

International Conference

PolyChar World Forum on Advanced Materials

31st edition

Program | Book of Abstracts

UMONS – University of Mons

Mons | Belgium | September 10 - 12, 2025

<https://web.umons.ac.be/en/agenda-events/polychar31/>

POLY CHAR'31

CONFERENCE PROGRAM

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* Day 1 (Wednesday, September 10, 2025)

8:30~9:00 **Registration**

9:00~9:10 **Opening remarks:** Prof Jean-Marie RAQUEZ, Prof Alice Mija & Prof Witold BROSTOW

SESSION 1: Chairperson - Jean-Marie RAQUEZ

COURSES 1-3

9:10~10:00 Prof Veronica AMBROGI Integrating circular economy principles in polymeric material development

10:00~10:10 - Coffee break

10:10~11:00 Prof Antonella ESPOSITO Advanced Thermal Analysis for Amorphous and Semicrystalline Polymers

11:00~11:50 Dr Paolo EDERA Rheology of vitrimers: from the basics of characterization to microscopic insights

11:50~13:20 - Lunch break

SESSION 2: Chairperson - Antonella ESPOSITO

COURSES 4-7

13:20~14:10 Prof Cosimo CARFAGNA Mechanical Recycling of multilayer flexible packaging: a virtuous route towards environmental sustainability

14:10~15:00 Prof Kevin MENARD Analytical Techniques for Recycling Polymers

15:00~15:30 - Coffee-break

15:30~16:20 Prof Witold BROSTOW The viscoelasticity of polymers and composites

16:20~17:10 Dr Jeremy ODENT Complexity for free using stereolithography

* Day 2 (Thursday, September 11, 2025)

SESSION 3: Chairperson - Paolo EDERA

PLENARY LECTURE 1

9:30~10:10 Prof Ke-Ke YANG Fabrication of shape memory biomedical devices via an adaptable FDM-based 4D printing strategy

ORAL PRESENTATIONS

10:10~10:30 Yana SHYMBORSKA 'Smart' polymer sandwiches from hydrogel nanocoatings attached to stimuli-responsive grafted brush coatings: changing the cell behavior

10:30~10:50 Anastasiia CHEBOTAR Development of plant oil-based polymer brushes with unexpected T- and pH-responsive properties

10:50~11:20 - Coffee break

SESSION 4: Chairperson - Giada LO RE

ORAL PRESENTATIONS

11:20~11:40	Juan A. GUERRERO	Hydration-driven boost in piezoionic sensors
11:40~12:00	Angela MAROTTA	Kinetic study of the curing process in resorcinol-based epoxy/anhydride thermosets
12:00~12:20	Felipe GONCALVES	Electrically responsive starch films for controlled nitric oxide and ligand release

12:20~14:00 - Lunch break

SESSION 5: Chairperson - Veronica AMBROGI

PLENARY LECTURE 2

14:00~14:40	Prof. Philippe LECLERE	Towards quantitative mapping of mechanical properties at the nanoscale of soft materials: When AI meets materials !
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ORAL PRESENTATIONS

14:40~15:00	Alma Lucia VILLELA ZUMAYA	Integrated COSMO-RS and Experimental Strategy for Developing Stable, 3D-Printed PLA-Based Methotrexate Formulations
15:00~15:20	Elizabeth Alvarez PEREZ	Synthesis of eco-friendly benzoxazine resin

15:20~15:50 - Coffee-break

SESSION 6: Chairperson - Cosimo CARFAGNA

PLENARY LECTURE 3

15:50~16:30	Prof Halima KERDJUDJ	Strategies based on umbilical cord derivative and regenerative medicine
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ORAL PRESENTATIONS

16:30~16:50	Sandu CIBOTARU	Lignin-based aldehydes for sustainable thermosetting resins with dynamic covalent networks
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POSTERS INSTALLATION

SOCIAL EVENT

17:00~18:00	MUMONS	Social Event – visite MUMONS - Électrique ! - MUMONS
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GALA DINNER

19:00~22:00	La table du boucher	La Table du Boucher Restaurant à Mons
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*** Day 3 (Friday, September 12, 2025)**

SESSION 7: Chairperson - Jeremy ODENT

PLENARY LECTURE 4

9:00~9:40 Prof Giada LO RE Sustainable-by-design polymer-based materials

9:40~11:40 **POSTER SESSION and Coffee-break**

PLENARY LECTURE 5

11:40~12:20 Prof Karine GLINEL Engineered Living Materials for Therapeutic Applications

12:20~14:00 - Lunch break

SESSION 8: Chairperson – Rosica MINCHEVA

PLENARY LECTURE 6

14:00~14:40 Halyna OHAR Synthesis and properties of new macrophotoinitiators with pendant moieties of benzoin derivatives

AWARDS & CLOSING REMARKS

14:40~15:00 **PolyChar'32 introduction:** Prof Anita GROZDANOV

15:00~15:20 **Awards:** Prof Witold BROSTOW

15:20~15:30 **Closing remarks:** Prof Alice Mija, Prof Witold BROSTOW & Prof Jean-Marie RAQUEZ