



Final congress program of the Brightlands Polymer Days 2021

The program below is subject to change.

Times mentioned are in Amsterdam/Brussels time (AMS CEST UTC+2)

Sunday 7 November 2021

15:00 – 16:00 Welcome

16:00 – 16:40 Plenary Lecture 1
Prof. Dr. Rolf Mülhaupt
Do we need to reinvent plastics?

16:40 – 17:00 Break

HEALTH:

17:00 -17:40 Keynote lecture 1 Health
Prof. Sarah Cartmell
Conducting polymers and an electrospun polymer device for orthopaedic tissue repair

17:40 – 18:00 #4 Dr. Jérôme Vachon
ANTIMICROBIAL/ANTIVIRAL POLYMERS TO PREVENT DISEASE TRANSMISSION THROUGH FOMITES: A COVID-19 CONSEQUENCE

18:00 - 18:20 #38 Prof.dr. Ton Loontjens
IMMOBILIZED HYPERBRANCHED ANTIMICROBIAL COATINGS APPLICABLE ON VARIOUS SUBSTRATES

18:20 – 18:40 #152 Mr Nicolò Alvisi
Multivalent solid-binding in designed proteins for antifouling coatings

MOBILITY:

17:00 - 17:40 Keynote lecture 2 Mobility
Dr. Thorsten Felder
From New Routes to SiH Key-Monomers to Functional-Silicone Ship Coatings

- 17:40 – 18:00 #96 Anil Tiwari
Advanced Material Testing, Modelling and Validation of Fibre-filled Materials for Sustainable Lightweight Design
- 18:00 – 18:20 #158 Drs. Stijn Leuken
Controlling solubility using polymer types, sizes and chain composition
- 18:20 – 18:40 #167 dr. ir. Judith Gorp
“HIPERBIOPOL”: HIGH PERFORMING BIOBASED POLYAMIDES FOR MOBILITY APPLICATIONS: INCORPORATION OF LONG CHAIN ALIPHATIC DIACIDS INTO HIGH MELTING POLYAMIDES

ENERGY:

- 17:00 – 17:40 Keynote lecture 3 Energy**
Dr. Christoph Sievering
[Abstract title missing]
- 17:40 – 18:00 #5 Dr. Pengcheng Huang
Fine-Tuning of Solvation Environments in Liquid Phase Reactions Using Polymer-Modified Metal-Supported Catalysts
- 18:00 – 18:20 #31 Mr Ameya Krishna B
Novel hot-pressed polyelectrolyte complex saloplastics as sustainable alkaline stable monovalent-ion selective anion exchange membranes
- 18:20 – 18:40 #26 Anil Tiwari
ENABLING LIGHTWEIGHT APPLICATION DEVELOPMENT THROUGH POLYMER CHARACTERIZATION AND VALIDATION UNDER MULTIAXIAL IMPACT LOADING

CIRCULARITY:

- 17:00 - 17:40 Keynote lecture 4 Circularity**
Dr. Christoph Gahn
Chemical Recycling: From plastic waste to virgin-grade products
- 17:40 – 18:00 #192 Dr. Teun Sweere
Design and Development of Sustainable Polymer Formulations: Machine Learning from Physics-Based Molecular Modeling
- 18:00 – 18:20 #180 Dr. Tetiana Kharandiuk
DEGRADABLE POLYACETAL POLYOLS FROM RENEWABLE MATERIALS
- 18:20 – 18:40 #156 M. Sc. Pauline Voigt
METHOD DEVELOPMENT FOR MONITORING OF FAST CURING POLYMER NETWORKS INCLUDING BIO-BASED COMPONENTS
- 18:40 - 19:20 Plenary lecture 2**
Prof. Costantino Creton
Mechanochemistry to quantitatively understand macroscopic fracture at the molecular scale
- 19:20 – 21:00 Welcome dinner

Monday 8 November 2021

08:00 – 09:00 Registration

09:00 - 09:40 Plenary lecture 3

Prof. Dr. Jean-Marie Lehn

Towards Adaptive Chemistry – Dynamic Adaptive Materials

09:40 – 10:20 Plenary lecture 4

Prof. Dr.-Ing. Matthias Wessling

[Abstract title missing]

10:20 – 10:40 Break

10:40 - 11:20 Keynote lectures

HEALTH:

