



NANYANG
TECHNOLOGICAL
UNIVERSITY
SINGAPORE



PROFESSOR SUBRA SURESH

President-Designate

Inaugural Distinguished University Professor

Professor Subra Suresh is an eminent American scientist, engineer and entrepreneur with a strong record of distinguished and impactful leadership in academia, industry and government. He will begin his tenure as President of NTU from 1 January 2018.

He was the ninth President of Carnegie Mellon University (CMU) from 2013 to 2017. Before that, he served as Director of the US National Science Foundation (NSF) from 2010 to 2013, and Dean of the School of Engineering and Vannevar Bush Professor of Engineering from 2007 to 2010 at the Massachusetts Institute of Technology (MIT), where he was a faculty member for two decades.

Prof Suresh's research in materials science and engineering, mechanics and biomedicine has helped to shape disciplines and technologies at the intersections of engineering, science and medicine. In recognition of his stellar academic achievements, the NTU Board of Trustees appointed him the inaugural **Distinguished University Professor**. Newly set up in 2017, this Professorship is awarded for extraordinary scholarly achievement, typically across multiple disciplinary boundaries, and it is the highest academic recognition at NTU.

National leadership in science

Prof Suresh was nominated by former United States President Barack Obama in 2010 to lead the US National Science Foundation as Director. He was unanimously confirmed by the US Senate.



In conversation with former US President Barack Obama: Prof Suresh at the Oval Office in the White House during his term as the Director of the US National Science Foundation.

“We have been very fortunate to have Subra Suresh guiding the National Science Foundation... [He] has shown himself to be a consummate scientist and engineer – beholden to evidence and committed to upholding the highest scientific standards. He has also done his part to make sure the American people benefit from advances in technology, and opened up more opportunities for women, minorities and other underrepresented groups. I am grateful for his service.”

Former US President Barack Obama

As Director, he oversaw an annual budget of US\$7 billion that supports fundamental research and innovation in all fields of science and engineering and related education in more than 2,000 institutions across the US and in a number of research facilities across the globe from the Arctic to Antarctica.

Prof Suresh established the NSF Innovation Corps (I-Corps) programme aimed at translating research discoveries into industrial practice. Launched in 2011, this effort was praised by Harvard Business Review for using “lean startup techniques to turn scientists into entrepreneurs”. It has since been replicated by a number of government organisations in the US and abroad.

At NSF, Prof Suresh also helped to establish the Global Research Council and the Graduate Research Opportunities Worldwide programme. All of his global initiatives at NSF involved strong links to Singapore.

“I have had the pleasure of working with Professor Suresh in his various leadership roles as the Dean of Engineering at MIT, Director of NSF, President of CMU and Jury Chair in Engineering for the Infosys Prize. In these interactions, I have closely observed his efficient execution of novel ideas, such as the creation of the NSF Innovation Corps and the BrainHub at CMU. His rich experience across the world and visionary leadership will serve NTU very well in Asia and on a global scale.”

Kris Gopalakrishnan, Co-founder of Infosys and Chairman of Axilor Ventures, Bangalore, India

Connections to Singapore

Prof Suresh has had numerous high-level interactions with Singapore for nearly a quarter century.

He has served as a consultant to the National Science and Technology Board and the Advisory Boards or Councils of institutes under the Agency for Science, Technology and Research (A*STAR), Singapore's lead public agency that drives research to advance discovery and innovation, and other government bodies. He was also on the Boards of several faculties within the National University of Singapore (NUS), where he was the inaugural Tan Chin Tuan Centennial Chair from 2006 to 2010.

Prof Suresh was the principal faculty from MIT who led the formation of the Singapore-MIT Alliance for Research and Technology (SMART), established in 2007 as the first centre in Singapore's international research campus and innovation hub, the National Research Foundation's Campus for Research Excellence and Technological Enterprise (CREATE). In this capacity, he worked closely with the MIT and Singapore research communities, and crystallised and presented the vision for the SMART centre and its role in the CREATE campus in July 2006 to the Research, Innovation and Enterprise Council (RIEC), chaired by Singapore's Prime Minister, Lee Hsien Loong.

“A world-class university demands a leader with vision, global stature, and a thorough understanding of the environment in which it operates, and of the larger international backdrop that the university and Singapore fit into. Professor Suresh more than matches all these criteria.

He understands the Singapore higher education and research systems, as well as those in North America, Europe, India and China, having actively engaged with various public and private agencies and boards, and as a member of a number of national academies of science and engineering. He is an educator, scientist, advisor, inventor, entrepreneur and leader all rolled into one.”

