Workshop on
“New perspective on Shape and Topology Optimization”
December 11 - 15, 2023
organized by
Elisa Davoli (TU Vienna), Idriss Mazari-Fouquer (CEREMADE, Paris),
Kevin Sturm (TU Vienna)

• Monday, December 11th, 2023
  09:45 – 10:15 Registration & Welcome
  10:15 – 11:00 Cristina Trombetti (U Napoli)
  On the Rearrangement of a function and its applications
  11:00 – 11:30 Coffee break
  11:30 – 12:15 Giuseppe Buttazzo (U Pisa)
  Antagonistic cost functionals in shape optimization.
  12:15 – 13:00 Elvise Berchio (Politecnico, Torino)
  Some optimization problems in mathematical models for suspension bridges
  13:00 – 14:15 Lunch break
  14:15 – 15:00 Raphael Fernandes (U Leicester)
  Level set shape optimisation on aggregated polytopic meshes
  15:00 – 15:30 Coffee Break
  15:30 – 16:15 Antoine Laurain (University Duisburg-Essen)
  Sensitivity analysis and tailored design of minimization diagrams
  16:15 – 17:00 Maria-Luisa Rapún
  -online- TBC

• Tuesday, December 12th, 2023
  09:45 – 10:30 Annika Bach (TU Eindhoven)
  Emergence of topological singularities in the antiferromagnetic XY-model on the triangular lattice
  10:30 – 11:00 Coffee break
  11:00 – 11:45 Giuseppe Tomassetti (U Roma Tre
  TBA
  11:45 – 12:30 Elvira Zappale (U Roma 1)
  Optimal design problems and applications to thin structures
  12:30 – 14:00 Lunch break
  14:00 – 14:45 Peter Gangl (RICAM, Linz)
  Numerical approximation of topological derivatives and some applications
  14:45 – 15:15 Coffee break
  15:15 – 16:00 Kathrin Welker (Technische Universität Bergakademie Freiberg)
  Optimization of piecewise-smooth shapes
16:00 – 16:45  **Harald Garcke (U Regensburg)**  
*Phase field approaches for shape and topology optimization*  
- online - *TBC*

- **Wednesday, December 13th, 2023**
  
  09:45 – 10:30  **Ilaria Lucardesi (U Pisa)**  
  *On Blaschke-Santaló diagrams in shape optimization*

  10:30 – 11:00  **Coffee break**

  11:00 – 11:45  **Flaviana Iurlano (U Genova)**  
  *Approximation of SBV functions with possibly infinite jump set*  
  – online

  11:45 – 12:30  **Charles Dapogny (U Grenoble Alpes)**  
  *Optimization of the shape of regions supporting the boundary conditions of a physical problem*

  12:30 – 13:45  **Lunch break**

  14:00 – 14:45  **Davide Buoso (UEP, Amedeo Avogadro)**  
  *Inequalities and asymptotics for polyharmonic eigenvalues*

  14:45 – 15:15  **Coffee Break**

  15:15 – 16:00  **Samuel Amstutz (Avignon U)**  
  *Anisotropic perimeter approximation for topology optimization*

  16:00 – 16:45  **Antonio André Novotny (National Laboratory for Scientific Computing)**  
  *A Non-Iterative Reconstruction Method for Solving a Class of Geometrical Inverse Problems*

  18:00 – 22:00  **Conference Dinner**

- **Thursday, December 14th, 2023**
  
  09:45 – 10:30  **Caterina Zeppieri (WWU Münster)**  
  *Homogenisation of nonlinear Dirichlet problems in randomly perforated domains*

  10:30 – 11:00  **Coffee break**

  11:00 – 11:45  **Stefano Almi (U Napoli)**  
  *Phase-field Topology Optimization and applications to plasticity and microstructures*

  11:45 – 12:30  **Elise Bonhomme (U Paris Sud, Orsay)**  
  *Can quasi-static evolutions of perfect plasticity be derived from brittle damage evolutions?*

  12:30 – 13:45  **Lunch break**

  13:45 – 14:30  **Marc Dambrine (University of Pau)**  
  *Towards robustness in shape optimization*

  14:30 – 15:00  **Coffee break**

- **Friday, December 15th, 2023**
  
  09:30 – 10:15  **Rémi Robin (MINES ParisTech)**  
  *Some optimisation problems for magnetic confinement in stellarator*

  10:15 – 10:45  **Coffee break**

  10:45 – 11:30  **Nicolas Van Goethem (Universidad de Lisboa)**  
  *Some fracture evolution problems by topological sensitivity analysis*

  11:30 – 11:45  **Concluding remarks**

All talks take place at ESI Boltzmann Lecture Hall!