

PROGRAMME

5 – 8 September 2023
Fraunhofer-IAP · Potsdam · Germany

14th International Workshop on Polymer Reaction Engineering

www.dechema.de/PRE2023



WELCOME ADDRESS

After a long dry spell of abstinence from face-to-face meetings, the 14th International Workshop on Polymer Reaction Engineering will take place in Potsdam in September 2023 in presence.

Usually held every three years, this international workshop is a prestigious platform for experts to share their latest findings, as well as a knowledge pool for young professionals who want to gain a broad foundation or present their own work.

Rising energy costs and the need to base polymer production in future more and more on sustainable raw material feeds impose significant challenges to the polymer industry. Polymer reaction engineering can contribute significantly to match these challenges. The focus of the event is on the design and intensification of polymer production processes, conditioned by both customer requirements and new technological developments such as new catalysts, process analytical technologies and novel modeling and simulation tools. In addition, there are current topics in the synthesis of plastics based on monomers from sustainable sources, polymer recycling and possible recycling of polymeric materials to conserve resources.

Polymer reaction engineering (PRE) is a highly dynamic scientific field with multiple interfaces to different disciplines in science, industry, and business. The workshop aims to stimulate the development of polymer reaction engineering concepts to meet the requirements and expectations of industry and society in terms of improving energy, material, and investment efficiency in polymer production. Existing polymerization processes must be continuously improved and new processes developed to meet customer requirements. The almost universal variety of applications not only, but especially in important future fields such as indispensable materials for the energy transition, electrification of mobility and light weight construction either to reduce energy consumption or enable complex designs, as well as for modern manufacturing techniques require continuous progress in product and process design. Developing new catalysts and monomers, studying their kinetic and thermodynamic behavior are part of the scientific basis that must be translated then into process technologies that enable economical, robust, and safe production.

Among many other developments and implications, progress in polymer reaction engineering continues to be driven by increasing precision in polymer tailoring. The workshop also benefits significantly from process analytics and rapidly increasing capabilities in modeling and simulation (and thus control) of processes in the general field of reaction engineering.

The scientific committee, DECHEMA Society for Chemical Engineering and Biotechnology together with TU Darmstadt and Fraunhofer institute for Applied Polymer Research IAP cordially invite you to participate in the 14th International Workshop on Polymer Reaction Engineering in Potsdam/Germany.

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Thank you to all our Sponsors & Exhibitors



COMMITTEE / ORGANISATION

COMMITTEE

Maïke Andresen	DECHEMA e.V., Frankfurtam Main/D
José María Asua	University of the Basque Country UPV/EHU, San Sebastian/E
Michael Bartke	Martin Luther Universität Halle-Wittenberg/D
Markus Busch	Technische Universität Darmstadt/D
Michael Cunningham	Queen's University, Kingston/CDN
Erik Delsman	SABIC Belgium N.V. /B
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Robin A. Hutchinson	Queen's University, Kingston/CDN
Juraj Kosek	University of Chemistry and Technology Prague/CZ
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Timo Melchin	Wacker Chemie AG, Burghausen/D
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Werner Pauer	Universität Hamburg (UHH)/D
Ursula Tracht	ARLANXEO Deutschland GmbH, Leverkusen/D
Alexander M. van Herk	Eindhoven University of Technology/NL

ORGANISER / CONTACT

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CONGRESS OFFICE / OPENING HOURS

Tuesday, 5 September 2023	13:00 – 18:00
Wednesday, 6 September 2023	08:00 – 17:30
Thursday, 7 September 2023	08:00 – 17:30
Friday, 8 September 2023	08:00 – 13:00

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GENERAL INFORMATION

VENUE

Fraunhofer-Institut für
Angewandte Polymerforschung IAP
Fraunhofer-Konferenzzentrum
Am Mühlenberg 12
14476 Potsdam

COFFEE BREAKS AND LUNCH

Coffee, tea, refreshments and snacks will be served in the poster area and are included in the registration fee.

CURRENCY

The official currency in Germany is Euro (EUR). Common credit cards are accepted in hotels, stores and most restaurants.

ELECTRICITY

Power supply is 230 V, 50 Hz. A suitable adapter according to German standard is recommended to charge your laptop.

INSURANCE

The organiser may not be held responsible for any injury to participants or damage, theft and loss of personal belongings. Participants should therefore make their own insurance arrangements.

