

**Workshop 1 on “Regularity of Free Boundary Problems”
of the Thematic Programme on
“Free Boundary Problems”
September 29 - October 3, 2025**

organized by

Serena Dipierro (UWA, Perth), Xavier Ros-Oton (U of Barcelona), Hui Yui (NUS, Singapore)

• **Monday, September 29th, 2025**

09:00 – 09:30 **Registration & Welcome**

09:30 – 10:30 **Nicola Soave (U Torino)**

Singularly perturbed elliptic systems modeling partial separation and their free boundaries

10:30 – 11:00 **Coffee Break**

11:00 – 12:00 **Gianmaria Verzini (Politecnico Milano)**

Singular analysis of a shape optimization problem arising in population dynamic

12:00 – 14:00 **Lunch Break**

14:00 – 15:00 **Jack Thompson (UWA, Perth)**

The nonlocal halfspace theorem

15:00 – 15:30 **Coffee Break**

15:30 – 16:30 **Claudia Bucur (U degli Studi di Milano)**

S-minimal functions: existence and continuity

• **Tuesday, September 30th, 2025**

09:30 – 10:30 **Xavier Tolsa (AU Barcelona)**

Rectifiability, Riesz transforms, and harmonic measure

10:30 – 11:00 **Coffee Break**

11:00 – 12:00 **Mihalis Mourgoglou (U del País Vasco)**

Two-Phase Problems for Elliptic Measures for DMO Elliptic Operators

12:00 – 14:00 **Lunch Break**

14:00 – 15:00 **Xavier Fernandez-Real (EPFL, Lausanne)**

Stable solutions for the one-phase problem

15:00 – 15:30 **Coffee Break**

15:30 – 16:30 **Dennis Kriventsov (Rutgers U)**

Non-minimizing and min-max solutions to Bernoulli problems

- **Wednesday, October 1st, 2025**

09:00 – 10:00 **Marvin Weidner (U of Bonn)**

Regularity for the nonlocal one-phase problem

10:00 – 11:00 **Mateusz Kwaśnicki (UST Wroclaw)**

Liouville's theorems for Lévy operators

11:00 – 11:30 **Coffee Break**

11:30 – 12:30 **Sunghan Kim (Uppsala U)**

Constraint maps: singularities vs free boundaries

19:30 **Workshop Dinner**

- **Thursday, October 2nd, 2025**

09:30 – 10:30 **Michele Caselli (SNS Pisa)**

Coercivity and Gamma-convergence of the p -energy of sphere-valued Sobolev maps

10:30 – 11:00 **Coffee Break**

11:00 – 12:00 **Jiakun Liu (U Sydney)**

Free boundary problems in optimal transportation

12:00 – 14:00 **Lunch Break**

14:00 – 15:00 **Aram Karakhanyan (U of Edinburgh)**

A monotonicity formula for a class of quasilinear free boundary problems

15:00 – 15:30 **Coffee Break**

15:30 – 16:30 **María Soria-Carro (U Autonoma de Madrid)**

An Elliptic-Parabolic Free Boundary Problem with Discontinuous Data

- **Friday, October 3rd, 2025**

09:30 – 10:30 **Wenhui Shi (RWTH Aachen)**

Optimal rates for Mullins-Sekerka relaxation

10:30 – 11:00 **Coffee Break**

11:00 – 12:00 **Enrico Valdinoci (UWA, Perth)**

Boundary continuity of nonlocal minimal surfaces in domains with singularities

All talks take place at ESI Boltzmann Lecture Hall!