Koh Boon Hwee, Chairman of NTU Board of Trustees, Chairman of Agilent Technologies, and former Chairman of Singapore Airlines and DBS Bank

His scholarly work led to a number of research articles in leading international journals in partnership with colleagues from NUS and NTU.

“After an intensive international search, the Board of NTU has decided on Professor Suresh. He is a globally recognised leader in academia. Professor Suresh has 25 years of close ties with Singapore, having worked with NTU, NUS and the National Research Foundation, as well as served on the International Advisory Panels of A*STAR and Ministry of Education. He is also a member of the Education Ministry's Academic Research Council that reviews research proposals from our local universities.”

Education Minister Ong Ye Kung, Singapore

Leadership in industry interactions

Prof Suresh is currently an independent Director of HP Inc, California. He is also a member of the Science, Technology and Innovation

“I was thrilled to learn that Subra, one of the world's greatest academic leaders, was tapped to spearhead one of the world's greatest universities. His incredible depth and breadth of experience, academic and practical brilliance, leadership and charisma make him the perfect choice to usher in the next exciting chapter in NTU's extraordinary journey. He is an inaugural and highly valued member of the HP Inc Board, and we are thrilled to have his ongoing directorship on our board.”

Dion Weisler, Chief Executive Officer of HP Inc, Palo Alto, California

Council appointed by the CEO of the Munich-based multinational company, Siemens AG, and a Senior Adviser to Singapore's Temasek International Pte Ltd. He has previously served as a Director of LORD Corporation (a North Carolina-based private company offering technology products and services around the globe) and several nonprofit organisations in the US and overseas.

“Professor Suresh has been a member of the Siemens Innovation and Technology Council for the past two years. This council of eminent thought leaders is providing valuable input to me and to the Siemens Board on future directions in technology and business. I'm delighted that Professor Suresh will become the President of NTU.”

Joe Kaeser, Chief Executive Officer of Siemens AG, Munich, Germany

He has consulted widely and globally for multinational corporations, technology start-ups, governments, nonprofits and research organisations.

“Professor Suresh's visionary leadership in creating the Global Research Council and the Global Learning Council has already produced significant benefits to the international community. His launch of the NSF Innovation Corps has been widely recognised and emulated by organisations in the US and abroad, and it has inspired thousands of technologists and innovators. Not only NTU and Singapore, but the entire global academic community will benefit from his new leadership role at the helm of a very dynamic and rapidly advancing university in a sophisticated city state.”

Matthias Kleiner, President of the Leibniz Association, Chair of the Global Learning Council, and former President of the German Research Foundation (Deutsche Forschungsgemeinschaft)

In recognition of his “outstanding accomplishments in technological innovations that contribute broadly to the development of industry and benefit society”, the Industrial Research Institute (IRI) selected Prof Suresh for its highest honour, the IRI Medal, in 2015.

Scholar and innovator

As a researcher, Prof Suresh has studied the properties of engineered and biological materials, and their connections to human diseases. In addition to more than 300 published research articles, he has co-authored 25 patent applications and three books which have been translated into Chinese and are used as textbooks or research monographs. He was a member of an advisory group of industry leaders to the Governor of Guangdong Province from 2014-16.

“Subra Suresh is not only the archetype of a visionary international scholar and academic leader but has also been a charismatic entrepreneur. The time that we spent together combining Caltech and MIT technologies to create our microelectronics reliability start-up company, Oraxion Diagnostics, in Pasadena and Silicon Valley was one of the most enjoyable in my professional life.”

Ares Rosakis, Professor and former Dean of Engineering and Applied Science, California Institute of Technology

Prof Suresh holds the distinction of being the only university president elected to all three US national academics of Sciences, Engineering and Medicine. He has also been elected to the American Academy of Arts and Sciences and the National Academy of Inventors.

He is an elected member of 15 science and/or engineering academies based in the US, China, France, India, Sweden, Germany, Italy and Spain. He has 12 honorary doctorates from universities around the world including Zhejiang University (China), Ecole Polytechnique Fédérale de Lausanne (Switzerland), Royal Institute of Technology (Sweden), Warwick University (UK), St Petersburg Polytechnic University (Russia), Dartmouth College (USA) and his alma mater, the Indian Institute of Technology, Madras.

“Professor Suresh has educated and closely collaborated with many students, faculty and researchers from China for more than 30 years. He was awarded an honorary doctorate in 2013 by Zhejiang University (below) and elected as a foreign member of the Chinese Academy of Sciences in 2013. Professor Suresh’s move to Asia is great news for global research collaborations.”

