

2010 PSTA WINNER CITATIONS

PRESIDENT'S SCIENCE AWARD 2010



Professor Wong Tien Yin
Singapore Eye Research Institute, Singapore National Eye Centre
National University Health System

“For the development and use of novel retinal imaging to understand pathways in cardiovascular and metabolic diseases”

Professor Wong Tien Yin's pioneering research over the past 10 years has resulted in the development of a suite of advanced computing imaging software and diagnostic platforms, which allows scientists, doctors and clinicians to assess a patient's cardiovascular disease and diabetes risk through a simple retinal photograph. This simple eye scan is a unique and non-invasive way to understand, screen and detect early cardiovascular and metabolic diseases. This has great public health significance for Singapore and other countries where cardiovascular disease and diabetes are the leading causes of death and morbidity. Prof Wong has since tested it on more than 25,000 subjects and established a large database of ocular images with matching clinical data.

Professor Wong's research, which brings together medical technology and clinical medicine for applications in diverse fields that span eye diseases, cardiovascular disease, neurology and diabetes, has influenced clinical practice internationally. He is currently working with the countries around the world on imaging high risk subjects to detect diseases. Professor Wong has also begun research collaborations with industry. He established Singapore Advanced Imaging Laboratory for Ocular Imaging (SAILOR), the first translational clinical facility in Fusionopolis, which currently has ongoing collaborations to grade eye images for clinical trials in Asian sites, as well as other collaborations in clinical trials from UK, Australia and New Zealand. He has also started a pilot trial for tele-ophthalmology to test the use of retinal imaging to screen patients who are at higher risk of cardiovascular disease.

Professor Wong's work is widely recognized internationally and he is among the most widely cited for his work on retinal vessels. He has published more than 500 peer-reviewed papers, in such top tier journals such as the New England Journal of Medicine and the Lancet. He has received awards not only in ophthalmology, but also in the fields of cardiovascular disease and diabetes. He is the only ophthalmologist worldwide to receive the Sandra Doherty Award from the American Heart Association for cardiovascular research and only the 2nd ophthalmologist to receive the Novartis Prize in Diabetes Global Award. He is the only person to have won the Outstanding Researcher Award at NUS twice. In 2008, he received the inaugural Singapore Translational Researcher (STaR) award, which provided him with the funding support to embark on a major multi-disciplinary research effort involving local and overseas partners, and industry partners, to further translate his research into clinical care and potential commercial applications. In 2010, he received the National Outstanding Clinician Scientist Award. He recently became the youngest member of the Academia

Ophthalmologic Internationalis, an international organization which has only 70 world-wide members.

Professor Wong is currently the Director for the Singapore Eye Research Institute and concurrently holds the positions of Professor and Senior Consultant at the Singapore National Eye Centre and the National University Health System.

For his outstanding contributions in translational research and the development of a novel research platform linking eye imaging to diagnosing human vascular and metabolic disease, Professor Wong Tien Yin from the Singapore Eye Research Institute, Singapore National Eye Centre and National University Hospital System, is awarded the 2010 President's Science Award.