

November 26, 2020

DITF receive „Bioeconomy Innovation Award Baden-Württemberg 2020“

The German Institutes of Textile and Fiber Research (DITF) are one of five winners of the "Ideas Competition Bioeconomy - Innovations for Rural Areas", which was announced for the first time by the Ministry of Agriculture and Consumer Protection Baden-Württemberg. Awards were given for contributions to climate protection, resource efficiency, protection of the environment and biodiversity, and rural development. On November 25, 2020, the prize was presented by Ministerial Director Grit Puchan during the 5th Bioeconomy Day. The DITF receive the award for their research on sustainable carbon fibers. The pitch presentation by Dr. Frank Hermanutz and Dr. Antje Ota also received the audience award.

Ionic liquids (IL) are the key to sustainable biobased fibers for a wide range of industrial applications. In 2003, Dr. Frank Hermanutz and his team, together with BASF SE, discovered an innovative solvent for biopolymers, i.e. polymers made from renewable raw materials. On this basis, cellulose filament fibers were developed with the patented HighPerCell® technology, which can be used as technical fibers due to their specific fiber properties. They are, for example, the starting product for cellulose-based carbon fibers.

Carbon fibers are used primarily in vehicle construction, but are also gaining importance in the construction industry. They are extremely heat-resistant and resilient. However, conventional carbon fibers that are not based on biopolymers are currently still very expensive and their production pollutes the environment. Carbon fiber production based on cellulose would not only protect the environment but also reduce energy costs. For the extraction of cellulose, for example, domestic beeches are ideal. Scientists from the DITF's Biopolymer Materials Competence Center are bringing this

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new process to the Technikum Laubholz (TLH) founded by the state of Baden-Wuerttemberg in April 2020. There, the technology will be put into practice in close cooperation with participating industrial companies.

High-performance cellulose fibers are suitable for many other applications, such as reinforcing fibers in concrete or as a component of single-grade composites.

"Soon, biopolymer-based materials could have the same properties as petroleum-based materials. That would be an enormous contribution to resource conservation and environmental compatibility" explains Frank Hermanutz.

The jury of the Ideas Competition honors this research achievement for environmental protection and sustainability with the Bioeconomy Innovation Award.



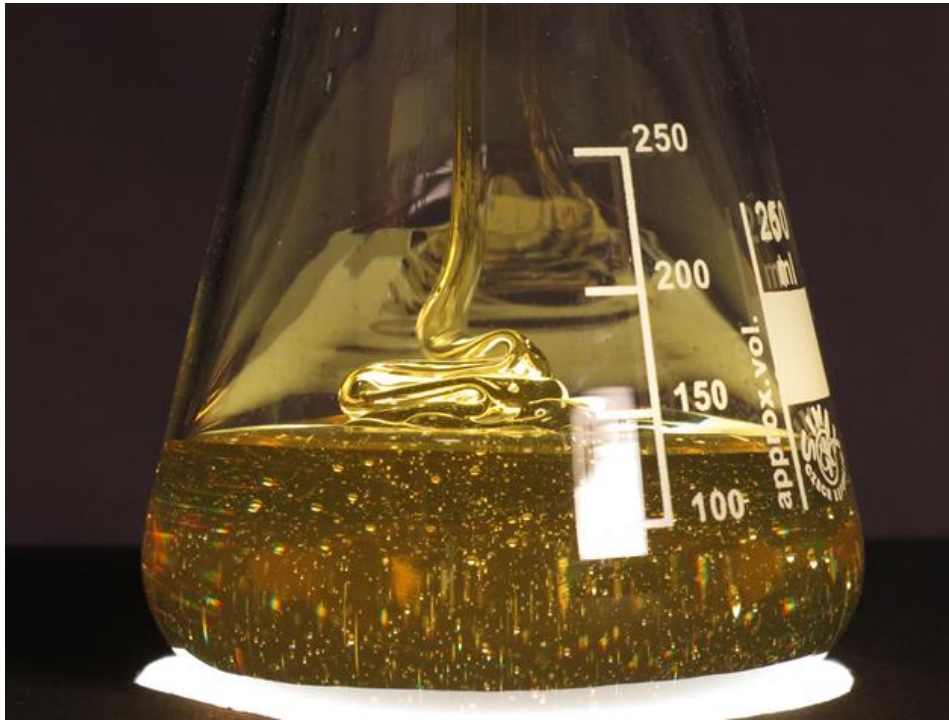
Ministerial Director Grit Puchan (left) presents the award to Dr Antje Ota. Photo: LGL

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Solution of wood pulp and ionic liquid. Photo: DITF



The presentation by Dr. Hermanutz and Dr. Ota also received the audience award. Photo: LGL

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