10:40 - 11:20 Keynote lecture 5 Health

Prof. Ali Khademhosseini

Engineering in Precision Medicine

11:00 – 11:20 #22 MSc Larissa Westerveld

Complex coacervate-based underwater adhesives

11:20 – 11:40 #23 Ms. Tiemei Lu

Multiphase complex coacervates droplets

11:40 – 12:00 #51 Dr. Reece Lewis

GSH RESPONSIVE DELIVERY OF PDNA FOR GENE THERAPY WITH COACERVATE MICELLES

MOBILITY:

10:40 - 11:20 Keynote lecture 6 Mobility

Arnt Offringa

Thermoplastic Composites – Towards More Sustainable Aviation

11:20 – 11:40 #110 PD-Eng Cristina Yolanda Rodriguez Iglesias

Digitalization as an Enabler for PP Compound Product Development

11:40 – 12:00 Stan Looijmans

Synergy of fiber surface chemistry and flow: multi-phase transcrystallization in fiber-reinforced thermoplastics

12:00 – 12:20 #34 Georgios Kafkopoulos

The effect of Polydopamine thermal treatment on the adhesion of Poly(lactic acid) (PLA)-Metal co-molded joints

ENERGY:

10:40 - 11:20 Keynote lecture 7 Energy

Prof. Subi George

[Abstract title missing]

11:20 – 11:40 #67 Mrs. Neshat Moslehi

Collective Binding of Iron Ions in Terpyridine-Functionalized Polymers

11:40 – 12:00 #76 ir. Maarten Boomstra

Effects of Branching and Polydispersity on the Thermal Conductivity of Paraffin Waxes

12:00 – 12:20 #87 ir. Jeroen Sol
*ANISOTROPIC STRUCTURAL COLOR IN A DIRECT INK WRITTEN CHIRAL
POLYMER COATING*

CIRCULARITY:

10:40 - 11:20 Keynote lecture 8 Circularity

Dr. Mark Huisman

reLFT: a sustainable approach to upcycle thermoplastic composite waste

11:20 – 11:40 #137 Dr. Alex Van Herk

*CIRCULAR POLYMERS; INSERTING BREAK POINTS VIA CKA CHEMISTRY FOR
RADICAL POLYMERIZATIONS*

11:40 – 12:00 #40 Hugo Fouilloux

A versatile and sustainable one-pot synthesis of biobased poly(meth)acrylates

12:00 – 12:20 #7 PhD Jules Stouten

A Novel Sugar-derived Monomer for UV-curable Polyacrylates

12:20 – 13:20 Lunch

HEALTH:

13:20 - 14:00 Keynote lecture 9 Health

Dr. Charlotte Kjellander

[Abstract title missing]

14:00 – 14:20 #16 Prof. Andreas Herrmann

Controlling Biological Systems by Ultrasound: Sonopharmacology and Sonogenetics

14:20 – 14:40 #33 Mr. Lucas Teunissen

*Controlled Synthesis and Characterization of Novel Thermoresponsive Polymer
Brushes*

14:40 – 15:00 #58 Miss Nicola Judge

Glycopolypeptide Nanoparticles by N-Carboxyanhydride Polymerisation

15:00 – 15:20 #61 Dr. Erik Schwartz

*LNP™ ELCRES™ CRX PC COPOLYMER RESINS THAT IMPROVE CHEMICAL
RESISTANCE AGAINST DISINFECTANTS*

MOBILITY:

13:20 - 14:00 Keynote lecture 10 Mobility

Prof.dr.ir. Remco Akkerman

[Abstract title missing]

14:00 – 14:20 #131 Dr Guralp Ozkoc

*THERMOPLASTIC MELT IMPREGNATION OF CARBON FIBERS FOR THE
FABRICATION OF CONTINUOUS FIBER FILAMENTS TO BE USED IN ADDITIVE
MANUFACTURING*

14:20 – 15:00 Keynote lecture 14 Mobility

Marjan Hemstede

The influence of new mobility trends on elastomers

15:00 – 15:20 #15 MSc. Annemarie Maan

REVERSIBLE ANTIFOULING POLYMER COATINGS

ENERGY:

13:20 - 14:00 Keynote lecture 11 Energy

Prof. Oren Scherman
[Abstract title missing]

14:00 – 14:20 #123 Mr. Benoît Notredame

NOVEL SOLID POLYMER ELECTROLYTES FOR SOLID-STATE BATTERIES

14:20 – 15:00 Keynote lecture 15 Energy

Dr. Haleema Alamri
[Abstract title missing]

