



# NEP Summer School on Data Management and Virtual Access: basics and motivations

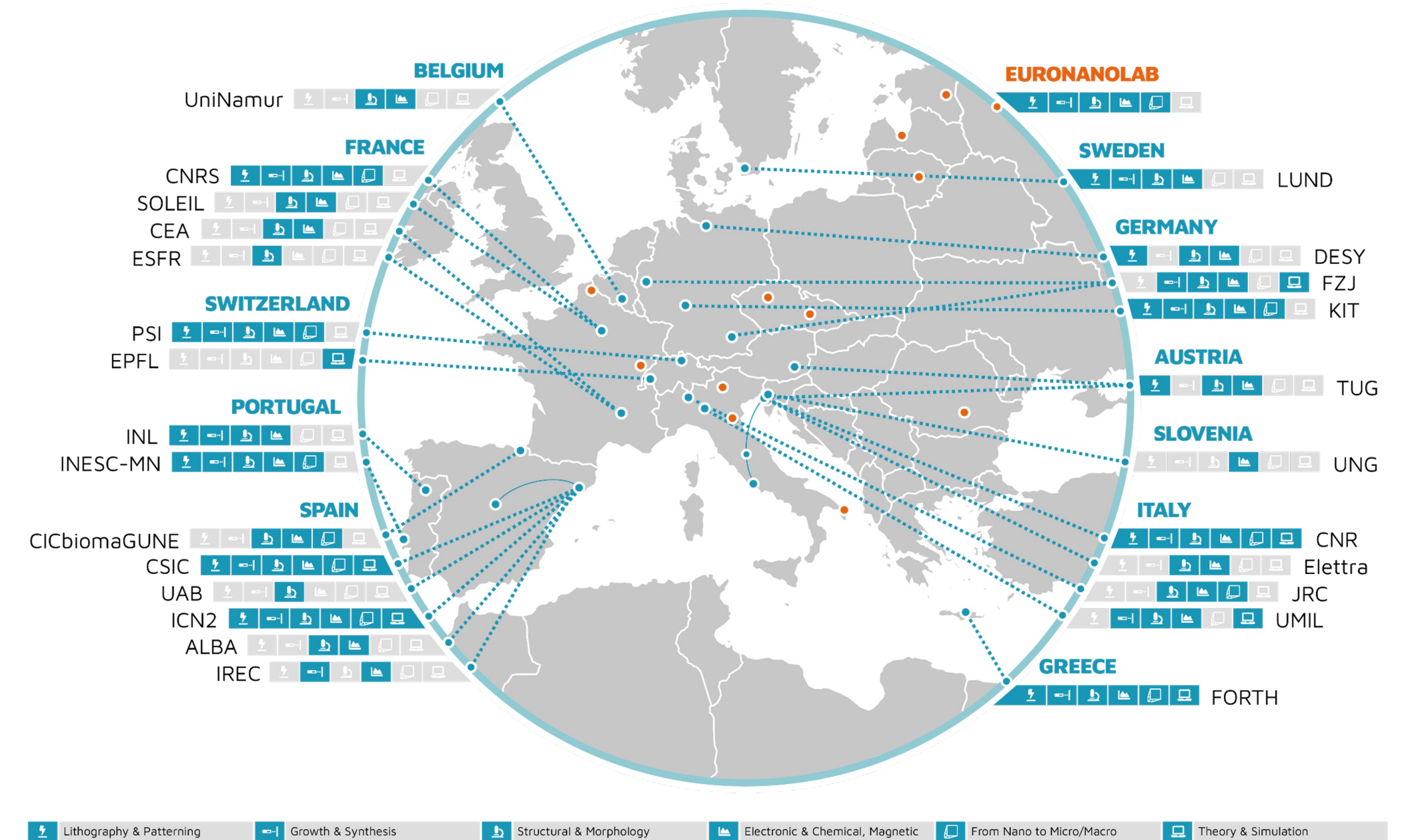
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# NFFA Europe Pilot

- Nanoscience Foundries and Fine Analysis (NFFA) – Europe Pilot (NEP)
- Access to nanoscience research infrastructure
- Integrate synthesis, growth and manipulation of nanostructures with fine analysis, theory and simulation
- 22 international partners, 180 techniques



What about the data?

