

## Press release

Leipzig, 03.06.2019

### **Scientists from DBFZ and UFZ honoured with the Biogas Innovation Award of German Agriculture**

At the 12<sup>th</sup> Biogas Innovation Congress in Osnabrück on 21/22 May 2019, prizes were again awarded in the science and business categories. This year, researchers Maria Braune from DBFZ and Dr. Heike Sträuber from UFZ received the science prize worth 10,000 Euros for their joint project "From biogas plants to biorefineries - coupled production of medium-chain fatty acids and biogas".

As part of a scientific cooperation between the Helmholtz Centre for Environmental Research (UFZ) and the DBFZ (German Biomass Research Centre), the winners developed a biotechnological process for the production of the fatty acids caproic and caprylic acid from regional biomass. The target products are specialty chemicals with a broad application spectrum that can be used in different industrial sectors such as lubricants, cleaning agents or cosmetics. The process developed is based on anaerobic fermentation of complex substrates without the need of their cost-intensive pre-treatment. This step is followed by a separation and purification cascade for recovery of the medium-chain fatty acids from the fermentation broth. The products are further processed into secondary compounds (esters), depending on the field of application.

In his laudation, Dr. Hans-Christian Schaefer from the Deutsche Bundesstiftung Umwelt (DBU) emphasized in particular the innovative character of the development: "The industry needs such visionary ideas that are turned into genuine innovations on the basis of solid research work. With the process presented, the product range of biogas plants can be extended and new business models can be created that help to operate the plants economically also in the future. Finally, it will be demonstrated how the chemical industry can use regional, renewable feedstock instead of fossil raw materials or globally traded, potentially unsustainably produced tropical plant oils. This is your contribution to climate protection and sustainable development".

In the project "Bio-based caproic and caprylic acid - production, purification, marketing strategy - CapAcid" (FKZ: 031B0389) funded by the German Federal Ministry of Education and Research (BMBF), the bio-process is currently being further developed in a cooperation between DBFZ, UFZ and the University of Leipzig. The application of fatty acids in end products is tested by various industrial partners such as Fuchs Schmierstoffe GmbH. "By integrating the production process into existing biogas plants, biomass can be utilized in a cascade for production of chemicals and bioenergy. Those who upgrade their plants accordingly can additionally produce fatty acids from residual and waste material in an environmentally friendly and resource-saving way in addition to biogas and fertilizer. This gives the plant operators the opportunity to react flexibly to customer demands and the market situation," the award winners said.

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Fig. 1 Laureates of the 12<sup>th</sup> Biogas Innovation Congress: Maria Braune (middle-left) and Dr. Heike Sträuber (middle-right).

### Background: Biogas Innovation Congress

The annual Biogas Innovation Congress in Osnabrück is the meeting place for leading developers and researchers in the biogas industry as well as plant operators and investors. At the congress, the German Farmers' Association awards the Biogas Innovation Prize of German Agriculture to the two most interesting innovations from science and industry with prize money of 10,000 Euros. Applicants for the prize have to submit a paper. The winners in the field of science are selected by a jury of seven experts who are leading scientists in their research field. The contributions are selected according to defined criteria such as innovation, practical relevance, presentation of results and significance for the sector.

+++ Joint press release by DBFZ and UFZ +++

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