CONTACT

If you would like to participate in the symposium, please register by **November 24, 2021** at the latest.

The online registration form can be found here:

www.frascal.research.fau.eu/events-2/1st-frascal-virtual-symposium/

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FRIEDRICH-ALEXANDER
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Research Training Group
GRK 2423

Fracture across Scales

1st (virtual) FRASCAL Symposium

Friday, November 26, 2021

Online

ZISC Zentralinstitut SCIENTIFIC COMPUTING

FRASCAL
GRK 2423

www.frascal.fau.eu

INVITED LECTURERS

Bernd Meyer
Computational Chemistry

Chemistry at the Crack Tip

Paul Steinmann
Applied Mechanics

Configurational Fracture/ Surface Mechanics

Sebastian Pfaller
Applied Mechanics

Fracture in Thermoplastics: Discrete-to-Continuum

Erik Bitzek
General Material Properties

Atomistics of Crack-Heterogeneity Interactions

Stefano Zapperi
Materials Simulation

Silica Glasses

Sigrid Leyendecker
Applied Dynamics

Adaptive Dynamic Fracture Simulation

Within the framework of this symposium, the principal advisors of the GRK 2423 FRASCAL projects will contribute their own insights into the fracture problem from a higher-level perspective in six presentations and provide a basis for stimulating discussions and interaction with colleagues from around the world.

PROGRAMME

09:15 – 09:20 WELCOME & INTRODUCTION

09:20 – 10:05 Bernd Meyer
Implications of Local Atomic Relaxations at the Crack Tip and the Inner Surfaces on Crack Propagation

10:05 – 10:50 Paul Steinmann, Andrew McBride, Ali Javili
Fracture Simulations by Peridynamics Revisited: A Continuum-Kinematics-Inspired Approach

10:50 – 11:05 BREAK

11:05 – 11:50 Stefano Zapperi
Predicting the Failure of Silica Glasses

11:50 – 13:00 BREAK

13:00 – 13:45 Erik Bitzek
Atomistic Simulations of Crack-Microstructure Interactions in Metals

13:45 – 14:30 Sebastian Pfaller
Multiscale Simulation of Polymer Fracture: Current Advancements and Challenges

14:30 – 14:45 BREAK

14:45 – 15:30 Sigrid Leyendecker
Towards Variational Multirate Integration for Dynamics on Different Time Scales in a Phase Field Model of Fracture

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