



# HISTRATE

*Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis*

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

**DAY 1 10 June**

WEDNESDAY

09:00 – 09:30 **Registration**

09:30 – 09:45 **Welcome by Local Organizer and Opening Speech**  
*University of Latvia*

**Tatjana Glaskova-Kuzmina**  
**Guntars Kitenbergs**

09:45 – 10:00 **Introduction by Action Chair**  
**HISTRATE** - A Route to Certification-by-analysis for Impact-loaded  
Aeronautical Composite Structures

**Patricia Verleysen**

10:00 - 10:30 *Neural Network Based Composite Failure Prediction for Accelerated  
Explicit Finite Element Simulations*

**Jens Wiegand**  
*(Invited Speaker)*

10:30 - 11:00 *Novel Simulation Methods and Best Practices for Composites Under  
High Strain Rates*

**Cristiano Velaso**  
*(Invited Speaker)*

11:00 – 11:30 **COFFEE BREAK**

11:30 – 12:45 **Session 1 - Novel composite materials for high strain applications  
(WG3)**

**Chair:**  
**Vineta Srebrenkoska**  
**Mauro Zarrelli**

11:30 – 11:45 *Evaluating Thermal Reconsolidation Efficiency in CF/PEKK  
Composites Subjected to Single and Multiple Low-Velocity Impacts*

Hatice S. Sas

11:45 – 12:00 *Structural Performance of Voided RC slab under Blast Loading*

Ashish Kumar  
Chaudhary

12:00 – 12:15 *New Epoxy/ESO Composite Systems Produced by Pultrusion and  
Their High Strain Rate Compressive Performance*

Ivan Vasileski

12:15 – 12:30 *Explosion Fabrication of High Entropy Composites for High Strain  
Rate Applications*

Nikoloz Chikhradze

12:15 - 12:30 *Enhanced Mechanical Performance of MXene-Coated Basalt Fiber-  
Reinforced Composites Impregnated with Star-Like Polymer-  
Modified Epoxy Matrix*

*Tatjana Glaskova-  
Kuzmina*



**LUNCH BREAK**

[Tatjana.Glaskova-Kuzmina@univ.lv](mailto:Tatjana.Glaskova-Kuzmina@univ.lv)



*This conference programme is within the scope of COST Action HISTRATE,  
CA-21155, supported by COST (European Cooperation in Science and Technology).*



# HISTRATE

*Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis*

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

**DAY 1 10 June**

WEDNESDAY

**13:45 – 14:45** Poster session with 3 minute pitches

**Chair: Hatice Sinem  
Şaş Çaycı**

**14:45 – 15:45**

**COFFEE BREAK with POSTER SESSION**

**15:45 – 17:15** **Session 2 - Novel simulation methods and best practices for composites under high strain rates (WG4)**

**Chair: Andreas  
Hornig**

*15:45 – 16:00 Modelling and simulation of the mechanical response and damage of carbon fibre-reinforced polymer (CFRP) laminates for aero-structures subjected to simulated lightning strike*

*Albertino Arteiro*

*16:00 – 16:15 Incubation-time-based failure criterion to predict delamination due to spalling and through-thickness impact loading*

*Andreas Hornig*

*16:15 – 16:30 Fracture modeling of the interface for composites: stick-slip behaviors – a dynamic process*

*Dayou Ma*

*16:30 – 16:45 High-Velocity Impact Behaviour of CFRP–PET Foam Sandwich Panels: Experimental Characterisation, Tomography and Numerical Modelling*

*Filipe Ribeiro*

*16:45 – 17:00 Numerical Modelling of the Additively Manufactured Continuous Fibre Reinforced Composites*

*Fran Ušurić*

*17:00 – 17:15 Advanced 3D Modeling of Functionally Graded Sandwich Plates under High Strain Rate Loading*

*Volkan Kahya*

**19:30**

**CONFERENCE DINNER**



Tatjana Glaskova-Kuzmina



*This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).*



# HISTRATE

*Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis*

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

**DAY 2 11 June**

THURSDAY

**08:45 – 09:00 Registration**

**09:00 - 10:30 Industry Session on Certification of Composite Products**

**Intro by Michele Meo & Jens Wiegand**

*09:00 - 09:30 Image-based High Strain Rate Testing of Composites: beyond Hopkinson's bar*