Yang Wei, Professor and President of the National Natural Sciences Foundation, China



Over the years, Prof Suresh has held numerous professorships for visiting appointments at universities around the world. His work in nanobiomechanics garnered him a spot in MIT’s Technology Review magazine in 2006 as a Top 10 researcher “whose work will have a significant impact on business, medicine or culture”.

He was also chosen by Science Watch/Thomson Reuters as one of the top 100 most impactful materials scientists (based on publication citation impact) during the decade 2000-2010. In 2011, he was awarded the Padma Shri, one of the highest civilian honours, by the President of India.

Academic leadership

At Carnegie Mellon, Prof Suresh launched a historic campus infrastructure development effort that included the creation of a new quadrangle to house the largest academic building on campus, and established the Swartz Centre for Entrepreneurship. Under his leadership, these initiatives were supported by a continuous four-year period of the most successful fundraising years in CMU’s history, which also saw the largest single gift from an alumnus, the largest

corporate and international gift, the largest patent settlement, and an increase of 55% in the university’s total endowment. He worked with the university community to secure more than US\$200 million in new permanent endowment specifically for Presidential Fellowships and Scholarships, a programme he established in 2014 to provide financial support to top students.

During President Suresh’s tenure, CMU assembled the most diverse senior leadership team in its history; established a strategic plan through an inclusive campus-wide process that placed particular emphasis on enhancing the campus experience as well as the health and wellness of students; recruited a record proportion of outstanding female first-year undergraduate students in computer science and engineering (at levels several times greater than the average for US universities in these areas where women have been traditionally underrepresented); and founded and chaired the Global Learning Council as an international forum to help improve learning outcomes through technology.

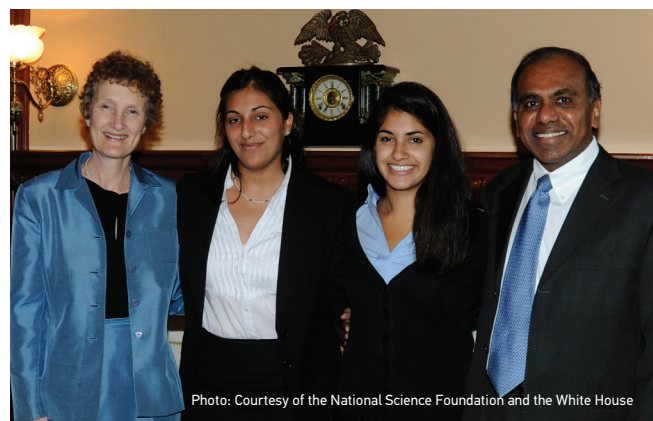
Early career

Born in India, Prof Suresh graduated from high school at 15 and received his undergraduate degree in first class with distinction from the Indian Institute of Technology (IIT) in Madras, which recognised him as a Distinguished Alumnus in 1997. He received a master’s degree from Iowa State University, and went on to complete his doctorate in mechanical engineering from MIT in just two years.

Following postdoctoral research at the University of California, Berkeley, he joined the faculty of engineering at Brown University in 1983. In 1985, former US President Ronald Reagan honoured him with the Presidential Young Investigator Award. Prof Suresh returned to MIT in 1993 as the R P Simmons Professor and served as Head of Department of Materials Science and Engineering from 2000 to 2006.

Family

Prof Suresh is married to Mary Delmar Suresh, a public health consultant. They have two daughters, Nina, a medical doctor, and Meera, a global health professional at a non-profit organisation in the US.





ABOUT Nanyang Technological University, Singapore

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in the colleges of Engineering, Business, Science, and Humanities, Arts and Social Sciences, and its Interdisciplinary Graduate School. NTU's Lee Kong Chian School of Medicine was established jointly with Imperial College London.

NTU was placed 11th in the world and the best in Asia in the Quacquarelli Symonds (QS) World University Rankings in 2017. It was again placed the world's best young university (under 50 years old) by QS for the fourth consecutive year in 2017. In addition, NTU was named the world's fastest rising young university by Times Higher Education in 2015.

NTU's campus is frequently listed among the Top 15 most beautiful university campuses in the world and has 57 Green Mark-certified (equivalent to LEED-certified) buildings, of which 54 are certified Green Mark Platinum.

NTU is home to world-class autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI), Energy Research Institute @ NTU (ERI@N) and Institute on Asian Consumer Insight (ACI).

Besides its 200-ha (500-acre) lush green campus in the western part of Singapore, NTU also has a second campus in the heart of Novena, Singapore's medical district.



Photo: Courtesy of Hufton and Crow





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