

ESI Workshop: Free Boundary Problems and related Evolution Equations

February 21-25, 2022

The schedule of the workshop is below. Please, visit the [workshop website](#) for more information and for the abstracts of the talks.

- Monday, February 21

13:20 – 13:30 **Opening**

Session 1: *chairman G. Bellettini*

13:30 – 14:20 **Yoshikazu Giga**

On a singular limit of a single-well Modica-Mortola functional and its applications

14:20 – 14:55 **Anna Dall’Acqua**

An obstacle problem for the p -elastic energy

14:55 – 15:15 *Break*

Session 2: *chairman H. Garcke*

15:15 – 15:50 **Piotr Rybka**

Dynamic boundary conditions as a limit of a boundary layer problem

15:50 – 16:25 **Maria Giovanna Mora**

Explicit minimizers for a class of nonlocal interaction energies

16:25 – 16:35 *Break*

Session 3: *chairman Sh. Kholmatov*

16:35 – 17:10 **Maurizio Paolini**

About soap films spanning a nonregular tetrahedron

- Tuesday, February 22, 2022

Session 1: *chairman P. Piovano*

13:30 – 14:05 **Nicola Fusco**

The isoperimetric inequality outside a convex set: the case of equality

14:05 – 14:40 **Massimiliano Morini**

The asymptotics of the area preserving mean curvature flow in two dimensions

14:40 – 15:00 *Break*

Session 2: *chairman P. Dondl*

15:00 – 15:35 **Dorin Bucur**

Rigidity results for measurable sets

15:35 – 16:10 **Gian Paolo Leonardi**

The prescribed mean curvature measure equation

16:10 – 16:20 *Break*

Session 3: *chairwoman A. Pluda*

16:20 – 16:55 **Stefan Krömer**

Relaxation of functionals with linear growth: Interaction of measures and free discontinuities

- Wednesday, February 23, 2022

Session 1: *chairman P. Rybka*

13:30 – 14:05 **Harald Garcke**

On the interaction of mean curvature flow and diffusion on evolving hypersurfaces

14:05 – 14:40 **Alessandra Pluda**

Resolution of singularities of the network flow

14:40 – 15:00 *Break*

Session 2: *chairwoman A. Garroni*

15:00 – 15:35 **Tim Laux**

A new varifold solution concept for mean curvature flow: Convergence of the Allen–Cahn equation and weak-strong uniqueness

15:35 – 16:10 **Riccardo Scala**

A non-parametric Plateau problem with partial free boundary

16:10 – 16:20 *Break*

Session 3: *chairman G. Bellettini*

16:20 – 16:55 **Matteo Novaga**

Isoperimetric clusters

- Thursday, February 24, 2022

Session 1: *chairwoman M.G. Mora*

13:30 – 14:05 **Vittorino Pata**

Viscoelasticity with Time-Dependent Memory Kernels

14:05 – 14:40 **Patrick Dondl**

A proof of Taylor scaling for curvature-driven dislocation motion through random arrays of obstacles

14:40 – 15:00 *Break*

Session 2: *chairman J.-F. Babadjian*

15:00 – 15:35 **Maurizio Grasselli**

Cahn-Hilliard-Hele-Shaw systems with singular potential

15:35 – 16:10 **Martin Kružík**

Equilibrium for Multiphase Solids with Eulerian Interfaces

16:10 – 16:20 *Break*

Session 3: *chairman Sh. Kholmatov*

16:20 – 16:55 **Igor Velčić**

High-contrast random composites: homogenisation framework and new spectral phenomena

16:55 – 17:30 **Anja Schlömerkemper**

Extensions of the Cahn-Hilliard equation to a temperature-dependent setting

- Friday, February 25, 2022

Session 1: *chairwoman A. Schlömerkemper*

13:30 – 14:05 **Adriana Garroni**

Derivation of surface tension of grain boundaries in polycrystals

14:05 – 14:40 **Marcello Ponsiglione**

Stability results for nonlocal geometric evolutions

14:40 – 15:00 *Break*

Session 2: *chairman M. Kružík*

15:00 – 15:35 **Gilles Francfort**

Fracture with healing as a template for cavitation

15:35 – 16:10 **Jean-François Babadjian**

On the convergence of critical points of the Ambrosio-Tortorelli functional

16:10 – 16:20 *Break*

Session 3: *chairman P. Piovano*

16:20 – 16:55 **Irene Fonseca**

Phase Separation in Heterogeneous Media

16:55 – 17:00 **Closing**