

Advanced Composites and Applications

Tuesday, 11 **February 2025, 10:00-16:00 (EET/UTC +2)**, Online, ZOOM link:

https://lu-lv.zoom.us/j/92382699666?pwd=SgcY9ljJXsCbb8U8vvOy5Wa21j1l81.1

Programme

| Chair: Assoc | Chair: Assoc. Prof. Tatjana Glaskova-Kuzmina | | | |
|--------------|---|---|--|--|
| 10:00-10:05 | Tatjana Glaskova-Kuzmina University of Latvia, Riga, Latvia | Opening of the Conference special session | | |
| 10:05–10:20 | Andrejs Krauklis, Floriane Verceux, and Sotirios Grammatikos Norwegian University of Science and Technology, Gjøvik, Norway | Quantitative structure-property relationships for non-destructive evaluation of aging in polymers | | |
| 10:20-10:35 | Stanislav Stankevich, Daiva Zeleniakiene, Jevgenijs Sevcenko, Olga Bulderberga, Katerina Zetkova, Joao Tedim, and Andrey Aniskevich University of Latvia, Riga, Latvia Kaunas University of Technology, Kaunas, Lithuania SYNPO, Pardubice, Czech Republic Campus Universitário de Santiago, Aveiro, Portugal | Moisture absorption and its modelling of polymer systems incorporated with layered double hydroxide particles | | |
| 10:35–10:50 | Monika Chomiak, Mateusz Małysiak, Małgorzata Szymiczek, Michał Szafron, Bartosz Wolny, Oliwia Cudnik, Maciej Smaguła, and Łucja Wantuch Silesian University of Technology, Gliwice, Poland | Advanced structural analysis of epoxy-carbon composites for lightweight bicycle frames | | |
| 10:50-11:05 | Mustafa Dündar, Ergün Ekici, and İlyas Uygur Çanakkale Onsekiz Mart University, Çanakkale, Turkey Düzce University, Duzce, Turkey | Numerical investigation and optimisation of low velocity impact behaviour of thermoplastic based composite materials with different fibre types | | |
| 11:05-11:20 | Mostafa Sadeghian, Arvydas Palevicius Kaunas University of Technology, Kaunas, Lithuania | Application of the differential quadrature numeric technique to study deflection and stability of ultra-small- scale plates | | |
| 11:20-11:35 | Leons Stankevics, Olga Bulderberga, Jevgenijs Sevcenko, and Andrey Aniskevich University of Latvia, Riga, Latvia | Linear and nonlinear viscoelastic models for creep of 3D printed polyethylene terephthalate glycol samples | | |

| 14:35-14:50 | Nawres J. Al-Ramahi, Roberts Joffe, | Electro-thermal performance of carbon fiber |
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| 14:20-14:35 | Elina Vindedze, Tatjana Glaskova- Kuzmina, Partel-Peeter Kruuv, Didzis Dejus, Janis Jatnieks, Maksims Jurinovs, and Sergejs Gaidukovs AM Craft, Riga, Latvia University of Latvia, Riga, Latvia Riga Technical University, Riga, Latvia | Characterization and comparative analysis of ISO and ASTM standards for mechanical properties of ULTEM™ 9085 |
| 14:05-14:20 | Monika Chomiak, Iwona Gródek, Małgorzata Szymiczek, Martyna Gawlas, Martyna Rzepiela, Julia Wawrzynek, Jakub Otyński, and Paulina Ferdyn Silesian University of Technology, Gliwice, Poland | Accelerated aging and lifetime assessment of organic filler-modified composites |
| 13:50–14:05 | Virtual coffee break | |
| 13:35-13:50 | Justas Ciganas, Loreta Kelpsiene, and Urte Cigane Siauliai State Higher Education Institution, Siauliai, Lithuania | Research and development of innovative composite for roofing applications |
| 13:20-13:35 | Martins Nabels-Sneiderds, Oskars Platnieks, Anda Gromova, Liga Orlava, and Sergejs Gaidukovs Riga Technical University, Riga, Latvia | High-barrier packaging film application: biodegradable poly (butylene succinate) laminate with nanocellulose |
| 13:05-13:20 | Sultan Ullah and Giedrius Janusas Kaunas University of Technology, Kaunas, Lithuania | Mechanical performance and impact resistance of polymer composites enhanced by glass microspheres and a hybrid matrix |
| 12:50-13:05 | Piotr Zagulski and Rafał Chatys Kielce University of Technology, Kielce, Poland | Effect of post-curing on the mechanical properties of polymer composites |
| 12:35–12:50 | Rudolfs Gravitis, Oskars Platnieks, and Sergejs Gaidukovs Riga Technical University, Riga, Latvia | Melt blending-induced cross-linking in fiber- reinforced biopolyesters for advanced bio- based composites |
| 12:20–12:35 | Karina Dragašiūtė, Gediminas Monastyreckis, and Daiva Zeleniakiene Kaunas University of Technology, Kaunas, Lithuania | Localized epoxy curing technology for enhanced aviation composite bonding |
| 12.05–12:20 | Anish Niranjan Kulkarni, Andrejs Pupurs, and Mārtiņš Irbe Riga Technical University, Riga, Latvia | Manufacturing of high-performance thermoset composites using electromagnetic induction heating |
| 11:50-12.05 | Virtual coffee break | |
| 11:35-11:50 | Mughees Shahid and Daiva Zeleniakiene Kaunas University of Technology, Kaunas, Lithuania | Comparative investigations and prediction of elastic properties in various fibre systems of hemp reinforced bio-epoxy plastic composite using numerical and analytical methods |

| | and Patrik Fernberg Luleå University of Technology, Luleå, Sweden | composites for ice prevention applications |
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| 14:50-15:05 | Muhammad Imran Rameel, Gediminas Monastyreckis, and Daiva Zeleniakienė Kaunas University of Technology, Kaunas, Lithuania | Integrating MXene coatings into composite materials for enhanced strain sensing |
| 15:05-15:20 | Mohamad Alsaadi, Declan M. Devine, and Eoin P. Hinchy Technological University of the Shannon, Athlone, Ireland University of Limerick, Limerick, Ireland | A comparison study on the shape memory and viscoelastic behaviour of 4D printed photocurable methacrylate and epoxy-based resins |
| 15:20-15:35 | Zeenat Akhter and Arvydas Palevicius Kaunas University of Technology, Kaunas, Lithuania | Piezoelectric polymer PVDF sensors for advanced energy harvesting and sensing applications |
| 15:35-15:50 | Müslüm Kaplan Bartın University, Bartın, Turkey | Development and characterization of conductive polymer nanocomposites and their melt-spun filaments for smart textile applications |
| 15.50–16:00 | Concluding remarks | |