Press release

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Revolution in Food and Biomass Production

High-tech strategy for a sustainable biomass supply

New conference in Cologne, 1 and 2 October 2018, highlights advanced technologies for food and biomass production of the future

Today's global agriculture has a bad reputation, it is often considered a problem rather than a solution. Desertification and loss of fertile soils, over-fertilization and eutrophication of soil and water pose high risks to biodiversity conservation and the food security for billions of people. Extensive pesticide use with strong environmental impacts damage insect population and cause the death of bees. Mass livestock farming leads to sick animals whose medicines also burden humans. Agriculture is one of the biggest sources of greenhouse gas emissions.

It cannot go on like this. The good news is that research and industry are working on solutions – we are on the brink of a high-tech revolution in production of food, feed and biomass in the future. The goals are to achieve significantly less resource consumption at more output, which would mean to strongly increase resource efficiency. In parallel, the negative impacts on ecosystems need to be minimized – human cultivation needs to find a new harmonious way to co-exist with nature. Engineers and researchers from all over the world are developing new applications and revolutionary technologies that tackle the mentioned problems of agriculture, forestry, aquaculture and mariculture from all sides.

The new conference "Revolution in Food and Biomass Production" (www.refab.info) will showcase leading solution approaches from the wide range of the following topics:

For the first time in history, we understand in detail how a **healthy soil** works, what role bacteria and fungi play in the nutrient uptake of plants and trees. We know how to achieve healthy and productive soils with **biostimulants** while nitrogen-fixing bacteria will reduce the use of additional nitrogen. **Precision farming** with Artificial Intelligence (AI), robots and drones can help to fertilise and protect plants more efficiently and with lower environmental impacts. Latest **gene editing technologies** can improve plant ingredients and make better use of solar radiation with an updated photosynthesis system.

Mariculture or marine farming is about to become an important sector. This means the cultivation of marine organisms for feed, food and other products in the open ocean and enclosed sections of the ocean, in tanks, ponds or raceways filled with seawater. **Forestry** will supply a wide range of chemicals and bio-based products in biorefineries, including environmentally friendly textile fibres.

With **indoor farming** in our kitchens and **vertical farming** on an industrial scale, healthy food can be produced efficiently and locally. **Insects, algae and bacteria** can be used to develop new sources of protein. Bacteria can even digest CO_2 to produce feed proteins for aquaculture.

Organic farming as well as smallholders will also strongly benefit from many of these new developments and increase their efficiency while respecting their original ideals and principles. Food and biomass production will be possible even under the most extreme conditions: In dry areas, "**greening the desert**" will become reality through solar technology, deep water or desalination plants as well as hydroponics. In the **icy north**, productivity can be increased through LED lighted greenhouses and some technologies will even enable food production in space stations, **on the moon and on Mars**.

The conference **"Revolution in Food and Biomass Production"** in Cologne on 1-2 October 2018 will 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 are emerging on the horizon to sustainably supply a growing world population with healthy food – and at the same time provide industry with sustainable biomass for environmentally friendly products?
The conference gives a unique opportunity to meet the pioneers and forerunners of the future of food and biomass production. Please find information on the Call for Papers, sponsoring opportunities and other important details on the website mentioned below. Don't miss the revolution, be part of it.

Revolution in Food and Biomass Production
1-2 October 2018
Cologne, Germany
www.refab.info

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