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**2022 Boulder Workshop  
on Soft & Active  
Matter Mechanics**

**Join the event on Zoom!**

<https://cuboulder.zoom.us/j/92625208230>

Meeting ID: 926 2520 8230

Passcode: SoftMatter

**April 28<sup>th</sup> – 29<sup>th</sup>**

**Morning Sessions: 8-11 am MT**

**Evening Sessions: 3-6 pm MT**



# Event Agenda



**Thursday, April 28<sup>th</sup>**

## **Morning Session: Characterization of Time-dependent Mechanical Behaviors**

- 8:00 A.M. .... *Why is Fatigue different from Toughness in Elastomers? The Role of Network Chain Scission*  
**University of Texas at Austin – Gabriel Sanoja**
- 8:30 A.M. .... *The Nonlinear Viscoelastic Response of Suspensions of Rigid Inclusions and Vacuous Bubbles in Rubber*  
**University of Illinois at Urbana-Champaign – Oscar Lopez-Pamies**
- 9:00 A.M. .... *Multimaterial Additive Manufacturing and 4D Printing*  
**Georgia Institute of Technology – Jerry Qi**
- 9:30 A.M. .... *Viscoelastic Behavior of Gels*  
**New Jersey Institute of Technology – Shawn Chester**
- 10:00 A.M. .... *Indentation Characterization of Time-dependent Mechanical Behavior of Hydrogels*  
**East Carolina University – Michelle Oyen**
- 10:30 A.M. .... *Title TBD*  
**Cohen's Mechanics Group, MIT – Speaker TBD**
- 11:00 A.M. .... *Discussion and Industry Perspective*

## **Afternoon Session: Energy Dissipation of Micro-architected Materials**

- 3:00 P.M. .... *Tuning the unusual stress dissipation and actuation properties of biodegradable slide-ring networks*  
**University of Colorado at Boulder – Carson Bruns**
- 3:30 P.M. .... *Fracture of Vitrimers, Liquid Crystal Elastomers, and Hydrogels*  
**University of California San Diego – Shengqiang Cai**
- 4:00 P.M. .... *Damage and Fracture in Dynamic Networks*  
**University of Colorado at Boulder – Franck Vernerey**
- 4:30 P.M. .... *Ultra-high Modulus of Resilience in Polymers and Polymer Nanocomposites*  
**University of Connecticut – Ying Li**
- 5:00 P.M. .... *Increasing the Absorption Characteristics of Polymer Foams*  
**University of Colorado at Denver – Kai Yu**

**Friday, April 29<sup>th</sup>**

## **Morning Session: Fracture and Adhesive Mechanics**

- 8:00 A.M. .... *A Statistical Mechanics Framework for Chain Scission Based on Distorted Bond Potential and Asymptotic Matching*  
**Cornell University – Nikolaos Bouklas**
- 8:30 A.M. .... *Probing Simultaneously the Mechanical Properties and Microscopic Dynamics of Soft Networks*  
**Université de Montpellier – Luca Cipelletti**
- 9:00 A.M. .... *An Extreme Toughening Mechanism for Soft Materials*  
**Massachusetts Institute of Technology – Xuanhe Zhao**
- 9:30 A.M. .... *Topology, Geometry, and Fracture in Networked Materials: A tale of Scales*  
**University of Illinois at Urbana-Champaign – Ahmed Elbanna**
- 10:00 A.M. .... *Fatigue of Hydrogels and What We Have Learned So Far*  
**Northeastern University – Ruobing Bai**
- 10:30 A.M. .... *Discussion and Industry Perspective*

## **Afternoon Session: Energy Dissipation of Micro-architected Materials**

- 3:00 P.M. .... *Emergence of Viscosity and Dissipation via Stochastic Bonds*  
**University of Pennsylvania – Prashant Purohit**
- 3:30 P.M. .... *Talk Title TBD*  
**University of Southern California – Qiming Wang**
- 4:00 P.M. .... *Thermally Activated Chain Scission*  
**University of Texas at Austin – Rui Huang**
- 4:30 P.M. .... *Elastomers with Reversible and Irreversible Crosslinks*  
**Cornell University – Meredith Silberstein**
- 5:00 P.M. .... *Fracture of Viscoelastic Solids: Steady State Crack Growth and Beyond*  
**University of Colorado at Boulder – Rong Long**