



## Webinar – Programme

# Driving Change How Green Chemistry and Digitalisation lead the way to a Sustainable Economy

18. and 19. March 2021

## Description

Chemical processes are applied in almost all areas of value creation. Especially in North Rhine-Westphalia, the chemical industry has a long tradition and creates a high turnover. On the other hand, it is an energy-intensive industry, which requires a transformation in view of the European climate goals and the structural change that takes place in Germany. As a result of the fossil fuel phase-out, North Rhine-Westphalia has the opportunity to become a model region for green chemistry and a more sustainable economy throughout Europe. In order to realise the green transformation, innovations are required to enable sustainable and circular value creation. In addition, the acceptance of all involved stakeholders, including consumers, is essential to support and help driving the change.

The webinar will look at key innovations and disruptive technologies that will contribute to the transformation towards sustainable value creation in the chemical industry. Innovative processes that enable sustainable production will be highlighted. In this context, the possibilities of synthetic biology and biotechnology for more sustainable processes are considered on the one hand, and the potential of digitalisation and artificial intelligence for process optimisation on the other. In addition, it will be discussed how digitalisation supports the circular economy by optimising material flows, for example. Furthermore, the possible applications for sustainable chemicals and ingredients in consumer products will be presented. In the discussion part, the audience can contribute their views on sustainability in the chemical industry.

---

An event by:



In cooperation with:



## Day 1: 18 March 2021

**10:00**            **Greetings**  
*Dr Katharina Gräfe, BIO.NRW*

**10:10**            **Perspectives on the green and transition in Europe**  
*Dr Claire Skentelbery, EuropaBio*

### **Session: Process development for a sustainable chemistry industry**

**10:30**            **Driving Change in the Peptide World**  
*Dr Christian Schwarz, NUMAFERM*

**10:55**            **Electrosynthesis for making highly value-added chemicals**  
*Prof. Siegfried R. Waldvogel, ESy-Labs*

**11:20**            **Formate Bioeconomy – Where electrochemistry meets biotechnology**  
*Dr Frank Kensy, b.fab*

**11:45**            **Lunch Break**

### **Session: Circularity through digitalization**

**12:45**            *Mike Schnoor, Digital Hub Cologne*

**13:10**            **Proving sustainable manufacturing using blockchain**  
*Mesbah Sabur, Circularise*  
*John Fox, Covestro*

**14:00**            **Break / Time for the audience to fill in the online surveys**

**14:15**            **Panel discussion**

**14:40**            **Closing remarks**



**EU INDUSTRY  
WEEK 2021**

Local event organised in partnership with the European Commission.

#EUIndustryWeek



## Day 2: 19 March 2021

- 10:00**            **Greetings**  
*Dr Jasmin Schubert*, BIO.NRW
- 10:10**            **Perspectives on the green and digital transition in North Rhine-Westphalia, Germany**  
*Prof. Andreas Pinkwart*, Minister of Economic Affairs, Innovation, Digitalisation and Energy of the State of North Rhine-Westphalia  
*Dr Tatjana M. E. Schwabe-Marković*, Cluster Industrial Biotechnology CLIB

### Session: Synthetic approaches leading towards the green transition

- 10:30**            **Cyanobacteria: A modular platform for sustainable photoproduction**  
*Prof. Ilka Axmann*, Heinrich Heine University Düsseldorf
- 10:55**            **Applying enzyme engineering for innovative and sustainable catalysis in chemical manufacturing**  
*Dr Marc Hayes*, Enzymaster
- 11:20**            *Prof. Peter Jarowski*, ChemAlive
- 11:45**            **Lunch Break**

### Session: Sustainable ingredients for consumer products

- 12:45**            *Dr Susanne Zibek*, Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB
- 13:10**            **Enabling Fully Circular European Coffee Value Chain**  
*Juan Medina*, Kaffe Bueno
- 13:35**            **Sustainable consumption of bio-based products: challenges and potentials**  
*Dr Julia Reinermann*, FernUniversität Hagen and Ruhr-University Bochum
- 14:00**            **Break / Time for the audience to fill in the online surveys**
- 14:15**            **Panel discussion**
- 14:40**            **Closing remarks**