

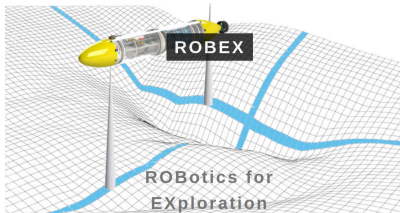
What we could do in the framework of the PEPR Robotique PERSEO?

Luc Jaulin



2026, january 16, Nano Innov, CEA, Palaiseau

1. Robex



Lionel Lapierre

Professeur ENSTA en robotique sous marine
Responsable de l'équipe



Luc Jaulin

Professeur in robotics
Responsable adjoint de l'équipe
He works on interval methods since 1992 and he applies them in localization, control and mapping of ocean robots.



Benoît Zerr

Professor in robotics

Professor at ENSTA/ LabSTICC dans le domaine de la robotique marine. Il travaille sur les groupes de robots.



Fabrice Le Bars

Lecturer in robotics

Lecturer at ENSTA/LabSTICC in marine robotics. He works on sailboat robots and on the localisation of underwater robots using interval analysis.



Simon Rohou

Lecturer in robotics

Lecturer at ENSTA/LabSTICC in marine robotics. He works localization and SLAM for underwater robots using tube programming.



Franck Ruffier

CNRS Research Director at ENSTA/Lab-STICC

Franck works in the field of biology-inspired robotics to make robots more frugal.



Damien Massé

Lecturer in robotics
damien.masse@univ-brest.fr

Lecturer at UBQ/LabSTICC



Christophe Viel

Chargé de recherche CNRS

He works in underwater robotics, mainly with ROVs, taking the cables into

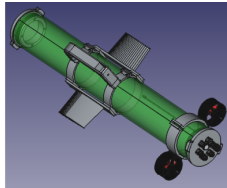
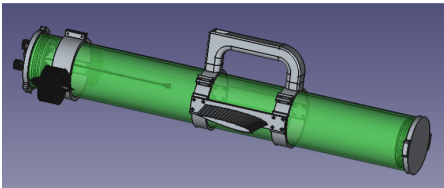


Natacha Caouren

Maître de conférence

Natacha works on swarms on underwater robots for exploration and capture

2. Swarms

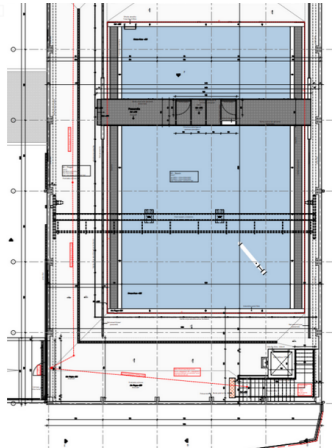
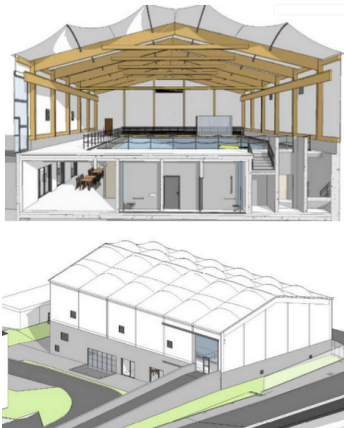


Subsurfaces (6 robots)

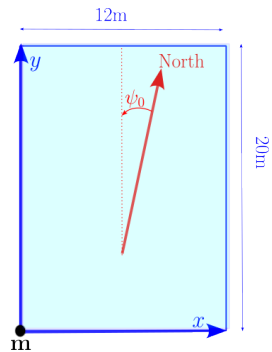


DD-Boats (20 robots)

3. Challenges



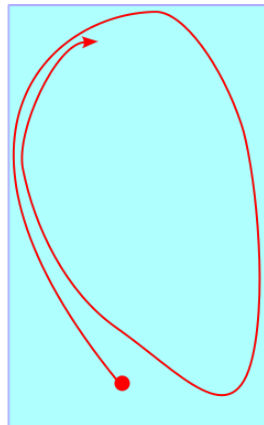
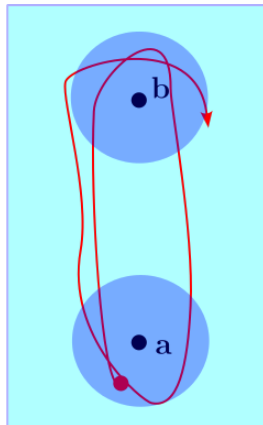
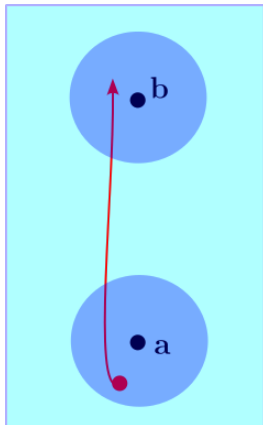
Bassin robotique of ENSTA



SAUC'E (February 2026)

All missions have be done autonomously.

- **Challenge 1.** Immersion and surface. The robot has to start at the surface point **a**, dive 1 meter deep and then has to come back to the surface at **b**
- **Challenge 2.** Go from **a** to **b**, then from **b** to **a**, and repeat as many times as possible. Between **a** and **b**, the robot should be underwater.
- **Challenge 3.** Perform a stable cycle, underwater. No GPS can be used. Magnetism could help.



Challenges 1,2 and 3

DD-Boat Regatta (May 2026)