INTERNET ACCESS

W-LAN access throughout the congress venue is available free of charge. Participants have to accept the general terms.

NAME BADGES

All participants are kindly requested to wear their name badges throughout the workshop. In case you lost your badge, a new one will be available at the congress office.

PHOTOGRAPHS

The use of cameras, video cameras, and cell phones is prohibited during programme sessions or in the poster areas.

SMOKING

Smoking is prohibited inside the Fraunhofer-IAP. You are kindly requested to smoke outside the building where ashtrays are available for your convenience.

SOCIAL PROGRAMME

Tuesday, 5 September 2023

18:00 – 20:00

Get Together at Fraunhofer-IAP

The Get Together will take place after the first day of the conference. It is a chance to catch-up with friends, meet new people, make connections and discuss the day sessions, testing ideas and finding new insights with great company.

All participants are invited to take part in the Get Together. Drinks and snacks will be served.

Thursday, 7 September 2023

19:00 – 23:00

Conference Dinner at Krongut Bornstedt

The Conference Dinner will take place at the Krongut Bornstedt (Bornstedt Crown Estate) which is a unique ensemble of Prussian history. It is a testimony to the passion Prussian kings had for all Italian things. In 1867 King Frederic William IV is reputed to have said “I now have my Italian village – at long last!” after, he had made Bornstedt into what it is today: a piece of Italy under the Prussian sky. Since 2002, after several years of extensive restoration, the Krongut Bornstedt shines anew in its original radiance. We invite you to experience and enjoy Prussian history. At the end of an interesting conference day a bus is waiting to take you to Krongut Bornstedt or you may enjoy a 20 minutes walk through the beautiful landscape of Potsdam to get there.

After a special welcome you may start with a glass of home-brewed beer called “Bornstedt Buffalo” which is brewed since 1689 only at the Krongut Bornstedt and which is one tradition of Prussian handicrafts performed here. You are welcome to enjoy the more culinary delights among friends and colleagues in the historical scenery.

Ticket: 79.00 EUR (incl. VAT)

[Registration necessary](#)

Please let us know if you have any food allergies or special dietary needs.

Krongut Bornstedt

Ribbeckstraße 7
14469 Potsdam

**How to get there:**

There is no group transfer to the Krongut Bornstedt

Travel info: <https://www.vbb.de/en/>

From Fraunhofer to Krongut Bornstedt

Bus 605 to Potsdam, Luisenplatz-Süd/Park Sanssouci

Start Science Park West – Stop Abzweig nach Eiche – Walk 1 km to Krongut Bornstedt

Bus 612 to Potsdam, Campus Fachhochschule

Start Golm – Stop Thaerstraße – Walk 800m to Krongut Bornstedt

Or you may enjoy a walk through the beautiful landscape of Potsdam to get there.

LECTURE PROGRAMME

Tuesday, 5 September 2023

13:00 Registration

Raum 1

14:30 WELCOME

**POLYMERS & COMPOSITES BASED ON RENEWABLE RESSOURCES
AND/OR RECYCLED FEEDSTOCKS**

Chair: M. Busch, TU Darmstadt/D

14:40 **Synthesis of diblock and triblock polymers from cyclooctadiene and norbornene via ROMP in miniemulsion**

O. Rocha¹; X. Wu¹; C. Zhu¹; C. M. Crudden²; M. F. Cunningham¹; ¹ Department of Chemical Engineering, Queen's University, Ontario/CA; ² Department of Chemistry, Queen's University, Ontario/CA

15:15 **Modelling radical homo- and co-polymerization kinetics of biobased itaconate monomers**

T. Pirman¹; C. Sanders²; E. Jasiukaityte Grojzdek³; T. Ročnik³; M. Ocepek¹; M. Cunningham²; B. Likozar³; R. Hutchinson²; ¹ Resins, Kansai Helios, Domžale/SLO; ² Department of Chemical Engineering, Queen's University, Kingston, ON/CDN; ³ Department of Catalysis and Chemical Reaction Engineering, National Institute of Chemistry, Ljubljana/SLO

15:40 **Polybutylene succinate (PBS) as bio-based and biodegradable polycondensate – synthesis, scale-up and processing tests**

