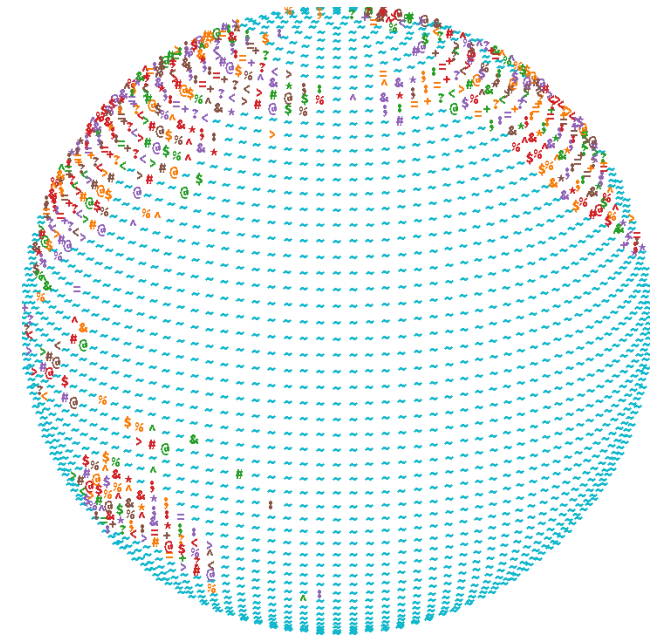


Réseau thématique Numérique en Terre Solide

Léonard Seydoux

Fourth workshop, 26–29 May 2026 Strasbourg

nuts.univ-nantes.io



Origins

- 2020-2025: INSU perspectives identified **challenges** in numerical methods and data analysis for solid Earth sciences (TS)
 - 13/ from data harvesting to data-driven science;
 - 14/ Open access to scientific data;
 - 17/ Towards exascale: convergence of HPC and HDA.
- 2021 survey: need for better recognition of **community efforts** on code development

image from insu.cnrs.fr



Origins

NuTS created in 2023 with 15 k€ yearly funding, with the following milestones:

- Early kick-off in October 2022
- Yearly workshops and trainings
- First code labelled "code communautaire" in 2022: **WebObs**

Kickoff, Paris 2022



Objectives



Promote good software development practices



Coordinate a long-term initiative to share community tools



Support training programs on computing and data analysis



Adopt AI in Earth sciences: simulations, data analysis, inversion



Support the development of Earth science software



Foster interdisciplinary collaborations to address key challenges



Engage in HPC initiatives across INSU



Monitor new tools and emerging computing technologies

Actions

1. **Structuring:** visibility, efficiency, and community governance
2. **Training:** best practices and tools: Git, Python, Julia, HPC, HDF5, Jupyter, FAIR...
3. **Science:** numerical methods and data analysis across solid Earth topics

First workshop in Lyon 2023



Community

- **130 members** (researchers, engineers, post-docs, and students across France)
- **24 labs** (INSU, CNRS, IRD, BRGM, CNES, universities)
- **Flash the QR code to join the mailing list and receive updates on NuTS activities!**
gdr-nuts@services.cnrs.fr



Steering committee

Léonard Seydoux

Yann Capdeville

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Jean-Philippe Malet

Paul Cupillard

Romain Chassagne

Romain Brossier

Valérie Cayol

Contact the steering committee at cp-gdr-nuts@services.cnrs.fr

Program: Day 1 — Tuesday 26 May

Time	Session
14:00–16:00	Data assimilation: physics-based (2)
16:00–16:30	 Coffee break
16:30–18:00	Data assimilation: physics-based (3)
18:00–18:30	Research management (2)
19:00–20:00	 Cocktail

Program: Day 2 — Wednesday 27 May

Time	Session
09:00–10:00	Data assimilation: data-driven (2)
10:00–10:30	 Coffee break
10:30–12:00	Data assimilation: data-driven (3)
12:00–14:00	 Lunch + poster session
15:00–15:30	Computational fluid dynamics webinar project
15:30–16:30	Breaking rooms
16:30–17:00	 Coffee break
17:00–17:45	Research management + NuTS perspectives
19:30–21:00	 Dinner

Program: Day 3 — Thursday 28 May

Time	Session
09:00–12:30	Jupyter Labs: Ensemble Kalman filter (Lorenz 1963)
12:30–14:30	 Lunch
14:30–18:00	Jupyter Labs: ORISON platform for data assimilation

Program: Day 4 — Friday 29 May

Time	Session
09:00–12:00	Jupyter Labs: Uncertainty quantification and surrogate modelling

Many thanks to:

- **Clément Hibert** for the organization of the workshop in Strasbourg
- **Benoit Seignovert** for the organization of the training sessions
- **Alexandre Fournier, Théophile Lohier**, and **Jeremy Rohmer** for the training sessions on Jupyter Labs
- **The speakers** for their contribution to the scientific program



Breaking rooms

- **Diamond open access journals:** should we promote them? How?
- **Community codes:** better support them? Manage international codes?
- **Internal prospective:** what's next? Improvements, new actions, communication tips?
- **Other topics:** feel free to propose other topics for discussion!

