

Love your data? Make it reproducible! A workshop on reproducibility in data science



Report of Contributions

Contribution ID: 1

Type: **not specified**

Data and reproducibility management with DataLad

Tuesday 14 February 2023 10:30 (2 hours)

The path to reproducible science is paved with many open source software tools - this workshop introduces one of them. Using hands-on examples centered around the tool DataLad (<http://datalad.org>), we will discover core concepts for reproducibility, such as version control, digital provenance, containerization, or data publication. The workshop focuses on technical and conceptual aspects alike, and aims to equip everyone with skills they could transfer to the real-world data collected during their research.

Presenter: WAGNER, Adina (FZJ)**Session Classification:** Workshop session

Contribution ID: 6

Type: **not specified**

Welcome

Tuesday 14 February 2023 09:30 (10 minutes)

Presenters: HIDA; HELMHOLTZ OPEN SCIENCE OFFICE

Session Classification: General

Contribution ID: 7

Type: **not specified**

Wrap-up & Farewell

Tuesday 14 February 2023 12:30 (30 minutes)

Primary author: SCHLAUCH, Tobias (DLR / HIFIS)

Presenters: WAGNER, Adina (FZJ); FRITZSCH, Bernadette (AWI); HIDA; SEIBOLD, Heidi; HELMHOLTZ
OPEN SCIENCE OFFICE; PENG, Tingying (Helmholtz Munich); SCHLAUCH, Tobias (DLR / HIFIS)

Session Classification: General

Contribution ID: 8

Type: **not specified**

Keynote 1: Open Science and Reproducibility

Tuesday 14 February 2023 09:40 (20 minutes)

Open Science comprises a range of scientific work practices that make research transparent and comprehensible. It is thus closely related to reproducibility as a cornerstone for the trustworthiness of research. The publication of and access to research data and software is indispensable in this context in order to be able to understand the results. The FAIR principles developed for research data have now also been transferred and adapted to research software. Many existing local and topic-specific initiatives want to promote cultural change in science towards open science and thus increase the quality of scientific work and the robustness of results. In the lecture, the role of the German Reproducibility Network GRN as a platform for networking such groups will be presented, so that different scientific communities can learn from each other and thus go step by step on the way to more reproducibility.

Presenter: FRITZSCH, Bernadette (AWI)**Session Classification:** Keynote

Contribution ID: 9

Type: **not specified**

Keynote 2: Reproducibility in the context of AI methods in Medicine

Tuesday 14 February 2023 10:00 (20 minutes)

Artificial intelligence faces reproducibility crisis as unpublished code and sensitivity to training conditions make many claims hard to verify. This is also the case for AI in medicine. For example, for the field of computational pathology, despite an ever-growing number of publications, only few methods are reused by other researchers and even fewer have entered a clinical routine workflow. A team of Helmholtz Munich researchers now analyzed how to improve reusability and reproducibility of these deep learning algorithms and present our findings in the workshop.

Presenters: WAGNER, Sophia (Helmholtz AI); PENG, Tingying (Helmholtz Munich)

Session Classification: Keynote

Contribution ID: 10

Type: **not specified**

Software Citation - Current Practice and Recent Developments

Tuesday 14 February 2023 10:30 (2 hours)

Software citation is an important part of the provenance of research results and enables their reproducibility. In addition, software citation presents an option to improve the credit for software related work in the academic system. In the workshop, we present the current practice of how to cite software and how to make software citable. In addition, we provide an outlook about recent developments. Besides presenting information, we plan different interactive formats to give you hands-on experiences with regard to software citation.

Presenter: SCHLAUCH, Tobias (DLR / HIFIS)

Session Classification: Workshop session

Contribution ID: 11

Type: **not specified**

Practical steps towards reproducible research

Tuesday 14 February 2023 10:30 (2 hours)

In this workshop we will discuss and implement steps to make your research reproducible. Reproducible research means that with the same data and the same analysis you get the same results every time you run the analysis. That sounds simple, but is not and as it turns out most researchers fail at it. Join this workshop to improve your research through simple and impactful practices!

Presenter: SEIBOLD, Heidi

Session Classification: Workshop session