

# ORGANISERS

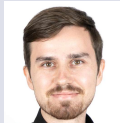
## Capriccio Group

**Sebastian Pfaller**



*Multiscale Simulations of Polymers*

**Maximilian Ries**



*Interphases in Polymer Nanocomposites*



**Wuyang Zhao**



*Multiscale Fracture Simulations*

**Lukas Laubert**



*Modelling of Bio-based Polymers*

**Felix Weber**



*Fracture in Molecular Systems*

### Head of the Capriccio Group

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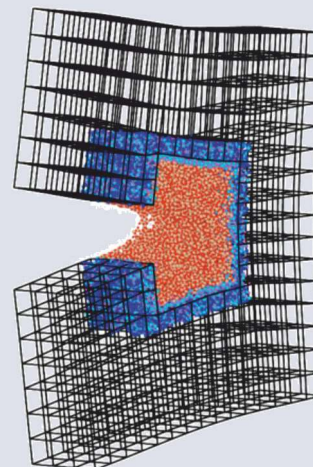
# REGISTRATION

If you would like to attend the 2nd Capriccio Special Seminar, please register here:



[www.capriccio.research.fau.eu/2024/04/06/css02/](http://www.capriccio.research.fau.eu/2024/04/06/css02/)

*We are looking forward to welcoming you!*



Friedrich-Alexander-Universität  
Technische Fakultät

Capriccio Group

## 2nd virtual Capriccio Special Seminar



**Approaching Fracture in Experiments, Modelling, and Simulations across the Scales**

April - July 2024

Online via Zoom



# INVITED LECTURERS

## Sylvain Patinet

Laboratoire PMMH, ESPCI, France



*plasticity and failure in disordered materials*

## Michael Falk

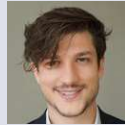
Johns Hopkins Whiting School of Engineering, USA



*mechanics in driven non-equilibrium systems, shear transformation zone theory*

## Tobias Laschütza

Karlsruher Institut für Technologie (KIT), Germany



*fracture and damage mechanics, material models for polymer materials*

## Eran Bouchbinder

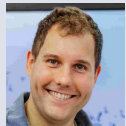
Weizmann Institute of Science, Israel



*non-equilibrium, condensed-matter & basic glass physics, amorphous plasticity, dynamic fracture*

## Franz Bamer

RWTH Aachen, Germany



*mechanics of network glasses*

## Samit Roy

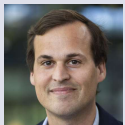
University of Alabama, USA



*multi-scale multi-physics modeling and performance prediction*

## Frederik van Loock

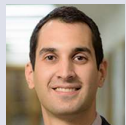
Eindhoven University of Technology, The Netherlands



*processing and mechanics of polymer-based materials*

## Sinan Keten

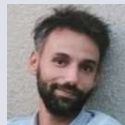
Northwestern University, USA



*nanostructured polymeric materials*

## David Richard

Université Grenoble Alpes, Université Gustave Eiffel, France



*phase transition and failure mechanisms in amorphous solids*

# PROGRAMME

In the 2nd Capriccio Special Seminar (CSS), we aim to establish a link between experimental observations and numerical analyses focusing on the physics of fracture in glassy materials, including inorganic and polymeric glasses as well as polymer composites. The seminar will cover recent advances in modeling, simulation, and experimental investigation of phenomena at various length and time scales, from the micro to the macro scale.

This event is a series of weekly talks by experts tackling the aforementioned issues from experimental and numerical viewpoints.

Thursday, April 25th, 2024, 4:00 - 5:30 pm (CEST)

## Sylvain Patinet

*Numerical modeling of plasticity in amorphous solids*

Thursday, May 2nd, 2024, 4:00 - 5:30 pm (CEST)

## Michael Falk

*Toward predicting mechanical response and failure in additively manufactured metallic glass parts*

Thursday, May 16th, 2024, 4:00 - 5:30 pm (CEST)

## Tobias Laschütza

*Studying cyclic mode I crack growth with a molecular dynamics informed continuum micromechanical crazing model*

Thursday, May 23rd, 2024, 4:00 - 5:30 pm (CEST)

## Eran Bouchbinder

*The key roles played by quenched disorder in resolving 3D fracture puzzles*

# PROGRAMME

Thursday, June 13th, 2024, 4:00 - 5:30 pm (CEST)

## Franz Bamer

*Mechanics of network glasses*

Thursday, June 27th, 2024, 4:00 - 5:30 pm (CEST)

## Samit Roy

*On correctly modeling brittle fracture using coupled molecular dynamics simulations*

Thursday, July 04th, 2024, 4:00 - 5:30 pm (CEST)

## Frederik van Loock

*Amorphous plasticity at the mesoscale: Development of a shear transformation zone-based numerical model*

Thursday, July 11th, 2024, 4:00 - 5:30 pm (CEST)

## Sinan Keten

*Molecular investigations of fracture in polymer and nanoparticle networks*

Thursday, July 18th, 2024, 4:00 - 5:30 pm (CEST)

## David Richard

*To be announced*

The 90 minutes Zoom-seminars comprise a 45 minutes talk and a subsequent discussion to allow scientific exchange.