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Hong Kong develops innovative spectacle lens to slow down myopia progression

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Deploys two PolyU patented technologies to protect children's vision health



The Hong Kong Polytechnic University (PolyU) has announced that Vision Science and Technology (VST), a PolyU supported startup, has successfully developed the Nano Multi-rings Defocus Incorporated Lens for controlling the progression of myopia (or short-sightedness).

VST collaborated with State Key Laboratory of Ultra-precision Machining Technology (The Hong Kong Polytechnic University) (SKL-UPMT) and the School of Optometry of PolyU to create the new solution by integrating Defocusing Incorporated Soft Contact Lens (DISC) technology and Ultra-precision Nano Multi-rings Machining Technology, offering children and adolescents a convenient, non-invasive and effective option to delay myopia progression.

PolyU holds the patents for both DISC technology and Ultra-precision Nano Multi-rings Machining Technology.

PolyU's School of Optometry invented the novel DISC technology, which is proven to retard the myopia progression of children by 60%. The method produces a clear image on the retina and a defocused or blurred image in front of the retina simultaneously, enabling children to have clear vision while controlling the development of myopia. Based on this technology, the DISC-SH soft contact lens was introduced in 2018.

Developed by SKL-UPMT, the Ultra-precision Nano Multi-rings Machining Technology blends advanced optics design, ultra-precision machining and ultra-precision measurement technologies, and ultra-precision mould-making to apply DISC technology in spectacle lens production. By implementing ultra-precision process, the new spectacle lens provides added comfort for wearers, while offering more stable vision. The non-invasive design also makes it more suitable for children of different ages.