

CIRCULAR FUTURE OF PLASTICS

STAKEHOLDER EVENT

FRAUNHOFER IVV, FREISING, GERMANY

WEDNESDAY 26 FEBRUARY

2020

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FRAUNHOFER IVV

(INSTITUTE FOR PROCESS ENGINEERING AND PACKAGING)
GIGGENHAUSER STR. 35, 85354, FREISING, GERMANY

Organised by



AGENDA



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	14:00	REGISTRATION
SESSION I	14:15	Circularity of Plastics: The Challenge (IRIS)
ADVANCED TECHNOLOGIES AND MATERIALS	14:30	Our Support for EU Funds (BAYFOR)
	14:45	Advanced Polymer Recycling (IVV)
	15:15	Repositioning of the Recycled Polymers in the Market (SILON)
	15:45	COFFEE BREAK
SESSION II	16:15	Environmental Sustainability in Plastic Recycling (VERTECH)
SUSTAINABILITY ASSESSMENT	16:45	Sustainability Assessment: A Tool for Everyone (AXIA)
SESSION III	17:15	Discussion Panel
DISCUSSION	18:00	Networking



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THE CIRCULAR PLASTICS CHALLENGE

Their sheer versatility makes plastics a key material in virtually every significant industrial sector, but what happens when plastic-reliant products reach the end of their lifespan? Only 32%¹ of plastic waste is currently recycled, demonstrating both the urgent need and scale of the challenge to improve technologies, practice and systems towards the creation of true circularity and resource efficiency. Achieving an overall increase of circularity in the economy of plastics poses simultaneously the challenge of sustainably integrating recycled materials within existing value chains and meeting the performance properties and product standards demanded by the market.

1. Plastics – the Facts 2017 - PlasticsEurope

INTRODUCTION



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Multimaterial Plastic Recycling Advanced technologies and new material possibilities

This session will provide an insight into the latest technological advances in the field of polymer recycling with a particular spotlight on the MultiCycle process, which treats mixed multi-material based wastes to recover materials suitable as direct substitutes for virgin resources in high value applications. Based on the patented CreaSolv® technology* MultiCycle is tailorable to the complexities of multi-material feedstocks, enabling their value to be retained through multiple life cycles.

You will also get an end-user view of the key properties and standards which recycled polymers must meet and sustain in order to be incorporated within the market value chains.

*CreaSolv® trademark registered by CreaCycle GmbH



SPEAKERS:

Dr. Martin Schlummer
Senior Researcher
FRAUNHOFER IVV

Dr. Jana Kadlecová
Technical Key
Account Manager
SILON



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THE SUSTAINABILITY CHALLENGE

Enabling numerous innovations and everyday convenience, the essential role of plastics in the modern world must be profoundly understood if we are to achieve a smooth transition to a low carbon economy taking account of the complete product life cycle.

Shifting from a linear to a circular consumption model challenges us to evaluate the impacts, positive and negative, of new material flow models based on three pillars: environment, economy and society. To achieve an integrated, holistic assessment it is essential to innovate in the approach taken to assessment, considering the developed value chain network in order to identify opportunities for further investment.

SESSION II



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Multimaterial Plastic Recycling Towards an integrated assessment of Sustainability

This session will introduce an in-depth life cycle analysis of the state-of-the art plastic recycling and reuse technologies proposed by Multicycle considering the social and socio-economic impact. The analysis will highlight drivers and criteria towards sustainable development of recycling/recovery systems, potential bottlenecks and routes to address them, and recommendations for future upscale and commercialization.

The second part of the session will focus on a new approach to developing a strategic, holistic value chain network overview. A Decision Support Tool is being developing in the MultiCycle project to help identify opportunities to foster the transition from linear to circular business models. Impactful examples which maximize the value extracted whilst improving recycling and fostering reuse will require effective optimization and exploitation of multiple possibilities, all of which calls for a whole value chain perspective.



SPEAKERS:

Dr. Sophie Sfez
Sustainability Project Engineer
VERTECH GROUP

Dr. Marinella Tsakalova
Project Manager
AXIA INNOVATION



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SPEAKERS



Dr. Ing. Elodie Bugnicourt

Dr. Ing. Elodie Bugnicourt has a Master's degree in Material Science & Engineering (2002) and a PhD in Polymers and Composite Materials (2005), both from the National Institute of Applied Science (INSA), Lyon, France. She was the leader of the EcoMaterials business unit in IRIS from 2009 until 2014 and since then has been the Head of the Innovation Unit.

