

MEDIA RELEASE

SingHealth and A*STAR to advance medical research in diabetes; immunotherapy and drug development; and precision medicine

- Strategic partnership sees Singapore's largest public healthcare cluster joining forces with Singapore's leading public sector research agency
- The SingHealth Duke-NUS Academic Medical Centre also launched a new academic research facility to develop infectious disease drugs and vaccines

Singapore, 8 December 2017 – SingHealth and the Agency for Science, Technology and Research (A*STAR) today announced a strategic research partnership focused on three areas: Smart Health for diabetes, pursuing innovations in immunotherapy and drug development, and precision medicine. The partnership seeks to address prevalent diseases in Asian populations that carry a heavy economic burden, improve healthcare delivery and create value for the economy. Mr S. Iswaran, Minister for Trade and Industry (Industry), witnessed the inking of a Memorandum of Understanding (MOU) between the two organisations today.

Professor Ivy Ng, Group CEO, SingHealth said, “By bringing together the best minds in medicine, science and technology, we hope to accelerate the translation of research from the bench where scientific discoveries are made, to the bedsides of our patients. This will improve disease prevention, diagnoses and treatments to benefit patients and the population.”

Mr Lim Chuan Poh, Chairman, A*STAR said, “It is important for A*STAR to partner with the clinical community, to ensure that A*STAR's upstream and translational research can bring about tangible healthcare and economic benefits to society. This MOU represents a step up in the relationship between A*STAR and SingHealth, as we go beyond the many extant collaborations to a more strategic, forward-looking partnership, with a focus on key areas that are impacting healthcare and medicine today.”

Boosting healthcare and the economy through three focus areas

In Singapore, diabetes is a serious health concern. One in nine Singapore residents aged 18 to 69 years are currently diagnosed with diabetes, and this number is predicted to rise to nearly one million by 2050¹.

The SingHealth-A*STAR partnership will establish a “**Diabetes Clinic of the Future**” by combining patient data and clinical expertise from SingHealth, with medical technology, data analytics, artificial intelligence, and advanced imaging capabilities from A*STAR. The Diabetes & Metabolism Centre on Singapore General Hospital (SGH) Campus will be used as a living lab to establish the “Clinic of the Future”, with opportunities for tech developers and industry experts to trial their innovations alongside SingHealth and A*STAR clinicians and researchers.

The Clinic will utilise smart technologies to improve diabetes care across the disease continuum, from risk prediction to the monitoring, treatment and management of diabetes. Technologies introduced could include mobile applications or remote monitoring technologies which can help to track the nutritional intake, glucose levels, and fitness levels of at-risk (pre-diabetic and diabetic) populations, to help them better manage and take charge of their health.

Due to the rising incidence of patients developing diabetic complications such as end-stage renal failure, lower limb amputation and even blindness, the “Diabetes Clinic of the Future” will also facilitate crucial and timely clinical interventions that address pressing challenges in diabetes care, with the introduction of measures such as wound monitoring technologies and deep learning systems that can screen for diabetic complications like retinopathy.

Another focus area under the research partnership is **Immunotherapy and Drug Development**. A*STAR and SingHealth have many complementary capabilities in immunology, immunotherapy, cancer research and treatment. The MOU will bring these capabilities together under a joint SingHealth-A*STAR immunotherapy platform that will harness the latest technologies to enhance biomarker identification and drug discovery, with the aim to bring drugs to the clinic more quickly. A*STAR

and SingHealth will also seek to partner local biotech companies to develop and test new immunotherapy drug combinations.

Precision Medicine uses each patient's biological data to more precisely predict, diagnose or treat diseases. Rather than a one-size-fits-all approach, it allows doctors to tailor treatment that is optimal to improve patient care outcomes.

Under the partnership, SingHealth and A*STAR will integrate data from various sources into a central database and work together to expand their bioinformatics and data analytics capabilities. A research team from A*STAR's Bioinformatics Institute (BII) already embedded in SingHealth's SGH campus has started analysing data on cancer and heart disease. This has the potential to better develop precision medicine approaches that can be applied in the clinics.

