PRESIDENT'S SCIENCE AND TECHNOLOGY AWARDS

Researchers honoured for advances in eye treatment

XUE JIANYUE
xuejianyue@mediacorp.com.sg

SINGAPORE – One team of researchers found a way of using nanotechnology to release medication into glaucoma sufferers' eyes over a few months, eliminating the need to apply it frequently. Another group created an algorithm designed to recognise eye diseases even before symptoms appear.

In recognition of the medical and economic impact of their work on Singapore, the members of the two teams were among eight research scientists and engineers who were yesterday accorded the President's Science and Technology Awards — the Republic's highest scientific honours.

The President's Technology Award (PTA) was conferred on the two teams by President Tony Tan at a ceremony held at the Istana last night.

Two other individuals also received the President's Science and Technology Medal (PSTM) and the President's Science Award (PSA) in recognition of their scientific work.

PTA recipients Professor Subbu Venkatraman, Associate Professor Tina Wong and Professor Freddy Boey from the Nanyang Technological University (NTU) were recognised for their work in developing a sustained drug-delivery technology to apply the anti-glaucoma medicine.

The medicine is loaded onto tiny particles, or nanoparticles, and delivered as a solution on the eye's surface via painless injections.

The approach overcomes the problem of glaucoma patients skipping their medication and poor drug penetration of eye drops, said the researchers.

The other PTA-winning team comprises Professor Wong Tien Yin from the Singapore National Eye Centre, as well as Professor Wynne Hsu and Professor Lee Mong Li from the National University of Singapore (NUS).

Prof Wong's team developed advanced algorithms to monitor and record subtle changes to the retina over time.

The system is designed to help doctors detect eye diseases early, even before the symptoms appear.

Said PTA committee chair Professor Quek Tong Boon of the two award-winning projects: "What differentiated these two teams from the rest is their vision, their demonstrated potential of their work and the potential societal and economic impact of their work."

He added that the technologies can help prevent blindness in glaucoma patients here and also establish Singapore as a leading eye care centre. There are about 70,000 people with glaucoma in the Republic.

National University Health System chief executive John Wong Eu-Li, who was awarded the PSTM, was described by the Agency for Science, Technology and Research (A*STAR) as a pioneer in the Republic's biomedical movement, recruiting top scientists and bringing together academic centres from across Asia to develop treatments suitable for Asian populations.

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>
> **Prof Quek Tong Boon**
> PRESIDENT'S TECHNOLOGY AWARD COMMITTEE CHAIR

Professor Loh Kian Ping from the NUS Department of Chemistry, who received the PSA, is a pioneer in graphene chemistry research, contributing significantly to Singapore's position as a world leader in this area, said A*STAR.

Besides the PSTA awards, the Young Scientist Awards were also presented to three promising young research scientists and engineers during last night's ceremony.

They included NTU's Assistant Professor Wang Qijie for his research in photonics and optoelectronics; NTU's Assistant Professor Zhang Baile for his work on invisibility cloaking technology; and NUS Assistant Professor Melissa Jane Fullwood for her research on chromatin interactions — a region in the genome — and how they affect cancer.