

## **UTHM Green Technology Findings Gain International Recognition**

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KUALALUMPUR, Nov 27 (Bernama) -- Universiti Tun Hussein Onn Malaysia (UTHM) has won six gold medals through three green technology products at the British Invention Show (BIS) 2014, in London recently which could lead to their applications in the local industry.

The university's Faculty of Mechanical and Manufacturing Engineering, Advanced Manufacturing and Materials Centre chief researcher Associate Prof Dr Zawati Harun said the primary focus of the research was to obtain international recognition for its projects to be commercialised to protect the local ecosystem and the sustainability of environment.

"Even though Malaysia is endowed with various natural resources and high rainfall, we may face problems of environmental pollution including contaminated water sources if we neglected natural substances and opted for chemical and toxic materials," she told Bernama in a interview at Wisma Bernama here today.

The three research products are antibac membrane made from herbal plant, heavy metal absorbent made from the scales of black tilapia fish and a synthesis of liquid crystal made from plants to produce cell in 3D form.

Dr Zawati said industry players should be aware that using natural materials would lower production and processing costs to produce better quality items.

The antibac membrane produced by a research team headed by Dr Zawati herself is a combination of polymer and natural herbs such as padi husk, cloves and black cumin for the filtration of water.

Antibac membrane could prevent the growth of bacteria and overcome the problem of poisoning caused by water filter using toxic materials.

Meanwhile the heavy metal absorbent made from the scales of black tilapia was produced by Micropollutant Research Centre head Prof Madya Dr Norzila Othman which is an alternative for water treatment plant to produce better quality water.

The scales of black tilapia holds great potential to be a heavy metal absorbent in a water environment as its treatment system does not use chemical substances and is low in cost.

Meanwhile, the liquid crystal synthesis product using red carrot to produce cells in 3D form was headed by Biosensor and Bioengineering Research Laboratory head Dr. Soon Chin Fhong could be made as an experiment material for medical laboratory.

The use of red carrot to generate 3D cell culture similar to the human tissue could reduce the exploitation of animals and lower cost in laboratory experiments.

In this regards, Dr Zawati said the cooperation of local industry players and the government was needed to enable the three inventions to be expanded as green technology applications.

"In this way, we have contributed to the nation with a more environmental friendly technology.

"If all parties play their roles, there will be greater awareness among community on green technology and make the environment more sustainable," she said.