

# 5 Things You Need To Know About Subra Suresh, NTU's Incoming President

Nanyang Technological University Singapore will welcome a new president in January 2018. Here's five things you need to know about Professor Subra Suresh, a much-feted engineer and prolific author.



*AsianScientist (July 21, 2017)* - Leadership renewal is a critical process in any organization. Bringing a fresh perspective to Singapore's Nanyang Technological University (NTU) is [Professor Subra Suresh](#), an internationally-recognized engineer and entrepreneur who has been appointed its fourth president. Suresh takes over the reins from Professor Bertil Andersson, who has been president of NTU since 2011.

Having donned many hats in senior management positions at universities and agencies across the globe, Suresh brings with him considerable experience in higher education and scientific leadership. These are the five things you need to know about NTU Singapore's incoming president.

## **1. He is an engineer by training**

Suresh received his doctorate in mechanical engineering from the Massachusetts Institute of Technology (MIT) in 1981 and has done extensive research on the mechanical behavior of materials. He is the author of more than 300 research papers (cited more than 26,000 times in total) and has 25 patents to his name. He has also written three books, including [Fatigue of Materials](#), which has been translated into Chinese and Japanese.

Groundbreaking research often emerges at the interface of two or more scientific disciplines. Noticing this trend early on, Suresh made it his mission to foster interdisciplinary research in each stage of his illustrious career, applying his expertise to scientific fields beyond mechanical engineering. Biomaterials, nanotechnology and the fundamental mechanical forces that govern human disease states have caught his interest in recent years.

Attesting to his broad contributions to the scientific community, Suresh is one of only 19 American scientists elected to all three national academies in the US—the national academies of science, engineering and medicine.

## **2. He is an entrepreneur and industry expert**

Beyond academic research, Suresh also sought to commercialize his ideas into useful innovations. In 2002, he co-founded the company Oraxion Diagnostics with Professor Ares Rosakis, who then was Caltech's dean of engineering.

Oraxion Diagnostics provided measurement systems for stress monitoring and quality control in the semiconductor industry. The California-based startup received [US\\$8 million in venture funding in 2004](#) before being acquired by UltraTech, a leading supplier of equipment to semiconductor fabrication plants, in 2006.

Suresh's insight is highly sought after by industry. He is currently a member of Siemens AG's Science, Technology and Innovation Council and holds the appointment of independent director at US technology company Hewlett Packard Incorporated, and Battelle, an Ohio-based company that helps businesses translate scientific knowledge into innovative applications.

## **3. He led the NSF under the Obama administration**

When the time came for then-US president Barack Obama to appoint his top science official in June 2011, he [personally handpicked Suresh](#) to lead the National Science Foundation (NSF), an independent federal agency that oversees science and engineering research in the US. Suresh's nomination was met with unanimous approval by the US Senate in September 2011.

During his tenure as NSF director from 2010 to 2013, he managed a US\$7 billion annual budget and established initiatives such as the Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) initiative, the Graduate Research Opportunities Worldwide (GROW) initiative, and the NSF Innovation Corps (I-Corps). These initiatives bolstered blue-sky research and innovation across all science and engineering sectors in the US and abroad.

#### **4. He supports women in STEM disciplines**

Although women's rights and gender equality in the US have improved significantly in the past five decades, science and engineering remain as male-dominated fields. Being the [father of two daughters](#), Suresh has made the push for more equal gender representation in science, technology, engineering and mathematics (STEM) disciplines an enduring personal agenda. The fruits of his labor can be seen in the universities and institutions he has led over the years.

When Suresh served as MIT's Dean of engineering from 2007 to 2010, MIT saw a [record high number of women in its faculty of engineering](#). As the director of the NSF, he spearheaded the NSF's Career-Life Balance Initiative which sought to increase 'placement, advancement and retention of women in STEM disciplines.'

At Carnegie Mellon University where Suresh served as president from 2013 to 2016, women now account for [nearly 50 percent of the freshman intake](#) for computer science and engineering courses. This is more than double the US national average, which has stagnated at 20 percent in recent years.

#### **5. He has longstanding ties with Singapore**

Suresh has been intimately involved in sculpting Singapore's research landscape for the past 25 years. He was a consultant to the National Science and Technology Board (NSTB) and continued as an advisor when NSTB was renamed the Agency for Science, Technology and Research (A\*STAR).

In 2006, Suresh served as the principal faculty coordinator from MIT and helped to create the Singapore-MIT Alliance for Research and Technology (SMART) center, which is MIT's first R&D center outside of the US. He played a key role in crystallizing the vision for the SMART center and encouraged close collaborations between researchers from MIT and Singapore.

Both NTU and the National University of Singapore (NUS) have in the past looked to Suresh for insights on how to strengthen their research and pedagogy. Suresh held the inaugural Tan Chin Tuan Centennial Chair for visiting appointments at NUS from 2006 to 2010 and worked closely with NUS and NTU researchers on infectious diseases from 2007 to 2010.

Clearly, Suresh is no stranger to the research climate and higher education sector of Singapore. As he inherits the mantle of NTU Singapore's presidency on January 1, 2018, the world will watch with keen interest how he stewards the top university in Asia to greater heights.