Building disease outbreak response capabilities

Today's event also saw the launch of the Viral Research and Experimental Medicine Centre at SingHealth Duke-NUS (ViREMiCS), a new academic research facility in the SingHealth Duke-NUS Academic Medical Centre that aims to accelerate the development of drugs and vaccines for infectious diseases. ViREMiCS is supported by a generous \$2 million gift from the Tanoto Foundation.

ViREMiCS will use novel molecular tools and technologies to shorten clinical trial processes, and work with industry collaborators and regulators to bring new drugs and vaccines more quickly to those in need during epidemics and disease outbreaks.

[†] Ministry of Health, War on Diabetes Fact Sheet

For media enquiries and interviews, please contact:

Ms Anjana Krishna
SingHealth Group Communications
DID: 6377 8056 / Mobile: 9380 5520
anjana.krishna.kumar@singhealth.com.sg

Ms Kueh Xiu Qing
Senior Officer, Corporate
Communications, A*STAR
DID: 6826 7654 / Mobile: 9662 7885
kueh_xiu_qing@scei.a-star.edu.sg

About Singapore Health Services (SingHealth)

The SingHealth Duke-NUS Academic Medical Centre draws on the collective strengths of SingHealth and Duke-NUS Medical School to drive the transformation of healthcare and provide affordable, accessible, quality healthcare. With over 40 clinical specialties, a network of acute hospitals, national specialty centres, polyclinics and community hospitals, it delivers comprehensive, multi-disciplinary and integrated care. In 2018, the Sengkang General Hospital and Sengkang Community Hospital will be completed to serve the community in the north-east of Singapore. To enhance community care, the new Outram Community Hospital on SGH Campus will be completed in 2020.

For more information, please visit: www.singhealth.com.sg

Members of the SingHealth group

Hospitals (Tertiary Specialty Care):

Singapore General Hospital, Changi General Hospital, KK Women's and Children's Hospital, *Sengkang General Hospital (expected completion: 2018)*

National Specialty Centres (Tertiary Specialty Care):

National Cancer Centre Singapore, National Dental Centre Singapore, National Heart Centre Singapore, National Neuroscience Institute, and Singapore National Eye Centre

SingHealth Polyclinics (Primary Care):

Bedok, Bukit Merah, Marine Parade, Outram, Pasir Ris, Punggol, Sengkang, and Tampines

SingHealth Community Hospitals (Intermediate and Long-term Care):

Bright Vision Hospital, *Sengkang Community Hospital (expected completion: 2018)*, *Outram Community Hospital (expected completion: 2020)*

About The Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is Singapore's lead public sector agency that spearheads economic oriented research to advance scientific discovery and develop innovative technology. Through open innovation, A*STAR collaborates with partners in both the public and private sectors to benefit society.

As a Science and Technology Organisation, A*STAR bridges the gap between academia and industry. A*STAR's research creates economic growth and jobs for Singapore, and enhances lives by contributing to societal benefits such as improving outcomes in healthcare, urban living, and sustainability.

A*STAR plays a key role in nurturing and developing a diversity of talent and leaders in its Agency and Research Institutes, the wider research community and industry. A*STAR oversees 18 biomedical sciences and physical sciences and engineering research entities primarily located in Biopolis and Fusionopolis.

For more information on A*STAR, please visit www.a-star.edu.sg.

About Tanoto Foundation

Founded by Mr. Sukanto Tanoto and Mrs. Tinah Bingei Tanoto, Tanoto Foundation strives to be a center of excellence in poverty alleviation through education, empowerment, and enhancement of quality of lives. Tanoto Foundation's mission is to work with communities and partners to address root causes of poverty in countries where the Tanoto family has significant presence.

To date, Tanoto Foundation has provided over 20,000 scholarships, built several schools and education facilities that produced 27,000 graduates, developed 60,000 hectares of Community Livelihood Plantations and created more than 1,800 jobs in local communities through its Small and Medium Sized Enterprise (SME) programs. Tanoto Foundation also donates to notable research programmes and disaster relief activities, with an aim to improve the quality of lives of society at large.

You can learn more about them at www.tanotofoundation.org