

UNIVERSITY
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MINI SYMPOSIUM

SUSTAINABLE RESEARCH SOFTWARE DEVELOPMENT FOR GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

17 November 2022

ITC Auditorium, Enschede

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netherlands
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Fellowship
Programme



Sustainable Research Software

- **Software** is an essential part of research.
 - Researchers* develop and **reuse** software as part of the research process to generate, process or analyze results.
- **Research software** can be any piece of code, script, package, tool, library, or program written for research purposes.
 - **Reproducibility, reusability, and accuracy** of data analysis are important for research software.
 - (OpenScience → makes them more important)
- Existence of research software is the crucial first step, but it needs to be **sustainable** to be alive in long term*
 - **FAIR** principles (for research data → not sufficient for software)
 - **Software engineering** practices (2010s → Research Software Engineer)
 - **Community** building and management

It may be difficult, but not impossible.

Programme

10:10 – 11:20	About eScience Center and Scientific Departments of ITC*
11:20 – 11:30	Coffee Break
11:30 – 13:00	eScience Center Software Presentations ESMValTool, eWaterCycle, CGC, Springtime, Laserchicken, RS-DAT, Geospatial Data Carpentry
13:00 – 13:40	Lunch
13:40 – 15:20	ITC Software Presentations geoslurp, IlwisPy, LTB, LISEM, FlowMaps, QTM Generator, NRS Tools, OGITO, fairly / JupyterFAIR, STAS, GlobeTrotter
15:20 – 15:30	Coffee Break
15:30 – 16:15	Discussion: Needs and challenges of sustainable research software development
16:15 – 16:30	Closing
16:30 – 17:00*	Drinks

Group Photo*

Questions and Comments

<https://tinyurl.com/sustainable-research-software>



The screenshot shows a HackMD document interface. At the top, there are navigation icons (document, edit, view, share, help) and a 'Prime' badge. The document title is 'Mini Symposium'. Below the title, the main heading reads 'Sustainable Research Software Development for Geo-Information Science and Earth Observation'. Logos for 'UNIVERSITY OF TWENTE.', 'ITC', and 'netherlands eScience center' are displayed. The event details are '17 November 2022' at 'ITC Auditorium, Enschede and Online'. An 'Event Page' link is provided: <https://itc.nl/big-geodata/meetings/event/mini-symposium-sustainable-research-software-development/>. The interface also shows 'OWNED THIS NOTE' and 'CHANGED 9 HOURS AGO' status, along with 'Sign in' and 'Share' buttons.



- **No need to sign-in** to edit the collaborative document.
- Please add your **personal information** (e.g. institution, e-mail address, nickname).
- Please indicate your **nickname** with your questions and comments.

Fellowship Programme

- This event is supported by the [Netherlands eScience Center Fellowship Grant NSESC.ESCF.2022.013](#).

- The Netherlands eScience Center's **Fellowship Programme** supports individuals who have the ambition to promote or improve the use of research software within their organization or discipline.

<https://www.esciencecenter.nl/fellowship-programme/>

- **GEOnnect**: Connecting eScience Center RSEs and ITC researchers for better environment and sustainability-related research software uptake and development

GEOnnect Project

- **Uptake by the research community** can help to make a software sustainable.
- **Bringing together** the developers and researchers* through **hands-on** training workshops can facilitate the uptake.
 - Researchers learn the software directly from its developers.
Use in research and education → Better visibility, larger user community
 - Developers get direct feedback from the domain experts.
Adjustments and further development based on user needs → Better software
- **GEOnnect** aims to organize a **workshop series** for the researchers of **ITC** on environment and sustainability-related **eScience Center** software and research software development best practices.



**Fellowship
Programme**

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GEOnnect Activities

- **Mini Symposium**

- Presentations by RSEs and researchers on research software
- Open discussion on needs and challenges

- **Training workshops at ITC by eScience Center RSEs**

- Workshops on eScience Center Research Software
 - Presentation (motivation, features, methods, etc.)
 - Demonstration
 - Hands-on exercises
 - Feedback
- Workshop on research software development best practices (e.g.: Building structured code repositories, enabling continuous integration, etc.)

- **Closing Meeting**

- Presentations on experience, uptake and improvements
- Open discussion on future collaboration