15:00 – 15:20 Break

CIRCULARITY:

13:20 - 14:00 Keynote lecture 12 Circularity

Jesper Bøgelund
Circular Design of Medical Devices

14:00 – 14:20 #12 Prof. dr. Louis Pitet

Chemical Upcycling of Discarded Polyesters to High Value Thermoplastic Copolyester Elastomers

14:20 – 14:40 #121 Dr Amruta Sharma

UNDERSTANDING THE PHASE SEPARATION AND CRYSTALLIZATION IN THERMOPLASTIC ELASTOMERS BASED ON RECYCLED PET

14:40 – 15:00 #163 Dr. Andrea Gargano

Development of New Enzymes for the Depolymerization of Polyester Copolymers as Tool to Facilitate their Molecular Characterization

15:00 – 15:20 #14 Milad Golkaram

Allocating Recycling Benefits in Lifecycle Assessment for Plastics: Categorization and Use of Product Property Specifications as per Value Chain

15:20 – 15:40 Break

HEALTH:

15:40 - 16:20 Keynote lecture 13 Health

Sepas Setayesh
[Abstract title missing]

16:20 – 16:40 #49 Dr. Cornelus Nostrum

BIOTIN DECORATED ALL-HPMA BASED POLYMERIC MICELLES FOR PACLITAXEL DELIVERY

16:40 – 17:00 #107 Dr. Duc Le

TARGETED DELIVERY OF HIGHLY POTENT TOXIN USING ELASTIN-LIKE PEPTIDE NANOPARTICLES

17:00 – 17:20 #84 Dr Bryn Monnery

POLYCATIONS ACT AS PROTON TRANSFER CATALYSTS DURING POLYPLEX MEDIATED TRANSFECTION

17:20 – 17:40 #112 Mrs Smiljana Stefanovic

Star Polypeptides Vectors with Degradable Core for Gene Delivery Applications

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- 15:40 – 16:00 #122 Mr Lin Zhong
Design of Dual-functional Injectable Hydrogels for Biologicals Delivery
- 16:00 – 16:20 #183 Dr. Olga Koshkina
Fractal, Perfluorocarbon-Loaded Polymeric Nanocarrier Platform for ¹⁹F Magnetic Resonance Imaging and Delivery of Therapeutics
- 16:20 – 16:40 #188 Dr. Katharina Gottfried
Recent developments in Krynac NBR and Baypren CR responding to sustainable health safety
- 16:40 – 17:00 Empty/break
- 17:00 – 17:20 #191 MSc. Babs Van de Voorde
POTENTIAL OF POLY(ALKYLENE TEREPHTHALATE)S TO CONTROL ENDOTHELIAL CELL ADHESION AND VIABILITY
- 17:20 – 17:40 Viera Khunova
Multifunctional magnetic biopolymer nanofibers for healthcare applications

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CIRCULARITY:

- 15:40 – 16:00 #44 Miss Qian Qin
RECOGNITION AND SELF-ASSEMBLY OF STEREO-CONTROLLED AND SEQUENCE-DEFINED OLIGOMERS AT SOLID-LIQUID INTERFACES
- 16:00 – 16:20 #108 PhD Student Carolane Gerbehaye
Properties modulation of various polymers using solid-state modification technique
- 16:20 – 16:40 #109 Mr. Shen Su
Prediction and Determination of the PBAT/PLA Blend Miscibility
- 16:40 – 17:00 #126 Mr. Gilles Koolen
EVALUATION OF POLYFURFURYL ALCOHOL FOR HIGH PERFORMANCE HEMP FIBRE REINFORCED COMPOSITES
- 17:00 – 17:20 #134 Prof.Dr. Mehmet Kodal
A-POSS AS AN ADHESION PROMOTER FOR NYLON 6.6 CORD AND NATURAL RUBBER COMPOUND
- 17:20 – 17:40 #170 Ir. Daniëlle Scheepers
Charge density dependent polyelectrolyte complex formation for nanofiltration membranes

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15:40 - 16:20 Keynote lecture 16 Circularity

- Dr. Lucie Prins
Recycling of plastics by dissolution-precipitation: status and challenges
- 16:20 – 16:40 #20 Prof. Ian Teasdale
INORGANIC POLYMERS WITH STIMULI RESPONSIVE DEGRADATION
- 16:40 – 17:00 #172 Dr. Stefaan De Wildeman
The moment durable plastics became too durable for this world
- 17:00 – 17:20 #24 Ms. Lauren De Grave
Crosslinked polyaspartic acid hydrogels as biobased and biodegradable alternative for polyacrylic acid