# Data-related research use cases

You might want to:

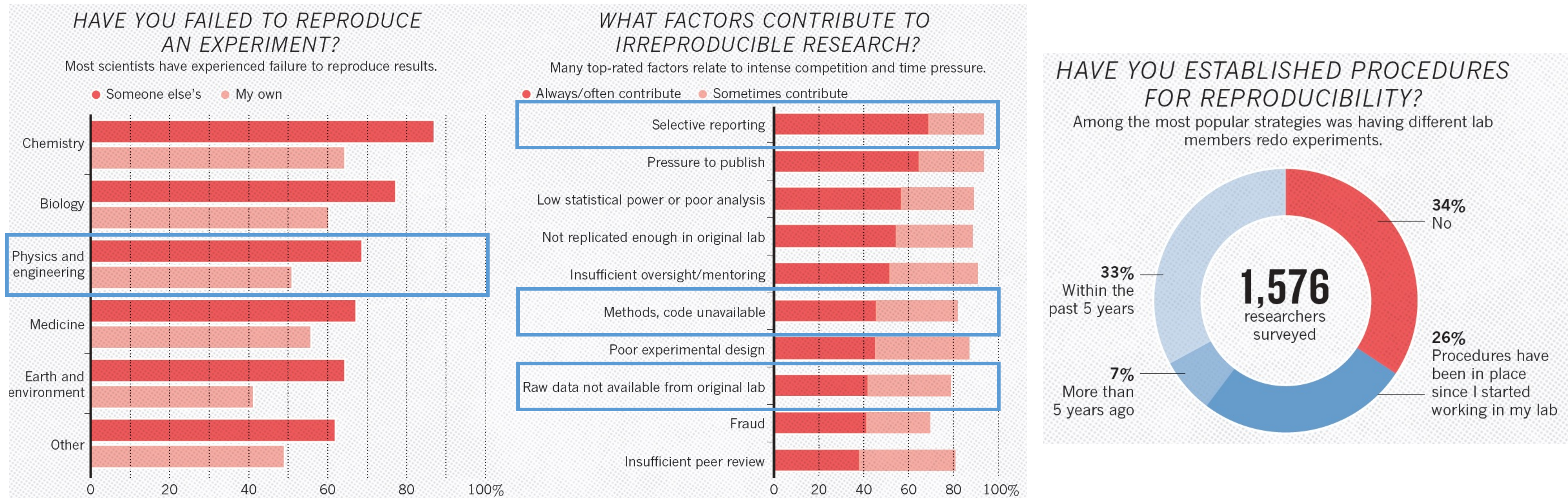
- Compare your results with similar ones in the literature
- Reproduce/reuse results available in the literature
- Take delivery of the project handed over by a student/colleague who left
- Exchange data with your colleagues to collaborate on a research project
- Allow others to reproduce/reuse your results to be cited
- Analyse your data without installing additional software

# Data-related research questions

- Which data do support the results in this paper?
- How can I reproduce the data?
- How were these measures achieved/performed?
- How was the sample prepared?
- How can I search for data with specific features?
- What further info can I get from my data?



# Reproducibility crisis



Baker (2016) <https://doi.org/10.1038/533452a>



# A data management horror story



“A data management horror story” by Karen Hanson, Alisa Surkis and Karen Yacobucci.

# Focus of the Summer School

- **Data Management**
  - FAIR Principles
  - How to store/publish/find data
  - Tools available in NEP
  - Real use cases
  - Open discussion
  - Theory, demo, hands-on
- **NEP Virtual Access services**
  - MetaRepo
  - TriDAS
  - Nanostructures Predictive Service and Materials Modeling
  - Materials Cloud
  - MRI contrast prediction and NMR Spectra Graph

# Program of the Summer School

| DAY 1       |                       | DAY 2       |                           | DAY 3       |                         |
|-------------|-----------------------|-------------|---------------------------|-------------|-------------------------|
|             |                       | 09:00-10:30 | How to deal with metadata | 09:00-10:30 | Virtual Access services |
|             |                       | 11:00-12:30 | How to manage metadata    | 11:00-12:30 | Virtual Access services |
| 14:00-15:30 | Introduction          | 14:00-15:30 | Research data use cases   |             |                         |
| 16:00-17:30 | How to deal with data | 16:00-17:30 | Licensing and copyright   |             |                         |



# Feedback, questions, doubts

- Survey on the last day at the end of the session
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- Irene Modolo: [modolo@iom.cnr.it](mailto:modolo@iom.cnr.it)
- Local organizers: [training@nffa.eu](mailto:training@nffa.eu)

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- The Helmholtz Metadata Collaboration Platform