**Fabrice Pierron-  
ONLINE**  
*(Invited Speaker)*

*09:30 – 10:00 The Use of Multiscale Modeling & Machine Learning for Certification by Analysis in Composite Materials*

**David Dumas**  
*(Invited Speaker)*

*10:00 - 10:30 **Keynote speech:** Quo vadis Certification by Analysis?*

**André Haufe**

**10:30 – 11:00**

**COFFEE BREAK**

**11:00 – 12:30 Session 3 - Multi-modal sensing for impact detection and damage characterisation (WG5)**

**Chair: Rohan Soman**

*11:00 – 11:15 Ultrasound Array Signal Reconstruction for Porosity and Defect Characterization in Complex Composite Structures Subjected To High Strain*

*Krzysztof Dragan*

*11:15 – 11:30 Impact Detection in Composite Structures in Aircraft and Space Systems*

*Michele Meo*

*11:30 – 11:45 Impact Damage Influence on the Local Wavenumber of Guided Ultrasonic Waves in Thermoplastic Composites*

*Pawel Malinowski*

*11:45 – 12:00 MWCNT-Modified Cellulose Interleaved Multifunctional CARALL Composites for Real-Time Impact Detection and EMI Shielding*

*Volkan Eskizeybek*

*12:00 - 12:15 Local Wavenumber Imaging of Thin-walled Structures for Damage Detection*

*Lukasz Pieczonka*

*12:15 - 12:30 Detection of Impact Events Using Optical Fiber Sensors*

*Rohan Soman*

**12:30 – 12:45**

**COFFEE BREAK**



Tatjana Glaskova-Kuzmina



*This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).*



# HISTRATE

*Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis*

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

**DAY 2 11 June**

THURSDAY

**12:45– 13:30**      **Session 4 - Advanced testing and instrumentation for composites under high strain rates (WG6)**

**Chair: Andrei Anisimov**

12:45 – 13:00 *In-Situ Liquid Resin Healing of Elium/Glass Fibre Composites for Wind Turbine Blades under Elevated Mode I Loading Rates*

*Mohamad Alsaadi*

13:00 – 13:15 *Temperature-Dependent Impact Behavior of Carbon Fiber/PEKK Composite Laminates*

*Ceren Yıldırım*

13:15 – 13:30 *Multiaxial Characterisation of Polymers and Composites from Quasi-Static to High Strain Rates*

*Naveen Chakravarthi Petchiappan*

**13:30 – 14:30**

**LUNCH**

**14:30 – 15:00**      **Session 4 - Advanced testing and instrumentation for composites under high strain rates (WG6) - continued**

**Chair: Tatjana Glaskova-Kuzmina**

14:30 – 14:45 *Design of A Round-robin Exercise on the High Strain-rate Tensile Properties of Commercial Structural Composites*

*Marco Peroni*

14:45 – 15:00 *HISTRATE: Progress Towards a Roadmap for Standardisation of High Strain Rate Testing of Composite Materials*

*Andrei Anisimov*

**15:00 - 15:45**

**COFFEE BREAK with POSTER SESSION**



[Tatjana Glaskova-Kuzmina](mailto:Tatjana.Glaskova-Kuzmina@)



*This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).*



# HISTRATE

*Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis*

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

**DAY 2 11 June**

THURSDAY

**15:45 - 16:15**

**Invited speaker:** Route to Certification-by-Analysis of Thick Walled Single Loadpath Flight Critical Composite Landing Gear Components

**Tjaard Sijpkes**  
*Intro by Andrei Anisimov*

**16:15 - 17:00**

**Session 5 - Novel simulation methods and best practices for composites under high strain rates (WG4) - continued**

**Chair: Andreas Hornig**

16:15 - 16:30 *Coupling Proper Generalized Decomposition with Domain Decomposition for 2D ElasticWave Simulation*

*Toufik Boubehziz*

16:30 - 16:45 *Numerical Investigation of the Effect of Adhesives Used in Honeycomb Composite Structures Subjected to High-Velocity Ballistic Impact on Impact Resistance and Its Prediction Using the Fuzzy Logic Method*

*Yunus Emre Togar*

16:45 - 17:00 *High Strain Rate Deformation of Nanocomposites: A Molecular Dynamics Simulation*

*Murat Şen*

**17:00 - 17:15**

**SUMMARY AND FAREWELL**

*Elena Stoykova  
Tatjana Glaskova-Kuzmina*



[Tatjana Glaskova-Kuzmina](mailto:Tatjana.Glaskova-Kuzmina@univ.lv)