- 17:20 – 17:40 #114 MSc. Kevin Maas
BIODEGRABLE POLYESTERS DERIVED FROM CO₂ AND GLUCOSE
- 17:40 - 18:20 Plenary lecture 5**
Prof. dr. Steve Howdle
CLEAN SYNTHESIS OF RENEWABLE POLYMERS
- 18:20-19:00 Plenary lecture 6**
Hanne van der Kooij (winner Challa polymer prize)
Let there be light: Quantitative imaging of nanoscale dynamics in polymer materials
- 19:00 – 20:00 Poster session 1**
Bites & drinks
- 20:00 – 21:00 Conference dinner

Tuesday 9 November 2021

08:00 – 09:00 Registration

09:00 – 09:40 Plenary lecture 7

Prof. Dr. Brigitte Voit (winner PTN Medema lecture award)

RESPONSIVE NANOCAPSULES AND MULTICOMPARTMENTS AS CELLULAR MIMICS

09:40 – 10:20 Plenary lecture 8

Dr. Sylvain Caillol

Biobased radically polymerizable monomers for sustainable polymers

10:20 - 10:40 Break

HEALTH:

10:40 - 11:20 Keynote lecture 17 Health

Paul Deeben

Resistance testing of polymers against surface disinfection processes

11:20 – 11:40 #89 Ir. Boris Arts

CONTROLLING BLOOD COAGULATION IN SUPRAMOLECULAR VASCULAR ACCESS GRAFTS VIA A RESPONSIVE HEPARIN COATING

11:40 – 12:00 #56 Mr. Matin Rostamitabar

Cellulose-Chitosan Aerogel Microfibers for Wound Dressing Applications

12:00 – 12:20 #182 ir. Paul Bartels

Development of an adhesive supramolecular coating as the synthetic endocardium of a silicone artificial heart

MOBILITY:

10:40 - 11:20 Keynote lecture 18 Mobility

Dr.-Ing. Gerd Esser & Dr.-Ing. Philippe Dumazet

Digital and green transformation of industrial polymer value chains

11:20 – 11:40 #113 Prof. Ken ITO

Organic Semiconductor Switching Device processed from Self-doped Conductive Polymer

11:40 – 12:00 #154 Mr. Marcel Rijnkels

EV BATTERY PROTECTION USING NORYL GTX™ MATERIAL WITH EXCELLENT LOW TEMPERATURE IMPACT PERFORMANCE

12:00 – 12:20 #185 MSc Hamoon Hemmatpour

New insights in the polydopamine formation from nano-surface adsorption

ENERGY:

10:40 - 11:20 Keynote lecture 19 Energy

Prof. Dr. René Janssen

Material and Device Design for Highly Efficient Organic Solar Cells

11:20 – 11:40 #128 Mr. ASHISH RAJ

Bio-based solid electrolytes bearing multi-functional cyclic carbonates for solid-state lithium batteries

- 11:40 – 12:00 #157 MSc Rémy Richard Jacquemond
Non-solvent Induced Phase Separation: A Synthetic Approach Towards High Performance Redox Flow Battery Electrodes
- 12:00 – 12:20 #171 Ph.D. Student Aldo Altomare
Metal-Free Light-Catalyzed Synthesis of PVDF-based Block Copolymers

CIRCULARITY:

- 10:40 - 11:20 Keynote lecture 19 Circularity**
Bart Haelterman
Towards a more sustainable polyurethane world
- 11:20 – 11:40 #39 M. Sc. Ander Centeno
NON-ISOCYANATE POLYURETHANES (NIPUs) FROM CARBONATED SOYBEAN OIL
- 11:40 – 12:00 #82 Mr. Prakhar Pouranick
THERMAL DEGRADATION KINETICS OF BIO-BASED POLYURETHANES ASSISTED BY MODEL-FREE KINETICS AND KINETIC MODELLING
- 12:00 – 12:20 #8 Mr. Kenneth Cerdán-Gómez
Humins-filled self-healing composites with enhanced healing under mild conditions
- 12:20 – 13:20 Lunch

HEALTH:

