Nanyang Technological University (NTU Singapore) is a young, research-intensive university that is rising in global rankings. Ranked first among top Asian universities in terms of the Normalised Citation Impact (Thomson Reuters InCites 2014) and also in field-weighted citation impact (Elsevier SciVal 2014), NTU has firmly established itself as a powerhouse of research and innovation. It also made a significant leap from 35th place in 2012 to 12th in 2013 in the Nature Publishing Index Asia-Pacific ratings, which are based on the number of primary research articles published in Nature-branded journals. This impressive performance is largely due to NTU attracting both ambitious young researchers and established, high-profile scientists.

HOT RESEARCH
Among the top names at NTU Singapore is Professor Zhang Hua (pictured above second from right), an expert in synthesising and fabricating nanomaterials and carbon sheets such as graphene for use in biosensing, clean energy, water treatment and a host of other applications. With a consistent record of highly cited research over the last decade, Zhang received special mention as one of the world’s top 17 scientists in the Thomson Reuters 2014 report on The World’s Most Influential Scientific Minds 2014. “These individuals,” the report states, “are influencing the future direction of their fields, and of the world!” In 2013 alone, Zhang authored 16 of the highest cited papers in the field of materials science.

Zhang is one in a long list of superstar scientists at NTU. Led by world-renowned scientist and NTU President Bertil Andersson, winner of the prestigious Wilhelm Exner Medal, NTU’s stellar faculty includes NTU Provost Freddy Boey, inventor of innovative biomedical devices; geneticist Stephan Schuster, who co-led the Mammoth Genome Project to sequence the genome of an extinct animal for the first time; Nikolay Zheludev, nanophotonics and metamaterials expert; structural biologist Daniela Rhodes FRS (pictured above far left), distinguished for her research on the structure of chromosomes; geologist and seismologist Kerry Sieh, who has studied earthquakes in the United States, Taiwan and Myanmar, and is addressing the possibility of another devastating quake in Indonesia. Since 2008, Sieh has headed the Earth Observatory of Singapore (EOS), one of two Research Centres of Excellence at NTU.

MANY FACETS OF SCIENCE
Singapore’s National Research Foundation and Ministry of Education established the Research Centres of Excellence programme in 2007 to attract leading researchers, boost graduate education and generate new knowledge in specific fields. Fulfilling this mission, the EOS is conducting fundamental research on the interrelated challenges of climate, governance and natural hazards associated with earthquakes and volcanoes.

One more national Research Centre of Excellence based at NTU, the Singapore Centre on Environmental Life Sciences Engineering, is researching microbial biofilms with the goal of improving environmental and public health.

These centres draw on NTU’s strengths in interdisciplinary research, with specific capabilities in sustainability, engineering and the life sciences. NTU is ranked 9th in the world for Engineering and Technology (QS World University Rankings 2014), and since 2005 the university has won SGD 1.3 billion in funding to address many facets of global sustainability, including water, energy, climate and public health.

NTU Singapore partnered with Imperial College London to set up the Lee Kong Chian School of Medicine, which welcomed its first cohort in 2013. This was Imperial’s first overseas foray. An important pillar of NTU’s life sciences cluster, the NTU medical school received SGD 400 million in philanthropic support at its inception. It complements the university’s strengths in environmental life sciences engineering, biological sciences and structural biology. Scientists affiliated with the school’s laboratories are studying the complex factors associated with metabolic, infectious, neurological and skin-related diseases.

In addition, strong links with companies such as BMW, Johnson Matthey, Rolls-Royce and Lockheed Martin ensure that NTU’s excellence in basic and applied research translates into highly relevant industry applications. With its well-established track record in working with the industry, NTU was ranked joint No. 1 globally in Industry Income: Innovation by Times Higher Education in the last two years.