A review of the Swiss Research Data Day 2020 (SRDD2020): 48 experts shared their experiences on emergent approaches in Open Science

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Résumé

Organisée conjointement par la Haute école de gestion de Genève (HEG/HES-SO), l'Université de Genève (UNIGE), et la Zürich Hochschule für Angewandte Wissenschaften (ZHAW) dans le cadre du projet DLCM (Data Life-Cycle Management) mandaté par swissuniversities, la troisième édition du Swiss Research Data Day (SRDD2020) a réuni 301 membres de la communauté de la recherche suisse, en ligne, le 22 octobre 2020. L'événement d'une journée a rassemblé une communauté interdisciplinaire de professionnel·les de la recherche et de l'information scientifique autour de 48 intervenant·es spécialisé·es pour discuter de la manière dont les technologies et approches émergentes peuvent contribuer au développement de la gestion des données de recherche et de la science ouverte, tant du point de vue des chercheurs et chercheuses que des institutions. Cinq de ces expert·es ont présenté des keynotes qui ont mis en évidence les évolutions notables dans le domaine et quatre séries de sessions parallèles ont offert une occasion unique de partager les connaissances et les expériences des experts sur une grande variété de sujets.

Abstract

Co-organized by the Geneva School of Business Administration (HEG/HES-SO), the University of Geneva (UNIGE), and the Zürich Hochschule für Angewandte Wissenschaften (ZHAW) as part of the Data Life-Cycle Management (DLCM) Project, mandated by swissuniversities, the third edition of the Swiss Research Data Day (SRDD2020) gathered 301 members of the Swiss research data community online on 22 October 2020. The full-day event brought together an interdisciplinary community of researchers and information professionals, along with 48 expert speakers, to discuss how emerging technologies and approaches can contribute to the development of Research Data Management and Open Science from both the researcher and institutional perspectives. Five of these experts delivered keynote presentations that highlighted significant developments in the field, and four streams of concurrent panel sessions offered a unique opportunity to share the experts' knowledge and experiences over a large variety of topics.

After a first edition at the Swiss Federal Institute of Technology Lausanne (EPFL) in 2016 and a second one at the Swiss Federal Institute of Technology Zurich (ETHZ) in 2018, the third edition of the Swiss Research Data Day (SRDD2020) – titled “Emergent approaches for Open Science” – took place online on 22 October 2020 during the International Open Access Week event.

SRDD2020 was organized by the Data Life-Cycle Management (DLCM) Project’s partners, (1); at the initiative of the Geneva School of Business Administration (HEG/HES-SO) together with the University of Geneva (UNIGE), and in partnership with the Zürich Hochschule für Angewandte Wissenschaften (ZHAW).

An interdisciplinary community of 301 researchers, librarians, funders, publishers and policymakers discussed the emerging technologies and approaches that contribute to the development of Research Data Management (RDM) and Open Science (OS) from both the researcher and institutional perspectives. Participants were welcomed by the launching video of OLOS.swiss, the national solution developed within the DLCM project to address archiving, long-term preservation, publication and access of research data, and accessible to all Swiss Higher Education Institutions.

Five invited speakers delivered keynote speeches at SRDD2020:

- Dr. Hrvoje Stancic, professor at the Faculty of Social Sciences and Humanities at the University of Zagreb, discussed the use of Blockchain technologies and methodologies in data management. His keynote revolved around the concepts of trustworthiness, authentication, identity and integrity of Blockchains as applied to the long-term preservation of research data.
- Dr. Patrick Furrer, coordinator of the national "Scientific Information Programme" at swissuniversities, unveiled the national Open Research Data Strategy and Action Plan to come in the next 4 years.
- Vice Rector Dr. Christine Pirinoli presented HES-SO’s Open Data Strategy, emphasizing the cultural changes institutions must achieve to properly manage research data, and the time and support required to realize this.
- Dr. Nancy McGovern, Director of Digital Preservation at the MIT, presented a 6-layer Digital Archives and Preservation (DAP) Framework to leverage cross-domain collaborations for achieving a sustainable management of research data. Such an approach emphasizes cross-domain responsibility as opposed to passive sharing, and stresses the importance of social, professional and technical inclusions to achieve effective collaborations.
- And Dr. Alberto Pace, from CERN, showcased the application of digital sovereignty to the preservation of Big Data to mitigate the risks associated with commercial software and hardware solutions and their associated costs.