- 13:20 - 14:00 Keynote lecture 21 Health**
Prof. Dr. Dimitrios Stamatialis
Polymer based bioengineered organs
- 14:00 – 14:20 #63 Dr Ana Agustina Aldana
Mimicking the dynamic and static ECM: designing double network hydrogel inks
- 14:20 – 14:40 #88 MSc. Martina Viola
Silk-based inks: from molecules to well-organized fibrous scaffolds
- 14:40 – 15:00 #176 MSc Merel Janssen
DYNAMIC HYDROGELS BASED ON CYCLIC THIOSULFINATE-BASED MACROMONOMERS FOR 3D CELL CULTURE
- 15:00 – 15:20 #48 MSc Vahid Asadi Alghalandis
SOFT BY DESIGN: THERMOPLASTIC ELASTOMERS MIMICKING TISSUE MECHANICS
- 15:20 – 15:40 Break

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- 13:20 - 14:00 Break
- 14:00 – 14:20 #73 Drs. Jochen Vanderspikken
INTERPLAY BETWEEN ELECTRONIC AND MORPHOLOGICAL PROPERTIES TO ACHIEVE EFFICIENT NARROWBAND ORGANIC NEAR-INFRARED DETECTORS
- 14:20 – 14:40 #77 Ir. Yari Foelen
TIME TEMPERATURE INDICATORS FOR FOOD PACKAGING AND HEALTHCARE, BASED ON POLYMER LIQUID CRYSTAL COATINGS
- 14:40 – 15:00 #92 dr. Piet Driest
DEVELOPMENT OF MACROMOLECULAR UREA SORBENTS FOR DIALYSATE REGENERATION IN A MINIATURE ARTIFICIAL KIDNEY DEVICE

15:00 – 15:20 #106 MSc. Benjamin Klemm
TEMPORALLY PROGRAMMED POLYMER – SOLVENT INTERACTIONS USING A CHEMICAL REACTION NETWORK

15:20 – 15:40 #119 PhD. Student Nicolas Baleine
Iontronic Touch Sensor Toward 3D-Printed Stacked Ionic Assemblies

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CIRCULARITY:

13:20 – 13:40 #174 Mr. Hamid Ahmadi
Physical Network Formation through different mechanisms of Stereocomplex Crystallization in PLA-Based materials

13:40 – 14:00 #175 Ir. Jéré van Lente
INCORPORATING BIOACTIVE PROTEINS IN POLYELECTROLYTE COMPLEX MEMBRANES PREPARED VIA AQUEOUS PHASE SEPARATION

14:00 – 14:20 #50 Mr. Filip Van Lijsebetten
Activated covalent exchange reactions for fast (re)processable polymer networks

14:20 – 14:40 #178 Mr. Soumabrata Majumdar
Efficient topology rearrangement in phosphate triester based dynamic covalent networks

14:40 – 15:00 #57 Ms. Stéphanie Engelen
Bio-based vitrimers as circular materials

15:00 – 15:20 #101 MSc Sybren Schoustra
Polyimine Networks as Versatile and Recyclable Polymer Materials

15:20 – 15:40 #129 Msc. Chongnan Ye
Novel MXene vitrimer sensors with fast self-healing properties

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13:20 - 14:00 Keynote lecture 24 Circularity

Prof. dr. Kim Ragaert

Where are the handles for chemistry to contribute to Circularity of Plastics?

14:00 – 14:20 #161 Dr. Jan Duchateau
Mechanical Recycling of Polyolefins - A view on SABIC's development strategy for rigid PE applications

14:20 – 14:40 #60 Prof. Dr. Frederik Wurm
Long-chain, polyethylene-like polyphosphoesters: from degradation to anisotropic colloids

14:40 – 15:00 #27 Ruth D. Rittinghaus
Orthogonal Copolymerization Iron Catalyst Performs ATRP and ROP Simultaneously

15:00 – 15:20 #52 Prof. Dr. Stephen Picken
Biobased polymer materials from waste

15:20 – 15:40 #99 Ms. Shivani Wadgaonkar
LIVING ANIONIC POLYMERIZATION STUDIES OF β -OCIMENE: An unexplored promising bio-based terpene monomer

15:40 - 16:20 Plenary lecture 9

Prof. Dr. Michael Meier

*RENEWABILITY IS NOT ENOUGH: SUSTAINABLE SYNTHESIS OF BIOMASS-
DERIVED MONOMER AND POLYMERS*

16:20 – 17:00 Award ceremonies

17:00 – 17:20 Closing remarks