



DECHEMA

Gesellschaft für Chemische Technik
und Biotechnologie e.V.

PROGRAMME

25 – 27 October 2021 · Online Event

59th Tutzing Symposium 2021

Polymers for a better life and circular economy

www.dechema.de/en/tusy59



PROCESSNET
EINE INITIATIVE VON DECHEMA UND VDI-GVC

INVITATION

Polymers have become an integral part of our everyday lives. Whether as high-performance plastics in aviation and the automotive industry, as functional and construction materials for electric devices, or in everyday objects such as packaging and clothing, polymers can be found everywhere in our modern world.

But what are the costs? Plastic waste, maritime pollution and microplastics are now ubiquitous problems that need to be solved. There are efforts by NGOs but also by science and industry to get these problems under control. What is the status quo, what are the approaches for the future and do the benefits of plastic usage outweigh the disadvantages?

The 59th Tutzing Symposium is designed to foster exchange and discussion on the topics of public perception, sustainability, recycling as well as advantages and disadvantages of the use of plastics. The focus themes are complemented by ethical views and a look at other materials and their recycling strategies as well as open discussions on the issues and sustainable concepts for the future.

This Tutzing Symposium is organized by the Subject Division Polymers of ProcessNet (an initiative of DECHEMA - Society for Chemical Engineering and Biotechnology and VDI-GVC – Division Chemical and Process Engineering of the Association of German Engineers. It will again provide a unique platform and ample time to exchange ideas between leading scientists and decision makers.

Due to the current development of the COVID-19 pandemic we regret that we will not be able to meet you in Tutzing as originally planned, but very much look forward to an interactive virtual event.

SCIENTIFIC COMMITTEE

Markus Busch	TU Darmstadt/D
Alexander Frey	DECHEMA e.V., Frankfurt/D
Wolfgang Gerlinger	BASF SE, Ludwigshafen/D
Andreas Greiner	Universität Bayreuth/D
Klaus-Dieter Hungenberg	Birkenau/D
Doris Knoblauch	Ecologic Institute, Berlin/D
Linda Mederake	Ecologic Institute, Berlin/D
Rolf Mülhaupt	Albert-Ludwigs-Universität Freiburg/D
Markus Schopf	Bamberg/D

Monday, 25 October 2021

09:15 **Welcome address and technical notes**

M. Busch, TU Darmstadt/D

A. Frey, DECHEMA e.V., Frankfurt/D

PLASTICS IN SOCIETY I

Chair: R. Mülhaupt, Albert-Ludwigs-Universität Freiburg/D

09:30 **Plastics between innovation, sustainability and marine litter**

I. Sartorius, PlasticsEurope Deutschland e.V., Frankfurt/D

09:45 **Polyolefins: saving energy and supporting circularity**

M. Gahleiter, A. Albunia, S. Kahlen, Borealis Polyolefine GmbH, Linz/A

10:00 **Polyproblem – the plastics issue as a chance for collective impact**

U. Amrhein, Röchling Stiftung GmbH, Mannheim/D

10:15 **Beyond the litter – rethinking the life cycle of plastic**

B. Unmüßig, Heinrich-Böll-Stiftung e.V., Berlin/D

10:30 Discussion with all speakers of this session

11:00 **Coffee break**

PLASTICS IN SOCIETY II

Chair: A. Greiner, Universität Bayreuth/D

11:15 **Microplastic in the environment**

C. Laforsch, Universität Bayreuth/D

11:30 **Polymers as enabler for light weight solutions in automotive**

E. Licht, LyondellBasell, Frankfurt/D

11:45 **Predicting polymer degradation: current methods and challenges**

A. Lendlein, Helmholtz-Zentrum Hereon, Institute of Active Polymers, Teltow/D

12:00 Discussion with all speakers of this session

12:30 **Lunch break**

Monday, 25 October 2021

Chair: M. Busch, TU Darmstadt/D

13:30 **KEYNOTE LECTURE I**
The social and material limits to the circular economy for plastics
A. Mah, University of Warwick/UK

DESIGN FOR CIRCULARITY AND HOW TO RECYCLE I

Chair: M. Schopf, Bamberg/D

14:00 **Aspects of a circular plastics economy**
E. Weidner, Fraunhofer UMSICHT, Oberhausen/D

14:15 **Sustainable and eco design of packaging**
U. Tischner, econcept, Pulheim/D

14:30 **Circular packaging design – closing the loop**
M. Tacker, FH Campus Wien/A

14:45 Discussion with all speakers of this session

15:15 **Coffee break**

15:30 **Get-together on Wonder**

16:30 **End of the day 1**

Tuesday, 26 October 2021

09:20 **Technical notes**
A. Frey, DECHEMA e.V., Frankfurt/D

DESIGN FOR CIRCULARITY AND HOW TO RECYCLE II

Chair: M. Busch, TU Darmstadt/D

09:30 **Advancing a circular economy for plastics**
A. Neumann, LyondellBasell, Frankfurt/D

