

'The NJORD Centre'



Components

- **'NJORD'** is a center composed of the researchers behind a **past CoE ('PGP')**, a **new CoE ('PORELAB')**, a **new CEE ('CSE')**, an **ERC-Advanced grant ('DIME')**, a **Marie Curie ITN project ('Nanoheal')**, **one SRI ('EarthFlows')**, and numerous smaller projects from NRC and others.
- Total current overhead > 50 MNOK

Participants

Phys

Anders Malthe-Sørenssen

Dag Dysthe

Knut Jørgen Måløy

Eirik Flekkøy

Luiza Angheluta

Anja Røyne

Geo

Bjørn Jamtveit

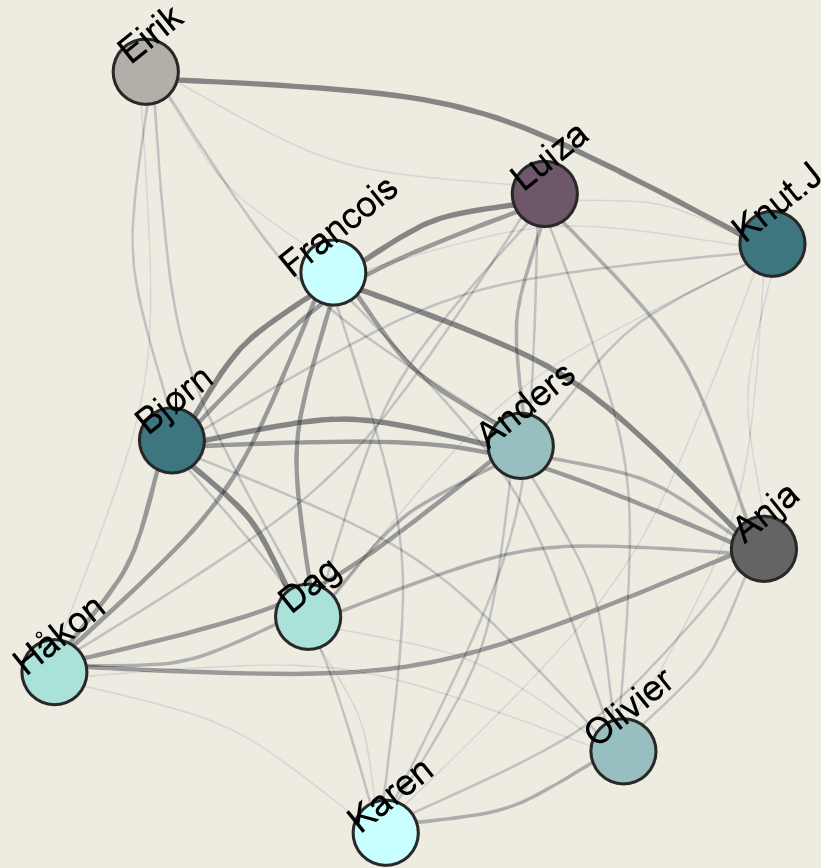
Francois Renard

Karen Mair

Håkon Austrheim (replacement)

Olivier Galland

We are connected



Goals

- Maintain and develop a world leading cross-disciplinary research center in physical sciences at UiO with focus on a fundamental understanding of the dynamics of fluid-solid systems with Earth-like complexity.
- Build the next generation of computational competences and experimental laboratory facilities for the study of processes in fluid-rock / fluid porous-media systems in 4D from molecular to field scales.
- Provide a unique basis for making predictions relevant for CO₂-sequestration, exploration and exploitation of natural resources, transport of contaminants in geo-systems, avalanches, and other geohazards.
- Generate an outstanding environment for research-based education at the Masters and PhD levels.
- Make complex Earth systems visible in the public sphere.
- Submit at least one successful ERC Advanced grant and one ERC Startup/Consolidator grant within the first 5 year period, and establish a new CoE with a NJORD PI within the next 10 years.

Strategy

- Research
- Education
- Outreach

Research

Excellence through diversity

- To create an interactive co-localized organization of geoscientist and physicists conducting field geology, theory, numerical modeling and experiments in concert
- Be an active and often leading partner in international collaborations
- Participate in international projects (IODP, ICDP, Inter-Reg MAXIVESSFUN) and be a user of large-scale national and international facilities where Norway is a partner (ESRF, ESS, IFE, IOR).

Education

-learning by doing

- Research based education – learning by doing. Close collaboration with the Center for Computation in Science Education directed by Anders Malthe-Sørenssen.
- NJORD staff members will normally participate in the education at all levels at their respective Departments with the normal workload associated with teaching at UiO. Exceptions may apply to staff involved in CoE's and staff in leading roles.

Impact through outreach and innovation

- Collaborations with leading artists, including composer Natasha Barrett and visual artist Ellen Karin Mæhlum, to produce joint exhibits and hosting artists in our laboratories.
- Extend existing collaborations with the private sector (Statoil, Total, VBPR, IRIS) through joint participations in research projects.
- Provide competences and resources to play a major role in developing the Physical Sciences at UiO in the future.

Infrastructure include

≈13 MNOK INVESTMENTS IN SCIENTIFIC EQUIPMENT SINCE 2013:

- Atomic force microscope
- White light interferometer
- Triaxial rig at the European Synchrotron Radiation Facility (ESRF)
- Microfluidics laboratory
- Surface force apparatus
- 3D graphics platform
- Tensiometer
- A newly renovated Friction&Interface lab
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Organization