M. Vater¹; A. Lieske²; J. Balko³; M. Bartke¹; ¹ Fraunhofer Polymer Pilot Plant Center PAZ, Schkopau/D; ² Fraunhofer Institute for Applied Polymer Research, Potsdam/D; ³ Fraunhofer Institute for Applied Polymer Research, Schwarzeheide/D

16:05 Coffee break

PROCESS CONTROL AND ANALYTICS

Chair: M. Bartke¹; ¹ Fraunhofer Society / Martin-Luther University Halle-Wittenberg, Schkopau/D

16:35 **The hidden secrets of the average number of radicals per particle and their implications in the on-line control of emulsion polymerization reactors**

X. Telleria¹; K. Farajzadeh¹; N. Ballard¹; J. Asua¹; ¹ University of the Basque Country UPV/EHU, Donostia/E

17:00 **Combination of transparent 3D printing with Particle Image Velocimetry (PIV) and Planar Laser Induced Fluorescence (PLIF) for holistic studies of high viscosity rotor-stator mixers**

A. Stepanyuk¹; W. Dolshanskiy¹; W. Pauer¹; ¹ Technische und Makromolekulare Chemie, Universität Hamburg, Hamburg/D

17:25 Poster introduction I

18:00 **GET TOGETHER (18:00 – 20:00)**

LECTURE PROGRAMME

Wednesday, 6 September 2023

Raum 1

DATA SCIENCE IN POLYMER REACTION ENGINEERING

Chair: T. Kröner¹; ¹ BASF, Ludwigshafen am Rhein/D

- 08:30 **Knowledge-Guided Machine Learning for Polymer Reaction Engineering**
N. Ballard¹; ¹ Polymat-University of the Basque Country UPV/EHU, San Sebastian/E
- 09:05 **Machine Learning based approach for Polymerization Reverse Engineering**
P. Sievers¹; J. Fiosina¹; G. Kanagaraj¹; M. Drache¹; S. Beuermann¹; ¹ TU Clausthal, Clausthal-Zellerfeld/D
- 09:30 **Bayesian optimization of continuous microgel synthesis in the loop**
L. Kaven¹; J. Keil²; A. Schweidtmann³; N. Wolter²; A. Mitsos²; ¹ Systemverfahrenstechnik, RWTH Aachen, Aachen/D; ² RWTH Aachen, Aachen/D; ³ Delft University of Technology, Delft/NL
- 09:55 **Digital Twins in Polymer Synthesis. A way to be more efficient**
P. Georgopoulos¹; F. Kandelhard¹; E. Pashayev¹; J. Schymura¹; ¹ Helmholtz-Zentrum Hereon, Geesthacht/D

10:20 Coffee break

MODEL DEVELOPMENT, SIMULATION & OPTIMIZATION I

Chair: J. Kosek¹; ¹ University of Chemistry and Technology Prague, Prague 6/CZ

- 10:50 **Sustainable design of static and dynamic network polymers**
D. D'hooge¹; ¹ Ghent University, Zwijnaarde/B
- 11:15 **Mechanistic Modelling of the Kinetics and Microstructure of AA-co-HPEG Water Soluble Copolymers**
K. Palma¹; S. Hamzehlou¹; V. Froidevaux²; P. Boustingorry²; J. Leiza¹; ¹ POLYMAT, Universidad del País Vasco/Euskal Herriko Unibertsitatea UPV/EHU, Donostia-San Sebastian/E; ² CHRYSO, SAINT-GOBAIN Construction Chemicals, Sermaises du Loiret/F
- 11:40 **Multi-scale modelling of biodegradable polyesters production by ring-opening polymerization**
J. Staš¹; A. Zubov¹; ¹ University of Chemistry and Technology Prague, Prague/CZ
- 12:05 **Modeling of Diffusive Transport of Polymers Moments Using the Maxwell–Stefan Model**
S. Welzel¹; U. Niekem¹; ¹ Universität Stuttgart, Stuttgart/D

12:30 Poster introduction II

13:00 Lunch break

LECTURE PROGRAMME

Wednesday, 6 September 2023

Raum 1

STRUCTURE PROPERTY RELATIONS & MULTI-SCALE SIMULATION

Chair: U. Tracht¹; ¹ ARLANXEO Deutschland GmbH, Leverkusen/D

- 14:00 **Why are microstructural deconvolution methods so important in polyolefin reaction engineering?**
J. Soares¹; ¹ University of Alberta, Edmonton/CDN
- 14:35 **Development of High Performance Polyolefin Elastomers**
W. Wang¹; ¹ Zhejiang University, Hangzhou/CN
- 15:00 **Synthesis of TPA-EG-CHDM Ternary Copolyester: From Amorphous to Crystalline by Regulating Segment Length**
L. Zhao¹; D. Wang¹; J. Jiang¹; Z. Xi¹; ¹ East China University of Science and Technology, Shanghai/CN