During the day, 34 lectures, lighting talks, demonstrations and workshops sparked a fruitful exchange among speakers, panelists and participants. The 48 speakers, from 23 national and international institutions(2), presented various themes regrouped within eight panels:

- Panel 1 was dedicated to the proper management of Open Research Data (ORD), with (i) a demonstration of OLOS.swiss, (ii) a presentation of the professional management framework that support the identification, evaluation, and development of a portfolio of Open Data resources at SIB, (iii) a coaching program to support the implementation of a RDM strategy in

the National Centre of Competence in Research (NCCR) Robotics, (iv) the handling of sensitive personal data in Leonhard Med's secure computing environments, and (v) the development and promotion of a Data Champions community at EPFL.

- Panel 2 placed data management in the ethical, legal, financial and academical contexts, with (i) a return of experience on the implementation of the SNSF ORD policy and the required publication of research data by SNSF-funded researchers, (ii) a master thesis focusing on how to leverage copyrights in the research data context and which licenses are best suited to serve the OS movement, (iii) returns of experience on the publication of research data from 12 pilot projects in a variety of disciplines at ZHAW, and (iv) a demonstration of a web-based tool (DMLawTool) addressing the most relevant legal issues related to data management.

- Panel 3 presented uses cases supporting OS strategies, with (i) experience from the ETH Zurich's Research Collection regarding data publication in an institutional repository, (ii) the data publication workflows of the research data repositories ERIC and EnviDat, and (iii) a presentation of UNIL's OS Strategy and Action Plan.

- Panel 4 gathered participants in a workshop to discuss FAIR (Findable, Accessible, Interoperable and Reusable) data production in the context of a virtual research environment using the "user experience design" participatory method of the Basel-based KleioLab's Geovistory tool.

- Panel 5 explored training in ORD, with (i) the co-creation within the DLCM project of a Massive Open Online Course (MOOC) specifically dedicated to RDM, (ii) MILOS, a microlearning prototype for OS, and Train2Dacar, a train-the-trainer approach for data curation, (iii) the promotion of the FAIR principles in data mining of population genetics using the RENKU platform, (iv) Nuvolos, a knowledge-creating platform for research and education, and (v) the promotion of a user-centered platform to make health research FAIR with the Horizon 2020. FAIR4Health project.

- Panel 6 showcased practices and experiences related to FAIR research data for OS, with (i) some observations and a workflow example of a FAIR Digital Objects (FDO) approach to facilitate data driven research across disciplines, (ii) an argumentation for research data as a new model of scholarly writing in social sciences and humanities (SSH) within the Horizon 2020 project Open Scholarly Communication in the European Research Area for Social Sciences and Humanities (Preparation OPERAS), (iii) openRDM.swiss, the data management service of ETHZ Scientific IT Services (SIS) targeting the Swiss research community based on the openBIS software platform, and (iv) recommendations and good practices to help chemists to make better chemistry data with the CHEMeDATA initiative.

- Panel 7 introduced existing solutions for the long-term preservation of research data, with (i) a presentation of the current status of the elaboration of a Swiss National ORD Strategy by a working group of swissuniversities, (ii) the Academic Output Archive (ACOUA) project, aiming at providing EPFL researchers with a service to publish and preserve their research data, (iii) a demonstration of the SWISSUbase platform, the multidisciplinary archiving service for research data based on FORS, the data service for the social sciences, (iv) Materials Cloud, the platform designed to enable open and seamless sharing of resources for computational materials science, and (v) AiiDA 1.0, the scalable computational infrastructure that automatically tracks the full provenance of data produced by workflows in the form of a directed graph.

- Panel 8 addressed specific legal questions related to data management and archiving in a workshop based on the DMLawTool.

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The organization of the online event could count on 14 volunteers and resulted in more than 15 hours of video recording, split up into 34 sessions, which have been posted on the UNIGE mediaserver, publicly available at http://www.dlcm.ch/srdd2020/presentations along with the speakers' presentation slides.

NOTES

(1)DLCM is a Swiss project mandated by swissuniversities, see https://dlcm.ch

(2)Alphacruncher, European Organization for Nuclear Research (CERN), French National Centre for Scientific Research (CNRS), Geneva School of Business Administration (HEG/HES-SO), Geneva University Hospitals (HUG), KleioLab, Massachusetts Institute of Technology (MIT), Max-Planck Society, Swiss Centre of Expertise in the Social Sciences (FORS), Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), Swiss Federal Institute of Aquatic Science and Technology (Eawag), Swiss Federal Institute of Technology Lausanne (EPFL), Swiss Federal Institute of Technology Zurich (ETHZ), Swiss Institute of Bioinformatics (SIB), Swiss National Science Foundation (SNSF), swissuniversities, Università della Svizzera italiana (USI), University of Applied Sciences and Arts of Western Switzerland (HES-SO), University of Geneva (UNIGE), University of Lausanne (UNIL), University of Neuchâtel (UniNE), University of Zagreb (UniZg) and Zürich Hochschule für Angewandte Wissenschaften (ZHAW).