIR Nodes

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Research data Management (RDM) is central to the implementation of the FAIR (Findable Accessible, Interoperable, Reusable) and Open Science principles. Recognising the importance of RDM, the ELIXIR-CONVERGE project was launched in 2020 and included a work package on Training & Capacity Building in Data Stewardship, in which 21 Nodes participate. Since there is a clear need for dissemination of RDM know-how, practices and resources and a demand for RDM training material and courses, for researchers, trainers and RDM professionals, the aim of the work package was to build a comprehensive, interconnected and sustainable RDM Training Portfolio across all Nodes, and to increase the RDM training expertise and capacity in ELIXIR Nodes.

RDM professionals, training experts and trainers from ELIXIR and beyond identified gaps in the Nodes' RDM training programmes and defined priority topics (DMP, Data Stewardship, FAIR/metadata and Reproducibility) (Cardona et al, 2021) for training development. Collaborative work from all the ELIXIR Nodes during ELIXIR-CONVERGE resulted in an extensive Data Management/Data Stewardship (DM/DS) course portfolio (Cardona et al, 2021)<sup>1</sup> which aligns with the Nodes' RDM training strategies. The portfolio includes both generic DM/DS resources and materials, as well as specific materials related to the priority topics mentioned above, and it also includes training materials for specific domains (e.g. the Plant Demonstrator). The course portfolio is available in [TeSS](#), in which training materials are tagged with RDM terms to increase their findability, and links to relevant training materials were included in [RDMkit](#). In collaboration with the ELIXIR Training Platform, the learning paths methodology has been applied to RDM for data stewards and researchers (e.g. with the Plants Sciences and the System Biology Communities), and work is ongoing to extend the [ELIXIR-GOBLET Train-the-Trainer programme](#) to tackle the challenges that exist in teaching RDM. Moreover, during ELIXIR-CONVERGE, a strong RDM trainers network was formed, establishing solid RDM training expertise within the Nodes. This emerging network raised great interest in the Nodes, showing their willingness to work together on developing training materials, sharing their knowledge, and establishing best practices and standards for RDM training.

The main RDM training related actions in ELIXIR going forward are: (i) gathering the RDM courses in the portfolio into learning paths for specific audiences, thus shaping the

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<sup>1</sup> Updated numbers (February 2020 - December 2022): 18 Nodes contributed to 119 training events with 2849 participants.

ELIXIR RDM curriculum, (ii) increasing findability and reusability of the developed courses and modules by optimising annotation and linking in TeSS, RDMkit and FAIR Cookbook, (iii) encouraging (re)use of the RDM materials in ELIXIR Nodes, and (iv) increasing RDM training capacity in Nodes by finalising and launching the RDM Train the Trainer programme.

In 2023, the ELIXIR RDM Community was initiated, and the network of RDM trainers will be an integral part of this Community. This will enable the upskilling of RDM trainers and scaling up RDM training capacity in the Nodes, while bridging to RDM professionals outside ELIXIR as well.

## References

1. Cardona, Alexia, van Gelder, Celia, Palagi, Patrícia, & Leskošek, Brane. (2021). ELIXIR-CONVERGE D2.1 Report on the identified training needs and a timeline for training courses. Zenodo. <https://doi.org/10.5281/zenodo.4892863>