15:25 Coffee break

POSTER SESSION

15:55 Poster introduction III

17:05 POSTER PARTY (17:05 – 19:30)

LECTURE PROGRAMME

Thursday, 7 September 2023

Raum 1

PROCESS DEVELOPMENTS

Chair: E. Delsman¹; ¹ SABIC, Geleen/NL

- 08:30 **Design and Operation of Multi-Stage Miniplants for Continuous Ethylene and Propylene Polymerizations**
G. Weickert¹; ¹ Polymer Reactor Technology GmbH, Ahaus/D
- 08:55 **Bulk Phase Polymerization of Butadiene**
M. Vater¹; H. Weber¹; M. Bartke¹; ¹ Fraunhofer Society, Schkopau/D
- 09:20 **Model-based safety and calorimetry – a solid combination for mitigating risks of high-hazard polymerizations**
H. Buchholz¹; A. Zentel¹; T. Kroener¹; J. Kellenbenz¹; ¹ BASF SE, Ludwigshafen/D
- 09:45 **Deflagration and Relief Investigations in the High-Pressure System of the LDPE-Process**
A. Röblitz¹; M. Busch¹; ¹ TU Darmstadt/D
- 10:10 **Coffee break**

KINETICS, THERMODYNAMICS & MICROSTRUCTURE

Chair: M. Busch¹; ¹ TU Darmstadt/D

- 10:40 **Experimental and Kinetic Modelling of Plastic Waste Thermochemical Recycling: Polymethylmethacrylate Pyrolysis**
A. Locaspi¹; S. Fontolan¹; M. Sponchioni²; M. Mehl¹; M. Pelucchi¹; D. Moscatelli²; T. Faravelli¹; ¹ CRECK Modelling Lab POLIMI, Milano/I; ² CFA Lab POLIMI, Milano/I
- 11:05 **Assessment of the relevance of non-catalyzed, auto-catalyzed and reagent catalyzed pathways in the formation of butyl phenyl carbamate from 1-butanol and phenyl isocyanate**
L. Trossaert¹; M. Edeleva¹; P. Van Steenberge¹; H. Kattner²; D. D'hooge¹; ¹ Ghent University, Ghent/B; ² BASF SE, Ludwigshafen am Rhein/D
- 11:30 **Intrinsic rate constants determination of free radical polymerization reactions: a quantum metadynamics study on propagation and beta-scission**
F. Serse¹; ¹ Politecnico di Milano, Milan/I
- 11:55 **Towards Designed Flocculants for Targeted Water Treatment**
A. Scott¹; ¹ Dalhousie University, Halifax, Nova Scotia, Canada/CDN
- 12:20 **Investigation of Individual Peroxide Decomposition Kinetics in Cocktails and Influences thereon applying High-Pressure Calorimetry**
S. Albus¹; M. Busch¹; ¹ Technische Universität Darmstadt/D
- 12:45 **Aqueous and Non-Aqueous Synthesis of 2-(Dimethylamino)ethyl Methacrylate Random and Block Copolymers**
O. Ajogbeje¹; R. Hutchinson¹; ¹ Queen's University, Kingston/CDN
- 13:10 **Lunch break**

LECTURE PROGRAMME

Thursday, 7 September 2023

Raum 1

DESIGN OF POLYMERS FOR RECYCLING & (BIO)DEGRADIBILITY

Chair: R. Hutchinson¹; ¹ Queen's University, Kingston/CDN

- 14:10 **Developing Strategies for Polymer Redesign and Recycling Using Reaction Pathway Analysis**
L. Broadbelt¹; ¹ Northwestern University, Evanston, IL/USA
- 14:35 **A new approach to preparation of high performance thermoplastic elastomers-dynamic chemical crosslinking of crude rubber**
B. Li¹; ¹ Zhejiang University, Hangzhou/CN
- 15:00 **Molecular weight distributions and thermal properties of polyesters synthesized via enzymatic ring opening (e-ROP) copolymerization of macrolactones**
H. Madalosso¹; C. Guindani²; P. Hermes de Araújo¹; C. Sayer¹; ¹ Universidade Federal de Santa Catarina, Florianópolis/BR; ² Universidade Federal do Rio de Janeiro/BR
- 15:25 **Water-debondable adhesives for recycling and green process**
Y. Wan¹; S. Huang¹; S. Zhu¹; Q. Zhang¹; ¹ The Chinese University of Hong Kong, Shenzhen/CN
- 15:50 **Coffee break**

