



DNFI Innovation in Natural Fibres Awards 2023

The deadline for award submissions is
8 September 2023

March 30, 2023
For Immediate Release

The Discover Natural Fibres Initiative (DNFI) was created in January 2010 as an outgrowth of the International Year of Natural Fibres 2009, declared by the United Nations General Assembly. DNFI is a voluntary association of individuals and organizations who work to further the interests of natural fibres by serving as a platform for information exchange, including statistics on fiber production and use, and by working to raise awareness of the benefits of natural fibre industries to the world economy, environment and consumers (www.dnfi.org). Anyone with an interest in natural fibres is welcome to join DNFI by registering on the web site.

Nominations for the 2023 DNFI Innovation in Natural Fibres Award are now being accepted.

Candidates for the DNFI Innovation Award 2023 should send the appropriate submission form to DNFI, e-mail: Secretariat@DNFI.org. Forms are available on the DNFI web site.

Awards will be judged in three categories:

- Innovative products/components or applications
- Innovative processes/procedures
- Research and science

Evaluation criteria are:

- Outstanding scientific work and technical feasibility
- Level of improvement or effectiveness of the innovation over existing products or processes
- Degree to which the innovative product or process has been implemented
- Potential for opening new outlets, markets or sectors for products made of natural fibres

Deadline:

- Closing date for applications: 8 September 2023

Judging Procedures:

- A sub-committee of DNFI members will choose the award winner. The results of the judging shall be final. There will be no right of appeal.

Intellectual Property Rights:

- DNFI claims no rights and makes no effort to gain advantage of any kind over the intellectual property represented in applications for the annual DNFI Award for Innovation in Natural Fibres Research.

The purpose of the **DNFI Innovation in Natural Fibres Award** is to raise awareness of exciting work involving natural fibres, and to help raise the profiles of leading researchers so as to enhance opportunities for commercial application of such work.

Previous Winners:

The 2017 DNFI Annual Innovation in Natural Fibres Award was won by **Ms. Marie-Isabel Popzyk**, Scientific Assistant at RWTH Aachen University and **Dr. Roland Klein**, Group Manager at the Fraunhofer Institute LBF in Germany. Their submission, "Reduction of the moisture absorption of natural fibers and production of no-twist yarns for use in structural components," showed that up to 100% bio-based, natural fibre reinforced plastics (NFRP) with low moisture absorption can be developed for application in structural components.

The 2018 DNFI award was won by **Velener Textil**. The winning process, "WECYCLED® - Real added value for weaving mills and our partners in the textile chain," was submitted by Mr. Ernst Grimmelt, CEO and Sales Manager Yarns, under the category of Innovative processes, procedures. Under the WECYCLED® system, Velener Textil collects spent cones from partner mills and separates the unused cotton yarn in special sheltered workshops that meet the highest standards of employee safety and environmental protection. Velener Textil has developed a sophisticated method to recycle the recovered cotton into new yarns that fulfill the requirements for color fastness, strength and other attributes in high-quality consumer products. Commercial applications include the production of bed linen and knitted clothing.

The 2019 DNFI award was won by **Dr. Debasish Das**, Professor, University of Calcutta, Department of Jute and Fibre Technology, and **Dr. Subhas Ghosh**, Professor, Eastern Michigan University, School of Visual Built Environments, College of Engineering and Technology. The two researchers collaborated on the development of a biodegradable cotton-jute fabric with a waterproof coating that can substitute for non-biodegradable PVC-coated polyester. The new cotton-jute fabric is suitable for use in outdoor fabrics such as tarps, awnings, canopies, or automobile hooding material. In addition to being biodegradable, the natural fibre material meets fire-retardancy standards and allows the transfer of moisture vapor to avoid the accumulation of humidity on the underside of fabrics, while remaining waterproof.

The 2020 DNFI Award was won by **Dr. Noureddine Abidi**, Professor and Director, Fiber and Biopolymer Research Institute (FBRI), Texas Tech University. He developed a process to produce a plastic substitute from cotton by dissolving the fibres to form a gel which can be transformed into bioproducts, including plastic films. Cotton fibres are approximately 99% cellulose, and cellulose-derived bioplastics are inherently biodegradable in landfills and composting facilities. Testing shows that when cotton cellulose bioplastic films are buried in soil, decomposition begins in about 3 weeks. However, when these bioplastic films are kept in normal household conditions, they remain stable with no sign of degradation. Therefore, products made from bioplastic film would have properties similar to those of plastics currently in common use.

The 2021 DNFI Award was won by **Dr. Maryam Naebe**, Senior Research Fellow, Deakin University, Institute for Frontier Materials (IFM), Victoria, Australia. 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. 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.

Dr. Frank Hermanutz and **Dr. Tanja Schneck**, German Institutes of Textile and Fiber Research Denkendorf, won the DNFI Innovation in Natural Fibres Award 2022. The researchers developed a patented technology to dissolve cellulose in an ionic liquid to facilitate the production of cellulosic matrix precursors, which are then used to manufacture composite materials. The core concept of PureCell is to use cellulosic fibers as reinforcement with a bio-based cellulose matrix, to create an economical, recyclable, and biodegradable substitute for petrochemical raw materials.

More About DNFI

The Discover Natural Fibres Initiative is a platform for those who believe in natural fibres. DNFI facilitates the exchange of information and experiences and works to advance the common interests of all natural fibres in the face of competition with oil-based and wood-based manmade fibres. Representatives of natural fibre industries as diverse as abaca, alpaca, angora, cashmere, coir, cotton, flax, industrial hemp, jute, mohair, ramie, silk, sisal and wool participate in DNFI.

DNFI is entirely volunteer supported. There are no membership dues, the Initiative has no budget or Secretariat and does not conduct projects. Instead, DNFI facilitates communication and collaboration through the exchange of information.

Membership in DNFI is open to anyone with an interest in the growth of natural fibre industries. To become a member, simply register on-line at www.DNFI.org

Link DNFI Award 2023:

<https://dnfi.org/>

Submission period ends on
8 September 2023

Submission form templates:

Innovative products/components or applications:

<https://dnfi.org/download/38714/>

Innovative processes/procedures:

<https://dnfi.org/download/38729/>

Research and science:

<https://dnfi.org/download/38740/>

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