

Workshop  
“Nonlinear PDEs: Recent Trends in the Analysis of Continuum  
Mechanics”

July 17 – 21, 2023

organized by  
Sebastian Hensel, Tim Laux, Kerrek Stinson

All times are local to Bonn

• **Monday, July 17**

10:30 - 11:20	<i>Registration and Coffee</i>
11:20 - 12:05	<b>Raghavendra Venkatraman</b> Interaction energies in liquid crystal colloids
12:15 - 14:00	<i>Lunch Break</i>
14:00 - 14:45	<b>Marita Thomas</b> Approximating dynamic phase-field fracture with a first-order formulation for velocity and stress
14:55 - 15:40	<b>Flaviana Iurlano</b> Convergence of critical points for a phase-field approximation of cohesive fracture energies

• **Tuesday, July 18**

09:00 - 09:45	<b>Barbora Benešová</b> Non-interpenetration in thin-film models
09:55 - 10:15	<b>Gokul Nair</b> Energy Minimizing Configurations for Single-Director Cosserat Shells
10:20 - 10:40	<b>Arghya Rakshit</b> Sobolev regularity for optimal transport maps of non-convex planar domains
10:50 - 11:20	<i>Coffee Break</i>
11:20 - 12:05	<b>Ulisse Stefanelli</b> The Poynting-Thomson model at finite strains
12:15 - 14:00	<i>Lunch Break</i>

14:00 - 14:45	<b>Ian Tobasco</b> Towards a generalized elastic model for kirigami metamaterials
14:55 - 15:15	<b>Frédéric Marazzato</b> Computation of homogenized origami surfaces
15:20 - 15:40	<b>David Padilla-Garza</b> Linking Energy to Irregularity in Prestrained Elastic Sheets
15:50 - 16:20	<i>Coffee Break</i>
19:00 -	<i>Conference Dinner</i>

• **Wednesday, July 19**

09:00 - 09:45	<b>Sebastian Schwarzacher</b> Regularity for fluid-structure interactions and its relation to uniqueness
09:55 - 10:15	<b>Malte Kampschulte</b> Inertial evolution in the face of (self-)collision
10:20 - 10:40	<b>Willem van Oosterhout</b> Poro-visco-elastic solids at finite strains with degenerate mobilities
10:50 - 11:20	<i>Coffee Break</i>
11:20 - 12:05	<b>Riccarda Rossi</b> Balanced viscosity solutions to a multi-rate system for damage and plasticity
12:15 - 14:00	<i>Lunch Break</i>
14:00 -	<i>Free Afternoon / Excursion</i>

• **Thursday, July 20**

09:00 - 09:45	<b>Sergio Conti</b> On functions with bounded Hessian-Schatten variation
09:55 - 10:15	<b>Andrew Warren</b> Gradient flow structure for some nonlocal diffusion equations
10:20 - 10:40	<b>Georg Heinze</b> Graph-to-local limit for the nonlocal interaction equation
10:50 - 11:20	<i>Coffee Break</i>
11:20 - 12:05	<b>Tomáš Roubíček</b> Eulerian mechanics of finitely-strained viscoelastic continua

12:15 - 14:00	<i>Lunch Break</i>
14:00 - 14:45	<b>Julian Fischer</b> Quantitative stochastic homogenization of energies in fracture mechanics
14:55 - 15:40	<b>Stefan Neukamm</b> Derivation of a homogenized bending model for prestrained plates
15:50 - 16:20	<i>Coffee Break</i>
<i>afterwards</i>	<i>Free Discussion Time</i>

• **Friday, July 21**

09:00 - 09:45	<b>Richard Schubert</b> Convergence to the flat geometry for the Mullins-Sekerka evolution
09:55 - 10:15	<b>Alice Marveggio</b> Uniqueness and Stability of Planar Multiphase Mean Curvature Flow Beyond a Circular Topology Change
10:20 - 10:40	<b>Matteo Fornoni</b> Optimal distributed control for a non-local tumour growth model
10:50 - 11:20	<i>Coffee Break</i>
11:20 - 12:05	<b>Harald Garcke</b> On the interaction of mean curvature flow and diffusion on evolving hypersurfaces
12:15 - 14:00	<i>Lunch Break</i>
<i>afterwards</i>	<i>closing</i>