Sunday March 21, 2027

16.00 Registration open

18.00 Welcome reception & buffet / kindly sponsored by

Monday March 22, 2027

08.30 Registration open

09.50 Welcome by Program Chair

Session 1: ***Physics of Glasses***
Chair: *tbd*

10.00 *Necking in solids: a tale of three polymers*
Rui Xiao (Invited, CN)

10.25 *Simple Models for Brittle-Ductile Transition, Fatigue, and Yield in Amorphous Glassy Polymers*
Valeriy Ginzburg (Invited, US)

10.50 *Molecular Structural Evolution during Crack-Tip Plasticity in Polyrotaxane Glasses*
Kazuaki Kato (JP)

11.15 *In-situ X-Rays measurements of chain segment orientation during strain hardening of glassy polymers*
Paul Sotta (FR)

11.40 *Nonlinear mechanical spectroscopy and glassy dynamics*
Gregory McKenna (US)

12.05 *The unusual glass dynamics of polymers crosslinked by ionic bods*
Jasper van der Gucht (NL)

12.30 Lunch.

Session 2: ***Molecular Modeling***
Chair: *tbd*

14.00 *Molecular Mechanisms of Strain Hardening and Hysteresis In Dynamic Polymer Networks*
Thomas O'Connor (Invited, US)

14.25 *Molecular Origins of Mechanical Anisotropy in Pre-Oriented Polycarbonate*
William Fall (FR)

14.50 *Unravelling nascent polymer structure: from coupled polymerization and crystallization to melt relaxation using molecular dynamic simulations*
Olivier Lame (FR)

15.15 *Fracture in amorphous materials: Can numerical approaches predict material properties?*
Sebastian Pfaller (DE)

15.40 Tea

Session 3: ***Biological and Bioinspired***
Chair: *tbd*

16.10 *TBD*
Jean-Marc Allain (Invited, FR)

16.35 *Domain formation in soft biological composites: the role of fiber plasticity and geometric imperfections*
Michalis Agoras (GR)

17.00 *Multiscale structure and mechanics of collagen filaments*
Mélina Motard (FR)

17.25 *Stretching Biofilms: Quantifying the Mechanics of Living Biopolymers*
Kōnane Bay (US)

17.50 End of oral session

18.00 Leisure time

19.15 Dinner

21.00 Poster session I

Tuesday March 23, 2027

Session 4: ***Surfaces and Adhesion***
Chair: *tbd*

09.00 *Understanding soft fracture through cutting*
Shelby Hutchens (Invited, US)

09.25 *3D-micromechanics and the puncture in soft solids*
Lila Séguy (FR)

09.50 *Multiscale interfacial mechanics of soft solids*
Nicolas Bain (FR)

10.15 *Dynamic pressure-sensitive adhesion in liquid crystal elastomers*
Mohand Saed (UK)

10.40 Coffee

11.10 *Molecular damage and instabilities in peeling of pressure-sensitive adhesives*
Matteo Ciccotti (FR)

Session 5: ***Soft Matter and Rubbers***
Chair: *tbd*

11.35 *Local Damage Evolution, Stress Redistribution, and Multiaxial Fracture in Elastomers Revealed by Combined DIC and Biaxial Characterization*
Kenji Urayama (Invited, JP)

12.00 *Deformation induced structure formation in natural rubber-based elastomers under multiaxial deformation*
Erich Euchler (DE)

12.25 Lunch

14.00 *From Viscoelasticity and Molecular Damage to Cavitation in Soft Polymer Networks*
Gabrial Sanoja (Invited, US)

14.25 *Investigating the correlation between cavity evolution and crack propagation in silica-filled elastomers*
Alice Bianucci (IT)

14.50 *Drying induced fracture propagation in hydrogels*
Shaohua Yang (CH)

15.15 *Mechanophores reveal damage delocalization in silica-reinforced elastomers*
Tianyu Yuan (FR)

15.40 Tea

Session 6: ***Sustainable and Circular Polymer Materials***
Chair: *tbd*

16.10 *TBD*
Emily Davidson (Invited, US)

