



For Immediate Release
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DNFI Innovation in Natural Fibres Award 2021

Dr. Maryam Naebe, Deakin University, Wins 2021 Award:

“Green insulation for the automobile industry”

Dr. Maryam Naebe, Senior Research Fellow, Deakin University, Institute for Frontier Materials (IFM), Victoria, Australia has won the 2021 Discover Natural Fibres Initiative Innovation Award.

Dr. Naebe and her team at IFM created a special light-weight nonwoven textile fabric that can be used as an insulator in automobiles. The fabric is made from a blend of virgin and waste wool fibres.

Most insulation currently used in automotive applications is made from petroleum-based polyester, polyethylene, and polystyrene molecules, but leading car manufacturers are moving towards replacing interior materials with lighter-weight and biodegradable natural fibre options. Wool insulation exhibits the same sound absorption, thermal resistance, and air permeability performance characteristics of materials currently in use. In addition, wool is naturally odour-resistant, flame retardant and antibacterial.

Dr. Naebe noted that as a natural fibre, wool has a unique chemical and physical structure that gives it inherent thermal and acoustic insulation properties, making it a very promising candidate for sustainable insulation. The wool insulator material qualifies for Reuse-Recycle and Reuse-Recover purposes at the end-of-life of vehicles.

The research is being conducted in partnership with Ford Motor Company (USA) for possible installation in Ford vehicles. Testing is underway to scale up and refine the production process.

Dr Maryam Naebe received her Ph.D. from Deakin University in 2009 in materials science, and she has worked since in the areas of fiber science and functional materials. Her research now focuses on sustainability-inspired innovation using waste materials and adding value to natural fibers and biomass in industrial applications.

Contact information:

Dr Maryam Naebe
Senior Research Fellow
Institute for Frontier Materials (IFM)
Deakin University, Waurn Ponds Campus, Geelong, Victoria, 3216 - Australia
maryam.naebe@deakin.edu.au

About DNFI

The Discover Natural Fibres Initiative (www.DNFI.org) was created in January 2010 as an outgrowth of the International Year of Natural Fibres 2009, declared by the United Nations General Assembly. The purposes of DNFI are to advance the interests of all natural fibre industries and to encourage increased use of natural fibres in the world economy. DNFI is a voluntary association of individuals and organizations with interests in promoting natural fibres through collaboration, consultation and cooperation. The Organization (www.dnfi.org) works to further the interests of natural fibres by serving as a platform for information exchange, by providing statistics on fibre production and use, and by working to raise awareness of the benefits of natural fibre industries to the world economy, environment and consumers.

Contact:

Elke Hortmeyer

Chair

DNFI

hortmeyer@baumwollboerse.de

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