*This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).*



# HISTRATE

*Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis*

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

## Poster Presentations

- Maciej Radzienski Multipoint Excitation-Based S0 Mode Conversion Mapping for BVID Detection in Complex Composite Laminates
- Elena Stoykova Numerical Simulation of a Shearographic System with a Pixelated Polarization Camera
- Alicja Szostak Microring Resonators for Impact Sensing in Plates
- Yang Zhang Frequency-Wavenumber Domain Guided Wave Mode Superposition Imaging for Surface Damage Characterization of Composite Materials
- Vito Pagliarulo Non-destructive investigation of basalt-based laminates by shearography and ESPI
- Amine Haj Taieb Textile-Fiber-Based Metamaterial Structures for Impact Detection and Damage Characterisation: A Review of Multi-Modal Sensing Approaches
- Violeta Madjarova Laser Speckle Photometry of Composites under Tensile Loading
- Patrycja Pyzik Lamb wave dispersion for material characterisation of short fiber-reinforced polymer composite plates
- Çağatay Yılmaz A Numerical Study on the Usage of Lamb Waves for Damage Detection in Fiber Reinforced Polymers
- Ana-Teodora Untariu Dynamic Mechanical Analysis of neat PK and two PK-GF30 Batches
- Kaleeswaran Balasubramaniam EMAT-Based Detection of Interfacial Disbonds in Composites for Dynamic and High-Strain-Rate Applications
- Ezio Cadoni High strain rate characterisation of natural fiber composites for drones (HISTRAND)
- Özgen Çolak Çakır Microstructure-Driven Design of Strain-Rate Sensitive Nanocomposites
- Svetlana Risteska Damage and Delamination Behavior of Thermoset Composites under Impact and Medium to High-Strain-Rate Compression
- Aldobenedetto Zotti, Mauro Zarrelli High Strain Rate Behavior of Silica Loaded Epoxy Nanocomposites
- Sara Srebrenkoska Effect of ATL Processing Parameters on the Flexural Behavior and High Strain Rate Response of Carbon Fiber/PPS Thermoplastic Laminates
- Svetlana Risteska Defect Evolution and High-Strain Rate Mechanical Performance of Thermoset and Thermoplastic Fiber-Reinforced Composites



UNIVERSITY  
OF LATVIA, RIGA

[Tatjana Glaskova-Kuzmina](mailto:Tatjana.Glaskova-Kuzmina@)



EUROPEAN COOPERATION  
IN SCIENCE & TECHNOLOGY



Funded by  
the European Union

*This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).*



# HISTRATE

*Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis*

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

## Poster Presentations

- Abdülkadir Sezai Magneto-Mechanical Response of Electrospun Polyacrylonitrile/Magnetic Nanoparticle  
Saraç Composite Nanofibers  
for Dynamic Sensing
- Sabri Can Ekerer Additively manufactured PETG - PLA hybrid composites: Effect of high strain rates on  
tensile properties
- Shunqi Zhang Stochastic Effects of Interlayer Matrix Non-Uniformity on Impact Response of TPU  
Thermoplastic Composites
- Vineta Predictive Modeling of Ballistic Limit and Trauma Response in Aramid Fiber Reinforced  
Srebrenkoska Phenolic Composites
- Brikena Duga Parameters Optimization of the Gurson–Johnson–Cook Damage Model for Dual Phase  
Steel
- Burak Bal Molecular Dynamics Investigation of Dislocation-Mediated Mechanical Behavior and  
Hydrogen Embrittlement in Metal-Matrix Composites Under High Strain Rate Loading
- Yüksel Çakır Multi-Layer Perceptron Neural Network Based Prediction of Dynamic Stress–Strain  
Response of Polyethylene
- Fatima Ezzahrae Development Of New Structural Biocomposites: impact of Wrapping, Weaving and  
Balegh Thermocompression Processes for Sisal-PLA Assembly



[Tatjana Glaskova-Kuzmina](mailto:Tatjana.Glaskova-Kuzmina@)