Elodie has extensive R&D experience in the chemical industry (Arkema, Wacker Chemie, Ashland). Since joining IRIS, Elodie has coordinated several European projects (Wheylayer, BioBoard, OptiNanoPro, Optiject, MultiCycle, Oli-PHA, etc.) with a strong focus on the circular bio-economy, a subject that fuels her genuine passion to contribute to the circular industry of the future.

She has been the driver at all steps of the lifecycle of projects on formulation, bio-sourcing, processing, characterization, monitoring and modelling for materials, process optimization, end of life and waste valorisation applied to polymers, composites, nanocomposites, biopolymers, thermosetting resins, coatings, surface treatment, adhesives, packaging, etc.



Dr. Martin Schlummer

Dr. Martin Schlummer is a Senior Scientist in the Recycled Plastics department at Fraunhofer-IVV. He holds a Ph.D. in Chemistry from the University of Erlangen and has been with Fraunhofer-IVV as a research fellow since 1999. As a responsible scientist for process development and analytical process evaluation he participated in and co-ordinated more than 20 national and international research projects and (co-)authored more than 45 publications in peer reviewed scientific journals.



Dr. Jana Kadlecová

Dr. Jana Kadlecová is responsible for new product development, validations and approval at SILON, a Czech Republic based global supplier of key players in automotive, engineering, food industry and hygiene. She is a Ph.D. graduate of Czech Technical University in Prague, Faculty of Transportation and former scientific worker at CTU in Prague. She has over 7 years of experience in processing various EU and national projects in interior design, vehicle safety and human-machine interaction.



Dr. Marinella Tsakalova

Dr. Marinella Tsakalova received her Diploma in Chemical Engineering from NTUA, her MPhil from University of Surrey and her PhD from NTUA in Chemical Process Engineering. She joined AXIA Innovation as a Project Manager in 2018. She is responsible for the development of mathematical models and tools supporting decision in innovation areas that foster the implementation and further development of Circular Thinking. Before joining AXIA Dr. Tsakalova worked consistently in the sector of start-up incubation where she had the opportunity to work from scratch on the conversion of research knowledge and brand ideas to marketable products and services. During the same period, she also worked as a research associate at NTUA involved in EU and national R&D projects in the field of biomass utilization. Her research was dedicated to the production of a high-throughput platform, related to emerging technologies of biorefineries screening over 80 processes. Dr. Tsakalova's experience encompasses computational developments and decision support platform tools with a strong emphasis on Circular Economy and technology transfer. Lately she is being involved in several EU projects (Multicycle, Agricore, Profuture) developing similar tools in other sectors such as plastic recycling, symbiotic networks, waste and algal biorefineries.



Mr. Thomas Ammerl

Thomas Ammerl is affiliated to the Bavarian Research Alliance (BayFOR) in Munich/Germany, where he is head of its unit Environment, Energy & Bioeconomy with topics on sustainability, recycling, circularity, waste management. BayFOR is a private organisation promoting Bavaria as a location for science and innovation within the European Research Area. Together with his colleagues, Thomas supports and advises researchers from Bavarian stakeholders from the private and public sector on European research and innovation funds. The company offers a broad array of services in the fields of management, consulting, networking, communicating and applying for EU grants. Amongst other things, Thomas is actually involved in the H2020 Circular Flooring-project (Environmentally friendly recycling of post-consumer PVC floor coverings) with a link to the Plastics Circularity Multiplier Initiative. Thomas is a board member of several research institutions and is frequently offering "training workshops for EU proposal writing". Before joining BayFOR in 2007, Thomas wrote his urban ecological PhD in an EU financed research project, where he lived for several years in Havana/Cuba (2002-2005). Before this, Thomas was affiliated to two SMEs in Berlin/Germany with a focus on urban development and planning issues.



Dr. Sophie Sfez

Dr. Sophie Sfez is working as a project engineer at Vertech Group. She graduated from AgroParisTech in 2011 and is specialized in Environmental Engineering & Biodiversity. She holds a PhD in Applied Biological Sciences at the University of Ghent (Belgium). She worked several years for the consultancy firm RDC Environment in Brussels and her expertise is mainly focused on Life Cycle and Material Flow Analysis of secondary resource recovery systems. She specialized in different fields such as circular economy, waste management and water treatment sector. She is leading WP7 on sustainability assessment of the MultiCycle technology.

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number **820695**