Transition contact lenses: Invented in Singapore
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By Ong Dai Lin

Mr S. Iswaran, Senior Minister of State for Trade and Industry and Education, learns about the latest translational pre-clinical advances from Kelvin Ng, IBN Lab Officer, at the opening of IBN iCare with Mr Lim Chuan Poh, A*STAR Chairman and Mr Lim Yong Wah.

SINGAPORE - A team of seven researchers from Singapore's new Institute of Bioengineering and Nanoengineering (IBN) iCare eye laboratory has scored a world-first: Photochromic contact lenses that will enable the wearer's eyes to change colour in and out of the shade.

Likely to be available in two years, they might look like ordinary lenses but darken on exposure to sunlight and return to a clear state when not in bright light.

Made from a special emulsion using nanotechnology, the photochromic contact lens is ready for clinical trials. IBN is also negotiating a licensing agreement with two companies to make and sell the lenses - in different colours - for overseas markets.

Nanotechnology refers to the manipulation of matter at the molecular level and is measured by a nanometre scale that is between one and 100 nanometres. A sheet of paper is about 100,000 nanometres thick.

Launched yesterday, IBN iCare is the first research laboratory in Singapore to focus on the development of cutting-edge nanomaterials for ocular therapy.

"Eye diseases are a big problem in Singapore and Asia. So, the market is huge. We want to do research that has market potential and also benefits the end user," said Professor Jackie Ying, IBN's founding executive director, and head of IBN iCare.

Also launched yesterday at the Biopolis by Senior Minister of State (Trade and Industry and Education) Mr S Iswaran was the $2.1 million National University Hospital (NUH) Eye Centre.

The centre will provide eye care services like Lasik and act as a venue for clinical trials for IBN iCare's inventions.
The NUH eye centre can attend to about 60 patients daily.

NUH doctors will also work with IBN scientists to develop research in ocular therapy.

The two institutions will partner the Singapore Armed Forces Medical Corps in research and training for vision correction technology to address myopia and ocular trauma.

They will also work with leading optical and opto-electronic industry company Carl Zeiss to develop technologies and treatments associated with IBN's ocular biomaterials.

IBN is a research institute under the Agency of Science, Technology and Research (A*Star). Exploit Technologies - A*Star's commercialisation arm - provided a $5 million fund to set up IBN iCare.

IBN iCare is working on seven projects, one of which involves producing a contact lens that can deliver antibiotics to treat eye disorders as well as produce artificial tears to treat dry eyes.