

PRESIDENT'S SCIENCE AND TECHNOLOGY MEDAL 2018

Professor Judith L. Swain

Visiting Professor, Yong Loo Lin School of Medicine, National University of
Singapore

Founding Executive Director (Emeritus), Singapore Institute for Clinical Sciences,
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“For her outstanding contributions in leading the development of translational and clinical research, nurturing of scientific talent, and facilitating closer interactions between universities, hospital systems, and research institutes, which raised Singapore’s international reputation in biomedical research and economic development”

Professor Judith Swain is an internationally recognised physician scientist and academic leader in translational and clinical research. She plays a pivotal role in Singapore’s research development and has held key positions in research institutes, universities, and hospitals for over 15 years. Professor Swain has contributed greatly to Singapore’s talent development and establishment of internationally competitive research programmes, and has served on various governing boards and advisory committees in Singapore’s Ministry of Education (MOE), public healthcare system, medical schools, and Research Centres of Excellence.

Professor Swain is the Founding Executive Director of the Singapore Institute for Clinical Sciences (SICS), the first research institute in A*STAR devoted to developing translational and clinical research programmes. Under her leadership, SICS was strategically located within the National University of Singapore (NUS) medical campus to maximise the synergistic opportunities offered through proximity to physician investigators and patient populations.

At SICS, Professor Swain developed three signature programmes which contributed significantly to Singapore’s international scientific reputation and economic development. She oversaw the inception of Growing Up in Singapore Towards healthy Outcomes (GUSTO), a nationwide study on pregnancies and early childhood development that has shifted Singapore’s public health policy with key findings on gestational diabetes and its impact on children. She started the Human Nutritional Research programme in SICS. This led to A*STAR and the National University Health System’s (NUHS) joint establishment of the Clinical Nutrition Research Centre (CNRC) which focuses on basic and translational human nutrition that shapes the economic development of Singapore’s food sector. The third programme

was the Singapore Centre for Nutritional Sciences, Metabolic Diseases, and Human Development (SiNMED), a collaboration among SICS, NUS, and NUHS that catalysed the development of additional joint translational and clinical research programmes within these institutions.

A major focus of Professor Swain's efforts has been on talent development. Having served on the International Advisory Panel of the A*STAR Graduate Academy for 13 years (including as Vice Chairperson), she helped to formulate the training programmes for joint MBBS, MD and PhD training for local and international A*STAR scholars. She is also advisor to NUS on talent development for medical academics, and has served in the same role with the National Healthcare Group (NHG). She was part of a group that formulated plans for translational and clinical talent development in Singapore and established the National Medical Research Council's Singapore Translational Research Investigator Award, Clinician Scientist Award and Transition Award.

Professor Swain also served two terms as a director at NHG, on the oversight committee of the Institute of Mental Health and the founding governing board, as well as the Academic Oversight Committee of the Lee Kong Chian School of Medicine at Nanyang Technological University. She has also chaired the International Advisory Panel of the National University Heart Centre since its founding and is a founding member of the Academic Review Committee of MOE, and the governing board of the Cancer Sciences Institute.

Professor Swain previously served in academic leadership roles at the University of Pennsylvania, Stanford University, and the University of California at San Diego. Her research activities have focused on the neuroscience of extreme human performance, studying elite performers such as US Navy SEALs and NASA astronauts.

In recognition of Professor Swain's contribution to biomedical research and academic medicine, she has been elected to three prestigious societies in the US: the National Academy of Medicine (where she served as a council member); the Association of American Professors (where she served as President); and the American Society of Clinical Investigations (where she served as its first woman President).

Professor Swain is also passionate about translating technological discoveries into industry. In Singapore, Professor Swain was pivotal to the joint establishment of the Singapore Stanford Biodesign programme by A*STAR, the Economic Development Board and Stanford University to train medical technology entrepreneurs. She co-founded a medical device start-up in Silicon Valley, and has served as director or member of the scientific advisory boards of numerous biotech start-ups and several public biomedical and biotechnology companies. She also serves on the scientific

advisory board of the Wyss Institute for Biologically Inspired Engineering at Harvard University.

In 2017, Professor Swain was awarded the Friend of Singapore Public Service Medal for her contributions to Singapore.

For her outstanding contributions in leading the development of translational and clinical research, nurturing of scientific talent, and facilitating closer interactions between universities, hospital systems, and research institutes, which raised Singapore's international reputation in biomedical research and economic development, Professor Judith L. Swain is awarded the 2018 President's Science and Technology Medal.