MODEL DEVELOPMENT, SIMULATION & OPTIMIZATION II

Chair: J. Asua¹; ¹ University of the Basque Country UPV/EHU, Donostia - San Sebastian/E

- 16:20 **Simulation of VAc/VERSA 10 emulsion copolymerisation on industrial scale**
S. Hapke¹; T. Melchin²; W. Pauer¹; ¹ Universität Hamburg (UHH), Hamburg/D; ² Wacker Chemie AG, Burghausen/D
- 16:45 **On Modeling the Polymerization of Hyperbranched Polyesters**
M. Coile¹; A. Shaw¹; S. Vangala¹; C. Shi²; E. Chen²; L. Broadbelt¹; ¹ Northwestern University, Evanston, IL, USA/USA; ² Colorado State University, Fort Collins/USA
- 17:10 **Development of a polymerization kinetic model for bulk-phase propene homo-polymerization and multi-step propene/ethylene copolymerization**
S. Valaei¹; M. Bartke²; ¹ Borealis Polymers Oy, Porvoo/FIN; ² Martin-Luther-University Halle-Wittenberg, Halle/D
- 19:00 **CONFERENCE DINNER (19:00 – 23:00)**

LECTURE PROGRAMME

Friday, 8 September 2023

Raum 1

PROGRESS IN POLYMERIZATION PROCESSES

Chair: K. Hungenberg¹; ¹ Hungenberg Consultant, Birkenau/D

- 08:55 **Technology Innovation to enable Polymer Circularity and Sustainability Leadership**
G. Meier¹; ¹ LyondellBasell, Rotterdam/NL
- 09:30 **Continuous in-flow synthesis of polymeric nanoparticles via droplet-based microfluidics**
E. Mauri¹; S. Giannitelli²; M. Trombetta²; A. Rainer²; D. Moscatelli¹; ¹ Politecnico di Milano, Milano/I; ² Campus Bio-Medico di Roma, Rome/I
- 09:55 **Increasing Solid Content in Vinylidene Fluoride Emulsion Polymerization: Mass transfer effects in supercritical/liquid emulsion polymerizations**
G. Estela¹; M. Torres Aladro¹; N. Sheibat-Othman¹; T. McKenna¹; ¹ Université de Lyon, Villeurbanne/F
- 10:20 **Coffee break**

NEW PROCESSES FOR CIRCULAR ECONOMY & RECYCLING OF POLYMERS

Chair: T. Melchin¹; ¹ Wacker Chemie AG, Burghausen/D

- 10:50 **PET recycling: valorization of the blended textile wastes. A multiscale approach from modeling to production plant.**
L. Brivio¹; P. Innocenti²; D. Moscatelli¹; ¹ Politecnico di Milano, Milano/I; ² whiletrue s.r.l., Seriate/I
- 11:15 **Closing the Loop - Chemical Recycling of Polyurethane Foams**
M. Fischer¹; A. Blesgen¹; E. Schweissinger²; M. Lazar¹; B. Gerharz-Kalte¹; A. Bolus¹; ¹ Evonik Operations GmbH, Hanau/D; ² Evonik Operations GmbH, Essen/D
- 11:40 **Turning mixed polymer waste back to monomers**
B. van der Drift¹; ¹ Synova Technologies/D
- 12:05 **Performance Materials for E-Mobility**
J. Wünsch¹; ¹ BASF SE Ludwigshafen, Ludwigshafen am Rhein/D
- 12:40 **Award Ceremony and Farewell**
- 13:00 **End of Workshop**

