



CDS RESEARCH CENTER DYNAMIC SYSTEMS SYSTEMS ENGINEERING

Bioplastics from waste materials

02.01.2024 - **Scientists at the Otto-von-Guericke-University Magdeburg are researching optimised processes for the production of bioplastics. The aim is to make the production of bioplastics cheaper, faster and more competitive, and thus to increasingly replace conventional plastics as packaging materials with bioplastics.**

CDS member Dr. Stefanie Duvigneau from the Faculty of Electrical Engineering and Information Technology at the Otto-von-Guericke-University Magdeburg is head of the research group "Synthesis of sustainable biotechnological processes". Bioplastics shall increasingly replace conventional plastics as a sustainable alternative. Duvigneau explains that the use of bioplastics compounds in the medical field could reduce follow-up interventions. Bioplastics can be obtained from a wide variety of biological materials using bacteria. Currently bioplastics are produced industrially worldwide but only with a small market share. Her goal is to significantly improve these production processes. "To make this possible, we use computer models that simulate how the plastics could be produced as quickly as possible, with a high output and as sustainably as possible," says Duvigneau. Subsequent experiments are carried out in the laboratory.

The research is part of the >"SmartProSys" (<https://www.smartprosys.ovgu.de/>) research cluster, which aims to create a "green" chemical industry. The Otto-von-Guericke-University Magdeburg is participating with this and two other research clusters in the new round of the Excellence Initiative of the German federal and state governments.

Stefanie Duvigneau recently received the Klaus-Erich-Polimann Research Award from the University of Magdeburg for her outstanding research.

> To the official press release of the Otto-von-Guericke-University Magdeburg (https://www.ovgu.de/Presse+Medien/Pressemitteilungen/PM+2024/Januar/PM+01_2024-p-137688.html)

> To the article "Biokunststoff aus Apfelsaftresten" from the Volksstimme (<https://www.volksstimme.de/sachsen-anhalt/landespolitik/tierische-kunststoff-aus-apfelsaftresten-3777022>)

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