*This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).*



# HISTRATE

Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

## Speakers\*

### NAME ORGANISATION

Tatjana Glaskova-Kuzmina	University of Latvia
Guntars Kitenbergs	University of Latvia
Patricia Verleysen	Ghent University
Jens Wiegand	Compact Engineering Ltd. Cyprus
Cristiano Velaso	Beyond Composite, Portugal
Hatice Sinem Sas	University of Sheffield
Ashish Kumar Chaudhary	Indian Institute of Technology, Ropar
Ivan Vasileski	Goce Delcev University, North Macedonia
Nikoloz Chikhradze	Grigol Tsulukidze Mining Institute, Georgia
Albertino Arteiro	INEGI, Faculty of Engineering, University of Porto
Andreas Hornig	TUD Dresden University of Technology
Dayou Ma	Politecnico di Milano, Italy
Filipe Ribeiro	Instituto de Soldadura e Qualidade, Portugal
Fran Ušurić	University of Zagreb, Croatia
Volkan Kahya	Karadeniz Technical University, Türkiye
Fabrice Pierron	MatchID nv, Belgium
David Dumas	Cenaero ASBL, Belgium

### NAME ORGANISATION

André Haufe	Ansys (part of Synopsis) Germany
Krzystof Dragan	Air Force Institute of Technology, Poland
Michele Meo	University of Southampton
Pawel Malinowski	Polish Academy of Science, Poland
Volkan Eskizeybek	Onsekiz Mart University, Türkiye
Lukasz Pieczonka	University of Krakow, Poland
Rohan Soman	Polish Academy of Science, Poland
Mohammad Alsaadi	University College Dublin, Ireland
Ceren Yıldırım	Thermoplastics Composite Research Centre, The Netherlands
Naveen Chakravarthi Petchiappan	Ghent University, Belgium
Marco Peroni	European Commission, Italy
Andrei Anisimov	TU Delft, The Netherlands
Toufik Boubehziz	ENSAM France
Yunus Emre Togar	Beykent University, Türkiye
Murat Şen	Firat University, Türkiye
Elena Stoykova	Bulgarian Academy of Science
Tjarad Spijkes	TU Delft, The Netherlands
Mauro Zarrelli	CNR IPCB Italy

\* listed per order of talks



[Tatjana Glaskova-Kuzmina](#)



This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).



# HISTRATE

Advanced Composites under High Strain Rate Loading  
A Route to Certification-by-Analysis

2026 Conference

PROGRAMME

10<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

## Poster Presenters

NAME ORGANISATION

NAME ORGANISATION

Maciej Radzienski  
Institute of Fluid Flow Machinery,  
Polish Academy of Science  
Poland

Sabri Can Ekerer  
Çukurova University, Türkiye

Elena Stoykova  
Institute of Optical Materials and  
Technologies, Bulgarian  
Academy of Science

Shunqi Zhang  
Politecnico di Milano, Italy

Alicja Szostak  
Gdansk University of  
Technology, Poland

Vineta Srebrenkoska  
Goce Delcev University, North  
Macedonia

Yang Zhang  
Institute of Fluid Flow Machinery,  
Polish Academy of Science  
Poland

Brikena Duga  
University of Applied Sciences in  
Ferizaj, Kosovo

Vito Pagliarulo  
CNR - National Research  
Council of Italy

Burak Bal  
Abdullah Gül University, Türkiye

Amine Haj Taieb  
ISAMS University of Sfax,  
Tunisia

Yüksel Çakır  
İstanbul Technical University,  
Türkiye

Violeta Madjarova  
Institute of Optical Materials and  
Technologies, Bulgarian  
Academy of Science

Fatima Ezzahrae Balegh  
Faculte des Sciences et  
Techniques, Morocco

Patrycja Pyzik  
AGH University of Krakow,  
Poland

Abdülkadir Sezai Saraç  
İstanbul Technical University,  
Türkiye

Çağatay Yılmaz  
Abdullah Gül University, Türkiye

Sara Srebrenkoska  
Goce Delcev University, North  
Macedonia

Ana-Teadora Untariu  
Politehnica University of  
Timisoara, România

Aldobenedetto Zotti  
CNR - IPCB Italy

Kaleeswaran  
Balasubramaniam  
Innerspec Technologies, Spain

Svetlana Risteska  
Goce Delcev University, North  
Macedonia

Ezio Cadoni  
University of Applied Sciences  
and Arts of Southern Switzerland

Özgen Çolak Çakır  
İstanbul Technical University,  
Türkiye

[Tatjana Glaskova-Kuzmina](#)



This conference programme is within the scope of COST Action HISTRATE, CA-21155, supported by COST (European Cooperation in Science and Technology).