POSTER

- P 1.01 **Bio-based eugenol silicone epoxy resins: from synthesis to applying**
H. Fan¹; J. Zheng¹; C. Li¹; ¹ Zhejiang University, Hangzhou/CN
- P 1.03 **Feasibility Study on the Substitution of Conventional by Sustainably Produced Ethene in EVA Copolymers on Mini-Plant Scale**
L. Schmidt¹; M. Busch¹; ¹ Technische Universität Darmstadt/D
- P 1.04 **Enzymatic synthesis of poly(propylene succinate-co-glycerol succinate) (PPSG): A study of branching control by lipase N435 selectivity**
C. Dourado Fernandes¹; B. Oechsler¹; C. Sayer¹; D. de Oliveira¹; P. Hermes de Araújo¹; ¹ Universidade Federal de Santa Catarina, Florianópolis/BR
- P 1.05 **Synthesis of reprocessable biobased thermoset polyurethanes based on a Diels-Alder adduct**
A. Restrepo Montoya¹; K. Gonzalez¹; I. Larraza¹; O. Echeverria²; I. Harismendy²; A. Saralegi¹; A. Eceiza¹; ¹ University of the Basque Country UPV/EHU, Donostia-San Sebastián/E; ² Materials and Manufacturing Processes, Industry and Mobility Unit, Tecnalia, Donostia-San Sebastián/E
- P 1.06 **Preparation of high-performance Styrene-Butadiene Rubber vitrimer through dynamic imine and hydrogen bonds**
L. Zhu¹; L. Xu¹; S. Jie¹; B. Li¹; ¹ Zhejiang University, Hangzhou/CN
- P 1.07 **Understanding Exchange Kinetics and Structure-Property Relationship of Closed-loop Recyclable Vitrimers**
J. Liu¹; Y. Zhou¹; Z. Luo¹; ¹ Shanghai Jiao Tong University, Shanghai/CN
- P 1.09 **Developing Strategies for Polymer Redesign and Recycling Using Reaction Pathway Analysis**
L. Broadbelt¹; S. Gorugantu²; R. Harmon²; E. Chen³; C. Shi³; M. Coile²; S. Kumar²; A. Shaw²; ¹ Northwestern University, Evanston, IL/USA; ² Northwestern University, Evanston/USA; ³ Colorado State University, Fort Collins/USA
- P 1.10 **Controllable depolymerization of waste PET with EG/CHDM mixed alcohols for the regeneration of high-value rPETG/PCTG**
W. Zheng¹; X. Wei¹; W. Sun¹; L. Zhao¹; ¹ East China University of Science and Technology, Shanghai/CN
- P 1.11 **Advances in Chemical Recycling of Polyethylene Terephthalate**
E. Terreni¹; E. Terreni¹; G. Galbo¹; D. Moscatelli¹; ¹ Politecnico di Milano, Milano/I
- P 1.12 **Depolymerization of polyamide 6 using ionic liquids with focus on process intensification**
R. Goldhahn¹; A. Minor¹; L. Rihko-Struckmann¹; K. Sundmacher¹; ¹ Max-Planck Institute for Dynamics of Complex Technical Systems, Magdeburg/D
- P 1.13 **High temperature pyrolysis of polyethylenes with different molecular structures in an indirect heated fluidized bed reactor**
K. Matthiesen¹; G. Luinstra¹; ¹ University of Hamburg, Hamburg/D
- P 1.14 **Pyrolysis of polystyrene-waste and product comparison with virgin polystyrene**
M. Wald¹; K. Matthiesen¹; L. Plessing¹; G. Luinstra¹; P. Biessey²; ¹ Universität Hamburg (UHH), Hamburg/D; ² Ruhr-Universität Bochum, Bochum/D
- P 1.15 **Tough, stretchable, and thermo-responsive smart hydrogel**
Y. Luo¹; ¹ universität Hamburg, Hamburg/D

