



# GAMM2025

## Tuesday 8 April 2025

### **S03: Damage and fracture mechanics: S03.01 - Room 0.27 (08:30 - 10:30)**

-Conveners: Martha Kalina

time	[id] title	presenter
08:30	[26] Sideways Cracks in Elastomers: Experimental Insights & Phase-Field Modelling	MORENO-MATEOS, Miguel Angel
08:50	[27] Uncertainties in phase-field fracture simulations of simple experiments	ZHANG, Silu
09:10	[28] A geometrically exact phase field approximation of cohesive fracture	MOSLER, Jörn
09:30	[29] A phase-field fracture model of nearly incompressible hyperelastic material based on a mixed formulation	ZHANG, Le
09:50	[30] Phase-field modeling for failure behavior of polymer fiber-reinforced high-performance concrete using the Schapery viscoelastic model	MARGALHO DE BARROS, Marcos Andre
10:10	[31] An extended phase-field method for the efficient simulation of fracture processes	LÖHNERT, Stefan

### **S03: Damage and fracture mechanics: S03.02 - Room 0.27 (16:30 - 18:30)**

-Conveners: Andreas Ricoeur

time	[id] title	presenter
16:30	[32] Three-dimensional simulation of crack initiation in ice shelves at pinning points	SONDERSHAUS, Rabea
16:50	[33] A 2D Approach to Predict the High-Cycle Fatigue Life of Clinched Joints	CHEN, Chin
17:10	[34] Dynamic fracture with thin structures and bond-associated peridynamics	PARTMANN, Kai
17:30	[35] Assessment of the debonding failure in multilayer structures using a closed-form analytical model	BECKER, Wilfried
17:50	[36] An explicit finite element solver for a dynamic formulation of gradient-enhanced damage	SOBISCH, Lennart
18:10	[37] Simulation of crack surface friction within the phase-field method	KOCH, Leonie

# Thursday 10 April 2025

## **S03: Damage and fracture mechanics: S03.03 - Room 0.27 (08:30 - 10:30)**

**-Conveners: Markus Kaestner**

time	[id] title	presenter
08:30	[38] Phase-field modelling of ductile fatigue fracture	KALINA, Martha
08:50	[39] A Fracture Criterion for the Prediction of Complex Fracture Patterns and Fragmentation in Tempered Glass	KANAN, Anas
09:10	[40] Anisotropic brittle damage models at finite strains	VAN DER VELDEN, Tim
09:30	[41] A Regularized Continuum Damage Model Based on Endurance Surfaces for Fatigue Prediction	FEIKE, Klas
09:50	[42] An analytical and numerical approach for the description of damage-free disassembly of joined CFRP structures	KREIKEMEIER, Janko

## **S03: Damage and fracture mechanics: S03.04 - Room 0.27 (14:00 - 16:00)**

**-Conveners: Fadi Aldakheel**

time	[id] title	presenter
14:00	[43] Predicting fatigue lifetime of high-strength concrete using physics-informed neural networks	BAKTHEER, Abedulgader
14:20	[44] Autoencoder based non-intrusive model reduction of damage simulations	BREPOLS, Tim
14:40	[45] A 'Capriccio light' approach to study the capabilities of multiscale fracture simulations of thermoplastics	RICHTER, Eva Maria
15:00	[46] Predictability of fracture mechanical quantities based on chemically specific multiscale simulations	PFALLER, Sebastian

## **S03: Damage and fracture mechanics: S03.05 - Room 0.27 (16:30 - 18:30)**

**-Conveners: Abedulgader Baktheer**

time	[id] title	presenter
16:30	[47] A Mixed Three-Field Variational Formulation for Phase-Field Fracture Modeling of Elastomer Materials	NOII, Nima
16:50	[48] Configurational forces for mixed-mode crack loading and growth analysis with the virtual element method	SCHMITZ, Kevin
17:10	[49] Analysis of dynamically loaded cracks with the virtual element method	WAPPLER, Philipp
17:30	[50] Determination of the Effective Crack Resistance in Porous Materials Using a Fracture Phase-Field Model	SCHLÜTER, Alexander
17:50	[52] Mechanical Behavior and Damage Evolution in Additively Manufactured Spinodoid	SREENIVASA, Vishal
18:10	[51] A Stochastic Phase-Field Approach for Ductile-Like Fracture of Rubber-Like Materials	TANIŞ, Bülent Efe

# Friday 11 April 2025

## S03: Damage and fracture mechanics: S03.06 - Room 0.27 (08:30 - 10:30)

-Conveners: Fadi Aldakheel

time	[id] title	presenter
08:30	[53] A gradient-enhanced JH2 model for dynamic simulations of concrete structures	ROSENBUSCH, Sjard Mathis
08:50	[54] Numerical Model of Crack Propagation in Elasto-Plastic Material Using Griffith and Cohesive Zone Models	RUSIN, Jarosław
09:10	[55] Proposing a Linear Failure Index for the Christensen Criterion for Use in Finite Element Analyses	HACH, Mathis
09:30	[56] Simulation study of direct-shear test on FRP-to-concrete bonded joints	JANKOWIAK, Iwona
09:50	[57] Numerical Method for Determining Material Stability Loss During Large Deformation	JACKIEWICZ, Jacek
10:10	[58] Wavelet-based random finite element analysis of dynamically loaded steel girders	KNITTER-PIĄTKOWSKA, Anna