

Press release

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Biorefineries and biotechnology: The future of proteins, flavours, textiles and sustainable chemistry

New biotechnological and chemical processes enable biorefineries for the sustainable and efficient production of proteins, flavours, fibres for textiles, chemicals and plastics from different biomass. A large number of innovations from Europe, America, Asia and Africa will be presented at the “Revolution in Food and Biomass Production” conference (www.refab.info), 1 and 2 October in Cologne.

Borregaard from Norway and Lenzing from Austria are technology leaders for biorefineries based on wood. Bente Nersten, in her lecture in Cologne, will show the variety of chemicals, fibres and biofuels that Borregaard can already produce from spruce wood. Did you know that Borregaard also produces bio-based vanillin, one of the most important flavouring substances in the food industry, from the lignin parts of the wood? Another recent innovation is the wood-based dietary fibre that works as a fat replacer.

Elisabeth Stanger will present the Lenzing biorefinery at the conference, where they produce high-quality cellulose fibres for the textile industry, the sugar substitute xylitol and, more recently, acetic acid from various types of wood. All three areas are significant growth markets.

Samir Sodaiya from Godavari Biorefineries Ltd. in India shows how a biorefinery, in addition to sugar from sugar cane, can produce a large number of valuable products from the side streams and "waste". Godavari also promotes and improves sustainable agriculture through improvements of cultivation technologies such as drip irrigation, precision farming and agro-ecological practices.

The use of biotechnology opens up completely new process pathways and products. Bacteria, yeasts, cyanobacteria and other microorganisms are cultivated in different ways and can be fed with sunlight for photosynthesis, with sugar or even with CO₂ for fermentation processes. The resulting products can, for example, have an intentionally high protein content and contain tailor-made ingredients such as omega-3 fatty acids and vitamins. A system for the production of single cell proteins based on CO₂ was developed at the Finnish research centre VTT. Since the summer of this year, the spin-off "Solar Foods" is producing proteins based on this new technology in order to replace fishmeal from sea fish, largely used for fish farming, in a sustainable way. At the REFAB conference, Pasi Vainikka will reveal how these proteins taste.

Talking about taste, the raspberry aroma from the German company Phytowelt, which was successfully introduced last year, offers particularly good flavours. CEO Peter Welters will demonstrate in Cologne the almost unlimited possibilities of manufacturing these kind of products, sustainably and efficiently, by using biotechnological methods. Valuable products such as natural flavours are ideal for a biotechnological production – providing the same molecules as nature but much more efficient.

The conference “Revolution in Food and Biomass Production” (www.refab.info), 1 and 2 October in Cologne, will for the first time bring together all future-oriented experts from companies, start-ups and research to have a look at the future of food and biomass production. What high-tech strategies for big farms and small holders are emerging on the horizon to sustainably supply a growing world population? The conference gives a unique opportunity to meet the pioneers and forerunners of the future of food and biomass production. The conference will also address one of the biggest global problems, sufficient protein supply, with our “[Future Protein Award](#)”.

We expect about 500 participants and 40 exhibitors from all over the world. Almost [90 participants](#) registered. [Register now](#) for the conference to use the time limited early bird entrance fee!

VISUALS / BILDMATERIAL (free for press purposes, please include the source):

news.bio-based.eu/media/2018/06/REFAB_poster_A4_RGB.jpg : The Future of farming?
(Source: nova-Institut)

news.bio-based.eu/media/2018/07/refab_Portico.png : Portico of Revolution in Food and Biomass Production (Source: nova-Institut)

news.bio-based.eu/media/2018/07/1.lignotech_plant_tour_edited-20.jpg : Lignotech Florida Plant (Source: Borregaard)

news.bio-based.eu/media/2018/07/2.lignotech_plant_tour_edited-36.jpg : Lignotech Florida Plant (Source: Borregaard)

news.bio-based.eu/media/2018/07/Nicolas-Tourenc_5742.jpeg : Chemists at work (Source: Borregaard)

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food and feedstock, techno-economic evaluation, markets, sustainability, dissemination, B2B communication and policy. Every year, nova organises several large conferences on these topics; nova-Institute has 30 employees and an annual turnover of more than 2.5 million €.

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