

## Proposal for pre-conference workshop – AGILE 2019

Limassol, Monday 17 June 2019

<http://www.agile-online.org/index.php/conference/conference-2019>

### 1. Workshop name/title (and acronym if applicable)

Reproducible Research (RR@AGILE)

### 2. Description of the workshop by listing topic(s), objective(s) and planned outcome(s)

#### 2.1 Topic(s)

reproducible research, open science, software carpentry, data carpentry, skill building

#### 2.2 Objective(s)

The workshop continues a series of workshops around the topic of research transparency and reproducibility. Organised by the same team of active AGILE community members, this workshop builds upon the experiences from the previous two workshops to

- introduce AGILE conference attendees to the challenges of reproducible scholarly publications and teach technical skills as well as concepts to improve reproducibility
- present and discuss new author guidelines for submissions to the AGILE conference (developed in the context of an AGILE initiative)
- increase transparency and quality of scientific work conducted at and published by AGILE member labs respectively the AGILE conference

#### 2.3 Planned outcome(s)

- participants learn about opportunities and challenges of reproducible research
- participants improve concrete skills to publish reproducible research
- participants get to know and discuss proposed author and reviewer guidelines
- report on workshop website
- grow group of researchers proficient in reproducible research across AGILE member labs
- widen discussion in AGILE community about proposed guidelines lead to uptake of the guidelines for AGILE 2020

### 3. Abstract

Reproducibility, replicability, and transparency are widely recognised as crucial topics for scholarly research. This full-day workshop is the 3rd in a series of pre-conference workshops at AGILE teaching participants concepts and best practices for reproducible research (RR). The workshop prepares participants for the future of research publications by

- introducing concepts and workflows for RR,
- providing hands-on training on tools for RR using prepared examples of data & code as well as published research articles,
- demonstrating the levels and aspects of particular publications' reproducibility such as licensing or privacy,
- providing literature and educational resources for application and teaching in own lab,
- teaching skills which increase the quality of scholarly publications and the potential to collaborate,
- introducing a proposal for author and reviewer guidelines at AGILE conferences, and
- building participants' confidence in their skills and knowledge to contribute to the discourse about transparency and openness in science and to achieve new breakthroughs in science in a reproducible way.

Registration is open until April 30 2019 via [a new issue on the workshop repository](#).

Learn more about the RR@AGILE workshop series at <https://o2r.info/reproducible-agile>.

### 4. Short description of the intended length (half or full day) and the format of the workshop

Full day workshop with the following programme:

- **Morning**
  - introduction to concepts, tools, and workflows for reproducible research and Open Science (lecture)
  - RR as reader/reviewer (hands-on, split up groups by skill level)
    - group "RR newcomer": reproduce small (tailored) article in R that's relatively easy to reproduce, step-by-step with instructor
    - group "advanced programmers": handful of pre-tested real papers with code in different languages, everybody picks one, then share experiences, instructors help with issues
- **Afternoon**
  - RR as author (hands-on, discussion, continue in groups)
    - "newcomer": learn basics of git & R Markdown to make work reproducible for yourself or an audience of at least the same skill level
    - "advanced": apply advanced tools to make own work or example article accessible for broader audience (lower skill level) and portable across computers (virtualisation, containerisation)

- presentation and discussion (transfer newly gained knowledge) of proposed AGILE author and reviewer guidelines

## 5. Brief statement of the relevance of the workshop for AGILE

Skills for analysing data in a reproducible way and conduct research transparently are crucial for researchers of all career stages. More and more journals require publication of code and data alongside manuscripts. A solid understanding of concepts and the ability to apply digital workflows for reproducibility is relevant for AGILE's attendees. We expect that the workshop can positively impact on the quality of submissions to future AGILE conferences.

## 6. What is the approximate number of expected participants?

15-25

## 7. Names and e-mail addresses of the organizing member(s)

*Leading AGILE member and contact person:*

Institute for Geoinformatics, University of Münster  
Daniel Nüst, [daniel.nuest@uni-muenster.de](mailto:daniel.nuest@uni-muenster.de)

*Contributing AGILE members & organizing committee (persons involved):*

- Faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente (Frank Ostermann)
- Interfaculty Department of Geoinformatics – Z\_GIS, University of Salzburg (Barbara Hofer)
- OTB - Research Institute for Housing, Urban and Mobility Studies, Technical University of Delft (Rusne Sileryte)
- Department of Information Systems, University of Jaume I (Carlos Granell)

## 8. Additional information about previous workshops, if held.

<https://o2r.info/reproducible-agile/>

## **9. Expected resources needed**

- one lecture/hands-on room with power connectors for participants to plug in laptops
- one break-out room for split-up groups (up to 15 people)
- internet connection for all participants digital projector (in all rooms)
- flip chart or whiteboard, one per room

## **10. Other information**

More about the RR initiative at <https://o2r.info/reproducible-agile/initiative/>.