09:45 **Chemical recycling of mixed plastic wastes**
D. Stapf, Karlsruher Institut für Technologie (KIT), Eggenstein-Leopoldshafen/D

10:00 **Chemical production with circular raw materials**
C. Krüger, BASF SE, Ludwigshafen/D

10:15 Discussion with all speakers of this session

10:45 **Coffee break**

LITTERING – AVOID AND REPAIR

Chair: K.-D. Hungenberg, Birkenau/D

11:00 **Future waste management – principles, problems and solutions**
R. Pomberger, Montanuniversität Leoben/A

11:15 **everwave – a holistic approach against floating riverine litter**
T. Flöhr, everwave GmbH, Aachen/D

11:30 **Littering and single use products – the perspective of a consumer association**
P. Heldt, Verbraucherzentrale NRW, Düsseldorf/D

11:45 Discussion with all speakers of this session

12:15 **Lunch break**

Chair: D. Knoblauch, Ecologic Institute, Berlin/D

13:30 **KEYNOTE LECTURE II**
The global plastic crisis: the German perspective
R. Dube, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Bonn/D

14:00 **Get-together on Wonder**

15:00 **End of the day 2**

Wednesday, 27 October 2021

09:20 **Technical notes**
A. Frey, DECHEMA e.V., Frankfurt/D

CONFLICTING PRIORITIES BETWEEN FOOD WASTE REDUCTION AND PACKAGING PREVENTION ORGANISED BY ECOLOGIC INSTITUTE

Chair: D. Knoblauch, Ecologic Institute, Berlin/D

09:30 **Potentials of new packaging materials to reduce plastics in the food sector**
S. Sangerlaub, Munich University of Applied Sciences & Fraunhofer Institute for Process Engineering and Packaging IVV, Freising/D

09:45 **Life cycle assessment as guidance for consumer decision-making of product packaging**
M. Lorenz, S. Albrecht, Universitat Stuttgart/D

10:00 **Reduction of plastic packaging: what can food retailers and the textile industries do?**
T. Decker, TUM Campus Straubing, Chair of Marketing and Management of Biogenic Resources at Weihenstephan-Triesdorf University of Applied Sciences/D

10:15 **Consumer perspectives on plastic packaging**
G. Marken, Institute for Ecological Economy Research, Heidelberg/D

10:30 Discussion with all speakers of this session

11:00 **Coffee break**

SUSTAINABILITY – ASSESSMENT & PERSPECTIVES

Chair: W. Gerlinger, BASF SE, Ludwigshafen/D

11:15 **Route towards sustainable engineering materials**
E. Grolman, DSM Materials Science Center, Geleen/NL

11:30 **Chemical recycling – good for the climate? LCA results**
C. Kruger, BASF SE, Ludwigshafen/D

11:45 **Journey towards sustainable technologies**
J. Roeder, Braskem Europe GmbH, Wesseling/D

12:00 **Plastics: assessment results and public opinions**
C. Plas, H. Pilz, B. Brandt, I. Kral, denkstatt GmbH, Vienna/A

12:15 Discussion with all speakers of this session

12:45 Closing remarks

13:00 **End of the Symposium**

GENERAL INFORMATION

REGISTRATION FEE¹⁾ OF THE ONLINE EVENT

Participant from:	Member ²⁾	Non-Member
Industry	280 €	295 €
Academia	180 €	195 €
Bachelor/Master/PhD Student ³⁾⁴⁾	70 €	85 €

1) No VAT requested according to § 4.22 UStG

2) Personal DECHEMA-member, VDI-GVC-member and EFC/EFCE passport holder, status proof required

3) Status proof required

4) Become part of the DECHEMA network for students, PhD students and young professionals from chemistry, biotechnology and related fields of study and topics. The DECHEMA membership is free of charge for master, bachelor and PhD students.

REGISTRATION

Please register online at www.dechema.de/en/tusy59

Registration is possible up to the beginning of the conference. Once the booking has been processed, the participant is sent confirmation and an invoice.

Editorial deadline for the list of participants is 30 September 2021.

The registration fees include conference ticket, book of abstracts and the list of participants as PDF files.

CANCELLATION AND REFUNDS

Cancellations are only accepted in writing (i.e. by fax, surface mail or e-mail). Please find details about cancellation dates and fees in the general terms and conditions. In case of no-show the conference fees won't be refunded and fees not yet paid still have to be paid.

ONLINE PLATFORMS

The **ZOOM Webinar** will be used for the lecture programme. For best experience please download the latest version of ZOOM via <https://zoom.us/download>.

Additionally, for interactive networking the online platform "**Wonder**" will be used. Participants do not need to download or install any application.

For both platforms it is recommended to use Google Chrome, Edge or Firefox as browser.

ORGANISER AND CONTACT

DECHEMA e.V.

Theodor-Heuss-Allee 25

60486 Frankfurt/M., Germany

Conference Office/Mrs Xueqing Wu

Phone: ++49 (0) 69 7564-152

Fax: ++49 (0) 69 7564-176

E-mail: xueqing.wu@dechema.de