16.35 *Exploiting mechanochemical bond cleavage for recycling*
Ina Vollmer (Invited, NL)

17.00 *The role of CO2 processing history in the deformation and failure behavior of nanocellular polyetherimide*
Judith Martin de Léon (SP)

17:25 *Constitutive modelling of hydrolytically degrading polymers*
Laurence Brassart (Invited, UK)

17.50 End of oral session

18.00 Leisure time

19.15 Dinner

21.00 Poster session II

Wednesday March 24, 2027

Session 7: ***Constitutive Modelling: physics based and data driven approaches***
Chair: *tbd*

09.00 *From damage Delocalization to Toughness: Microscopic Mechanisms in Double Polymer Networks*
Kirsten Martens (Invited, FR)

09.25 *When Mathematics Isn't Enough: Lessons from Natural Rubber*
Vu Ngoc Khiêm (DE)

09.50 *A micromechanically based model of strain-induced crystallization in natural rubber under multiaxial loading*
Luciana Santoro (CH)

10.15 *Anisotropic phase-field modeling of multiscale fracture processes in heterogeneous injection-molded fiber-reinforced polymer parts*
Fabian Welschinger (DE)

10.40 Coffee

11.10 *TBD*
Dirk Mohr (Invited, CH)

Session 8: ***Fracture, Toughness and Durability***

Chair: *tbd*

11.35 *Environmental stress cracking of polymers: a fracture-mechanics perspective*
Luca Andena (Invited, IT)

12.00 *Non-equibiaxial fatigue-fracture characterisation of soft materials: Combining numerical simulations with experimental study*
Mokarram Hossain (UK)

12.25 Lunch

14.00 *Recent advance on analytic solutions to deflected and branched cracks*
Yujie Wei (Invited, CN)

14.25 *A Sideways Crack-Path Instability Amplified by Slow Loading*
Loic Vanel (FR)

14.50 *In-situ experimentally-informed model of fatigue crack propagation in high-density polyethylene*
Milos Zivkovic (NL)

15.15 *Towards fatigue prediction of PEEK CT100: Relating monotonic and cyclic mechanical behavior across temperature*
Aide Flores Fernandez (NL)

15.40 Tea

Session 9 ***Stimuli responsive and Architected systems: experimental and modelling approaches***
Chair: *tbd*

16.10 *TBD*
Danas Kostas (Invited, FR)

16.35 *Stress delocalisation in 3D-printed auxetic honeycombs*
Petr Lepcio (CZ)

17.00 *A fully thermodynamically consistent and well-posed electro-thermo-visco-hyperelastic constitutive framework for Electro-Active Polymers at finite strains*
Antonio Gill (UK)

17:25 *TBD*
Sanjay Govindjee (Invited, US)

17:50 *Legacy of Hugh Brown – by Costantino Creton*

18.05 End of oral session

19.30 Conference dinner

Thursday March 25, 2027

Session 10: ***Semi-Crystaline Polymers***
Chair: *tbd*

09.00 *Mechanics, Transport, and Stability of Ultra-thin Polyhydroxyalkanoates*
Alfred Crosby (Invited, US)

09.25 *In situ Raman spectroscopy to probe structural reorganizations in poly(lactic acid): from thermal crystallization to mechanically induced ordering*
Lise Marchand (FR)

09.50 *Isotopic chain labelling reveals distinct microscopic deformation mechanisms in crystal-mobile and crystal-fixed polybutene-1*
Zhao Xintong (CN)

10.15 Coffee (extended break to facilitate check-out)

11.00 *Micromechanical modelling of PEEK: connecting morphology and mechanical performance*
Rosa Geveling (NL)

11.25 *Effects of intracrystalline chain diffusion on the morphology and nonlinear mechanical properties of semi-crystalline polymers*
Thomas Thurn-Albrecht (Invited, DE)

Snow Talk

11.50 *A statistical mechanics of dynamic polymer networks: From viscoelasticity to adaptive matter*
Franck Vernerey (Invited, US)

12.30 Closing remarks

12.45 Lunch

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