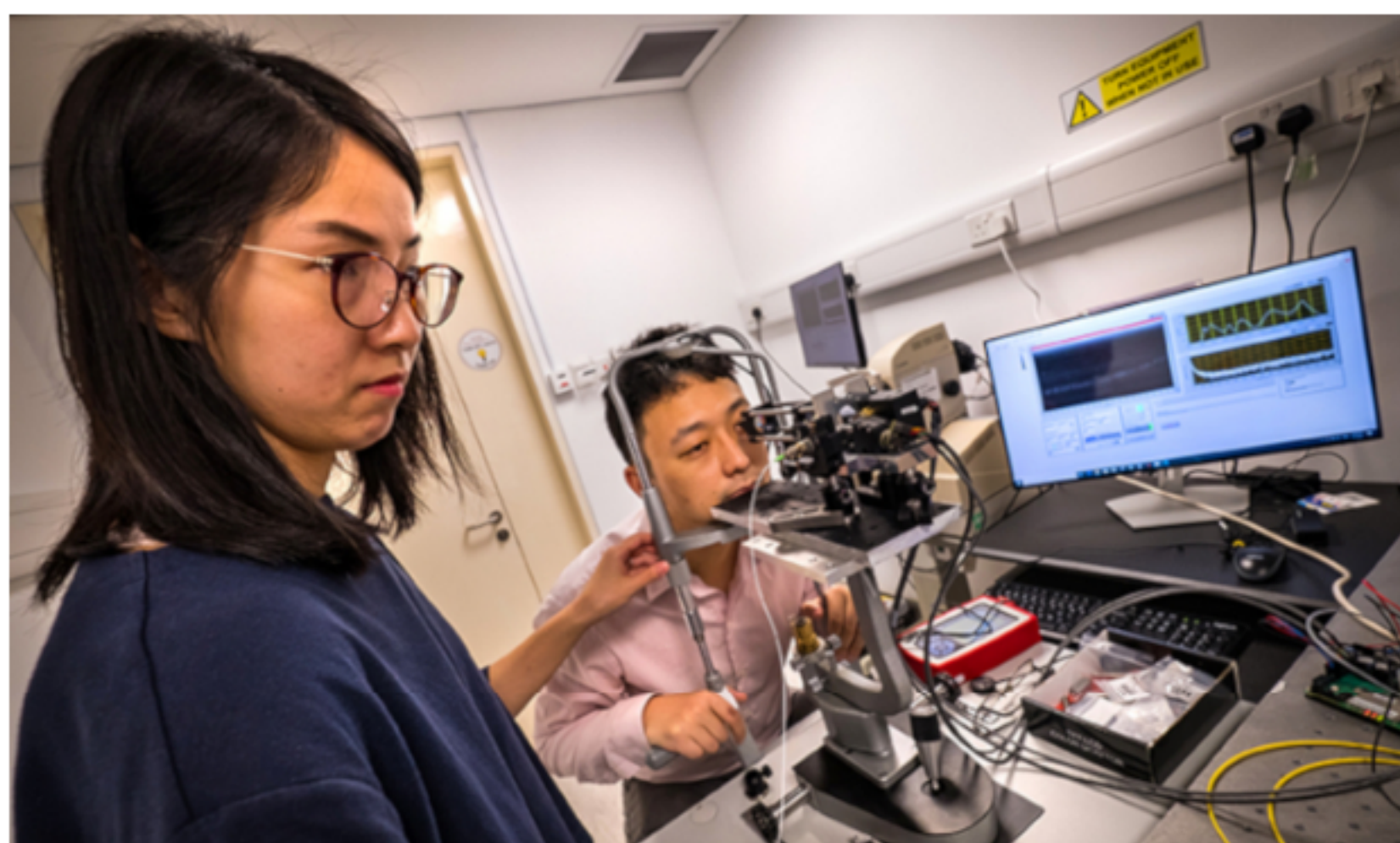


[Asia Pacific](#) [Imaging](#)

Joint laboratory to develop advanced ocular imaging technologies launched in Singapore

The new SERI-NTU Advanced Ocular Engineering (STANCE) Laboratory is a collaboration between NTU, SNEC and SERI.

By [Dean Koh](#) | January 08, 2020 | 03:15 AM



Credit: NTU Singapore

A new joint laboratory that will develop advanced eye imaging technologies and drug delivery systems was launched today in Singapore. Dubbed the SERI-NTU Advanced Ocular Engineering (STANCE) Laboratory, the joint Lab consists of three partners: Nanyang Technological University, Singapore (NTU Singapore), the Singapore National Eye Centre (SNEC), and the Singapore Eye Research Institute (SERI).

The Lab will be located on the NTU Smart Campus and will develop innovations that use light to image the eye – a technique known as “optical coherence tomography” (OCT). One of the projects the Lab will work on is the perfection of a triple-beam OCT imaging prototype that illuminates the eye from three different angles and accurately measure blood flow. This can precisely detect diseases in the eye, such as age-related macular degeneration or glaucoma with greater precision.

Another project involves developing a cost-effective and portable robotic OCT system to perform rapid and automated eye screenings. Powered by artificial intelligence (AI), the system will provide a convenient platform to detect eye conditions earlier, without requiring attendance at a specialized eye clinic or hospital. These projects will be translated, tested and validated, from lab to bedside.

AREAS OF FOCUS

The launch of the STANCE Lab will see the start of more than ten joint research projects that focus on three broad themes. They are:

- (i) Functional extensions of in-vivo optical coherence imaging to extract potential biomarkers for better disease management;
- (ii) Screening devices that enable diagnostic imaging beyond the clinic into the community and at home;
- (iii) Multi-modal imaging, which uses different types of ophthalmic imaging, and ocular therapeutics that will spur the development of innovative devices and treatment procedures.

The STANCE Lab will also collaborate with industry by engaging with various imaging and pharmaceutical companies and nurture spin-off companies to accelerate the development of new technologies.

THE LARGER TREND

Part of Singapore’s national AI strategy which was [announced](#) in November 2019 is the analysis of retinal photographs for diabetes screening and the development of a retina-based risk score for high glucose, high blood pressure and high cholesterol (3H) related cardiovascular diseases.

Last May, Ping An’s health tech arm [entered into a one-year research agreement](#) with HKU’s Medical AI Lab Program to clinically evaluate their AI-based optical coherence tomography (OCT) retinal disease screening system.

ON THE RECORD

“Eye diseases remain one of the key conditions that an ageing population in Singapore faces, which lead to vision impairment that affects mobility. The STANCE Lab will develop new imaging technologies to detect and diagnose eye conditions, quickly, easily and conveniently,” said Professor Leopold Schmetterer, Director of the STANCE Lab in a statement.

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