

Exeter expert leads research to pioneer new type of gel for food and home care

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A materials scientist from the University of Exeter has been awarded a substantial research grant to pioneer a new type of gel that can be used in the food and home care industries.

Stephen Eichhorn, a Professor in Materials Science at Exeter, has received a grant of £797,598 from the EPSRC, BBSRC and Innovate UK IB Catalyst Programme to study how enzymes can be used to make starch-based gels.

The four-year collaborative project, led by the University of Exeter and Professor Eichhorn, which also includes experts from the University of Bath, University of East Anglia and the John Innes Centre, begins in June 2016. The total grant value is £2.8m.

Using innovative techniques that draw on existing academic research, the project will look to produce gels that can incorporate nanoscale fibres. These gels - called interpenetrating network (IPN) gels - will be able to be used in key industrial applications such as the [home care](#) industry and in foods. Fibres are an important part of a healthy diet, so their incorporation into foods in this way will help to improve peoples' well-being.

As well as providing the means for making new products, the research project will also help reduce production costs and CO2 emissions currently associated with the manufacturing of conventional gels.

Speaking about the award Professor Eichhorn, who is also Head of Engineering at the University of Exeter said: "I am delighted that this project has been funded as it brings together a multidisciplinary group of researchers aiming to better understand the use of enzymes for making [gels](#). Spanning fundamental to translational research, this project will enable me to explore new areas of cellulose and polysaccharide research."

Professor Eichhorn, who originally trained as a physicist, works closely with engineers, biologists, physicists and chemists. His research focuses on the mechanical properties and interfaces in natural and sustainable materials, particularly cellulose fibres and composites.

He is both a Fellow of the Institute of Materials and the Royal Society of Chemistry, and is also a member of the Institute of Physics. Last year, he was elected as a Fellow of the American Chemical Society's Cellulose and Renewable Materials Division - the first time a UK scientist has received this honour since its conception in the 1920's.

Provided by University of Exeter

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