POSTER

- P 1.16 **Effect of polymer microstructure on its thickening capability**
V. Matining¹; G. Polotti¹; G. Storti¹; D. Moscatelli¹; ¹ Politecnico di Milano, Milano/I
- P 1.17 **Design and Commissioning of a High-Pressure Multi-Zone Autoclave for Polymer Synthesis**
N. Schreiner¹; L. Gockel¹; M. Busch¹; ¹ Technische Universität Darmstadt, Darmstadt/D
- P 1.18 **Polypropylene process modelling: Implementation of polymer properties**
A. Konopka¹; J. Fernengel²; R. Fischer²; O. Hinrichsen¹; ¹ Technical University of Munich, Garching/D; ² Clariant Produkte (Deutschland) GmbH, Munich/D
- P 1.19 **Mixing Investigations in High-Pressure Polymerization and Up-Scale Processes**
L. Ständecke¹; L. Gockel¹; M. Busch¹; ¹ TU Darmstadt, Darmstadt/D
- P 1.20 **Thermal Fouling Detection using Distributed Optical Fibre Sensors**
M. Klippert¹; W. Pauer¹; ¹ Hamburg University, Hamburg/D
- P 1.21 **Emulsion Copolymerization of VDF and HFP**
J. Schwaderer¹; S. Beuermann¹; ¹ Clausthal University of Technology, Clausthal-Zellerfeld/D
- P 1.24 **Process Parameter Dependence of the Transfer Activity of Alcohols in the LDPE Polymerization**
L. Euler Bueno¹; M. Busch¹; ¹ Technische Universität Darmstadt/D
- P 1.25 **Comonomer Distribution Control in a Horizontal Stirred Bed Reactor**
G. Surisetty¹; E. Delsman²; ¹ SABIC , Bangalore/IND; ² SABIC , Geleen/NL
- P 1.26 **Implementation of New Comonomers in Chemically Demanding Systems**
D. Eryildirim¹; M. Busch¹; ¹ TU-Darmstadt, Darmstadt/D
- P 1.27 **RAFT-mediated PISA as a versatile technique to produce well-defined modular nano-objects in aqueous and organic media**
G. Gardoni¹; M. Sponchioni²; D. Moscatelli²; ¹ Politecnico di Milano, Goïno, Mantova/I; ² Politecnico di Milano, Milano/I
- P 1.28 **Synthesis of Acrylate-based Polymers: Progress and Challenge in 3D Printing Two-Photon Polymerization**
E. Mauri¹; B. Colosimo¹; D. Moscatelli¹; ¹ Politecnico di Milano, Milano/I
- P 1.30 **Reaction Engineering of Two-Dimensional Polymer**
P. Liu¹; ¹ , ZheDa Road, Hangzhou City, Zhejiang Province/CN
- P 1.31 **Radical entry in emulsion polymerization**
J. Hincapie Alvarez¹; C. Castor¹; B. Reck²; B. Peng³; J. Asua¹; N. Ballard¹; ¹ University of the Basque Country UPV/EHU, Donostia - San Sebastian/E; ² BASF , Ludwigshafen/D; ³ BASF, Shanghai/CN
- P 1.32 **Mathematical Tools for Precise Determination of Molar Mass Average Properties in Controlled Chain-Growth Polymerization**
T. Wang¹; Y. Zhou¹; Z. Luo¹; ¹ Shanghai Jiao Tong University, Shanghai/CN
- P 1.34 **Mechanistic Understanding of G₃-Catalyzed Living ROMP of Norbornene via Experiment and Kinetic Simulation**
T. Wang¹; Y. Shi¹; Y. Zhou¹; Z. Luo¹; ¹ Shanghai Jiao Tong University, Shanghai/CN

POSTER

- P 1.35 **Influence of ester size and structure on acrylate radical polymerization**
J. Mätzig¹; M. Drache¹; S. Beuermann¹; ¹ Clausthal University of Technology, Clausthal-Zellerfeld/D
- P 1.36 **PLP-SEC investigation on free radical propagation rate coefficient of 2-hydroxyethyl methacrylate in aqueous solution**
K. Lim¹; W. Wang²; ¹ Institute Zhejiang University, Quzhou/CN; ² Zhejiang University, Hangzhou/CN
- P 1.37 **Estimation of Reactivity Ratios in Acidic and Basic Aqueous Copolymerization of AA-HPEG**
K. Palma¹; S. Hamzehlou¹; V. Froidevaux²; P. Boustingorry²; J. Leiza¹; ¹ University of the Basque Country/Euskal Herriko Unibertsitatea UPV/EHU, Donostia/E; ² CHRYSO, SAINT-GOBAIN Construction Chemicals, Sermaises du Loiret/F
- P 1.38 **Reaction engineering study and modeling of emulsion polymerization of vinyl acetate**
J. Viernicke¹; F. Warnecke²; T. Melchin²; K. Zentel¹; ¹ TU Darmstadt/D; ² Wacker Chemie AG, Burghausen/D
- P 1.39 **Kinetic insights of DMC-Catalyzed polypropoxylation by using online FTIR-Spectroscopy**
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