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## Designer discusses nature-mimicking materials

A design academic from Northumbria University, Newcastle will share her knowledge on how nature is inspiring intelligent textile development in Barcelona this week.

Dr Veronika Kapsali, a specialist in Biomimetics at Northumbria's P3i research group, will describe her research into how nature and biology can inform man-made design to delegates at the Smart Fabrics Europe conference in Barcelona.

Hundreds of fashion designers, textile manufacturers, physiosensor engineers, and academics are gathered at the conference this week where Smart Fabrics speakers will share their latest discoveries in electronics, textiles, fashion, design and wearable technologies. Delegates will take part in special sessions on the trends and obstacles engineers and designers face as they merge technology with the human body.

Dr Kapsali's talk, entitled From Pinecones to Smart Textiles: a Journey Inspired by Nature, focuses on her work exploring biomimetics – the study of the structure and function of biological systems as models for the design and engineering of materials and machines – as an approach to the design of textiles. Pinecones respond to changes in weather and humidity by opening or closing their scales.

Dr Kapsali is Technical Director of spin-out company, MMT, which owns the patent rights to an innovative new textile technology inspired by pine cones, which sees textiles alter their structure, allowing wearers to stay drier and more comfortable.

Discussing her research, she said: "Nature shows us that you can achieve advanced, complex behaviours combining simple materials in clever structural composites. The driver behind this is survival; organisms in nature rarely exist in environments with surplus resources, therefore those that fail to optimise the use of raw materials simply do not survive.

"Although, in time, we will probably run out of the resources we currently rely on to fabricate the stuff around us, we have the luxury of inhabiting a surplus world with the ability to seek out and develop alternative ways of making things. There is much we can learn as designers from nature's lean operation."

Earlier this year, Dr Kapsali was featured in a BBC educational series, The Imagineers, aimed at inspiring young people to take up engineering as a career. The series has received a nomination in the BAFTA's Children's Learning (Secondary) category. The winner will be announced on 24 November.

The British Academy of Film and Television Arts – BAFTA – awards celebrate the very best in the art forms of the moving image. The Academy's Chief Executive, Amanda Berry OBE, is a former Northumbria University Business

Studies student. In 2010 she was named in the Telegraph's 100 Most Powerful Women in Britain: Entertainment, Media and Sport and, in 2012, she made The Time's British Film Power 100, the Women in Film and Television Power List, and Women: Inspiration & Enterprise's Power 50.

For more information about studying at Northumbria University, visit [www.northumbria.ac.uk](http://www.northumbria.ac.uk).

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