

PRESS RELEASE

Professor Chua Nam Hai joins Temasek Life Sciences Laboratory as NRF's Returning Singaporean Scientist

08 January 2016, Singapore – Temasek Life Sciences Laboratory (TLL) is pleased to congratulate Professor Chua Nam Hai on being a recipient of the National Research Foundation (NRF) Singapore's Returning Singaporean Scientists Scheme. This award will enable Prof Chua to establish his research activities in TLL, which will have both strategic and economic relevance to Singapore. With his extensive scientific and industry experiences in the plant science and agritechnology fields, his new research program in TLL could potentially impact Singapore's food security R&D as well as in the area of synthetic biology and enzyme engineering.

In Singapore, the limited primary production of key food items such as leafy vegetables and crops, coupled with the effects of climate change and increasing population growth, has resulted in an urgent need to develop R&D solutions and innovations for improved agricultural food varieties that have better yield, more nutritious and higher tolerance to environmental stresses. Prof Chua endeavors to contribute to Singapore's food sustainability landscape with a research program that aims to open up new strategies for designing crop plants that have enhanced stress tolerance which are essential to strengthen Singapore's food security as it helps to create sustainability in food supply resilience.



In addition, his research program will focus on the development of valuable chemical compounds from plants which are of great economic importance as they are widely used in flavours, fragrances, cosmetics, pharmaceuticals and agricultural chemical industries.

In his scientific career to date, Prof Chua has nurtured more than 180 post-doctoral fellows from 24 countries, many of whom are currently global leaders in their respective field and making significant contributions to science and the industry. It is Prof Chua's belief that while it is important to develop talents and leaders in the academia arena, it is equally vital to develop global scientific leaders who are conversant with the industry so that they can interface with global companies and drive public-private sector collaboration for industry-relevant technologies to be adopted and implemented. Prof Chua hopes to help develop a pool of Singaporean talents in the field of plant sciences and agritechnology and transform them into scientist innovators-entrepreneurs.

Mr Peter Chia, Chief Operating Officer of TLL says, "Prof Chua is one of a very select group of individuals that have successfully excelled in both science and scientific commercialization. Although he is based in the US, he has always maintained strong linkages with the developments of the life sciences in Singapore. This award is a timely recognition of his unique ability to inspire and develop younger scientific leaders and we look forward to having him play an even greater and direct role with his return to Singapore in harnessing the power of the life sciences to benefit communities."

Mr Teo Ming Kian, Chairman of TLL says, "It is our greatest privilege to have Prof Chua back here with us at TLL and in Singapore. His credentials and accomplishments are widely-recognized by scientists and industry around the world. His thought leadership in the field of plant science is highly sought after by many countries and he is a role model for many young scientists where the focus is not just on great science but impactful



science. I believe that his ability and dedication will add tremendous value to the development of our R&D capability and help to bring forth not only breakthrough science but also intellectual property that will have significant impact on lives and societies. We hope his return will spur many more accomplished Singapore scientists and researchers to come back to Singapore."

Enclosed:

Profile of Prof Chua Nam Hai

About Temasek Life Sciences Laboratory (TLL)

TLL, a beneficiary of Temasek Trust, is established in 2002 to undertake cutting-edge research in molecular biology and genetics utilising a broad range of model organisms. It is affiliated with the National University of Singapore and Nanyang Technological University. The research institute aims to create an environment which can attract the brightest young minds worldwide, support their research and challenge them to be leaders in their own fields.

For more information, please visit <u>www.tll.org.sg</u>

About Returning Singaporean Scientists Scheme (RSSS)

The Returning Singaporean Scientists Scheme, announced in October 2013, seeks to attract established overseas based Singaporean scientific leaders back home to conduct research in areas important to the growth of Singapore and to assume leadership and mentoring roles in the R&D ecosystem, thereby strengthening the Singaporean talent core.



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Nam-Hai Chua, Ph.D

Andrew W. Mellon Professor and Head, Laboratory of Plant Molecular Biology
The Rockefeller University
Returning Singaporean Scientist (2016)

Nam-Hai Chua is currently Andrew W. Mellon Professor and Head of Plant Molecular Biology, The Rockefeller University. Professor Chua is world-renowned for his important and significant contributions to Plant Biology and Biotechnology, in particular, the discovery of the 35S promoter which is commonly used in basic plant biology research and also to express trait genes in many transgenic crops.

For these research accomplishments, he has been elected as a Fellow of the Royal Society, United Kingdom (1988), an Academician of the Academia Sinica, Taiwan (1988) and a Foreign Academician of the Chinese Academy of Sciences, China (2006). In recognition of his important contributions to plant biology, Professor Chua was awarded the International Prize in Biology by the Japan Society for Promotion of Science in 2005, the Einstein Professorship of the Chinese Academy of Sciences (2007) and the Lawrence Bogorad Award for Excellence in Plant Biology Research (2010) by the American Society for Plant Biologists.

Professor Chua has served and continues to serve on advisory boards of governmental organizations, academic institutions and multinational companies in 17 countries. From 1983 to 1990, he was a member of the Scientific Advisory Board, Biotechnology Development Center of the China State Commission of Science and Technology. He has been appointed as an Honorary Research Professor of several research institutes of the Chinese Academy of Sciences and the Chinese Academy of Agricultural Sciences. He is currently the Deputy Chairman of the Management Board of Temasek Life Sciences



Laboratory (Singapore) and the Chairman of its Research Strategy Committee, where he plays an active role in translating research outputs into application.

Professor Chua has served on Board of Directors of several public companies: DNAP Holdings (NASDAQ; 1996-1998); Delta and Pine Land (NYSE, 1993-2007; Technology Committee); Arpida Ltd (Swiss Stock Exchange; 2004-2008; Chairman, Compensation committee); and Amyris (NYSE, 2012-2015; Leadership Development and Compensation Committee). He has been associated with Wilmar International Ltd (Singapore) as Chief Scientific Advisor since September 2007.

In addition to having served as a consultant to Monsanto Company, DUPONT, and Sumitomo Chemical Corporation, Professor Chua has also advised on various biotechnology companies, biotechnology venture capital funds and patent law firms on biotechnology-related matters.

He has served on the editorial board of 27 international journals, including Journal of Molecular Biology, Genes and Development and Current Opinions in Biotechnology.

During his tenure at The Rockefeller University, Professor Chua has trained more than 180 post-doctoral fellows from 24 countries. As a co-author of more than 440 publications, he is amongst the most-cited animal and plant scientists world-wide. He is a co-inventor of more than 25 issued patents and patent applications, many of which have been licensed to Monsanto Company, DUPONT, Sumitomo Chemical Corporation, Zeneca Agrochemicals and Sangamo Biosciences.

Professor Chua received his BS from the University of Singapore and AM and PhD from Harvard University as a Fulbright Scholar.



Prof Chua's laboratory has previously identified a number of long noncoding RNAs (IncRNAs) that are highly responsive to biotic and abiotic stresses in plants. He will now investigate the functions of these IncRNAs in transcriptional regulation and in epigenetic modification of plant genome during stress responses. The elucidation of the mechanism of action of these IncRNAs will open up new strategies to develop crops with enhanced drought tolerance and crops with more efficient utilization of fertilizers.