

# 20 of world's top researchers from Singapore



(Clockwise from top left) Professor David Lou, Professor Ong Yew Soon, Professor Liu Jianjun and Associate Professor Liu Bin. PHOTOS: NANYANG TECHNOLOGICAL UNIVERSITY, NATIONAL UNIVERSITY OF SINGAPORE, GENOME INSTITUTE OF SINGAPORE

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## NUS, NTU and A\*Star staff make list of 3,000 most influential scientists

Carolyn Khew ✉ (mailto:karolyn@sph.com.sg)

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Singapore has had its best showing yet in a report which names the world's most influential scientists - those who have published the highest number of widely cited research papers.

In a sign that the Republic's research and development efforts are paying off, 20 Singapore scientists made it to a list of some 3,000 researchers mentioned in The World's Most Influential Scientific Minds 2015 report.

The report, released yesterday by the Intellectual Property (IP) and Science arm of Thomson Reuters, a media and information firm, assessed more than 120,000 papers published from 2003 to 2013.

Eleven of the Singapore scientists are from the National University of Singapore and eight are from the Nanyang Technological University. They hail from fields ranging from ecology to engineering.

A scientist from the Genome Institute of Singapore, under the Agency of Science, Technology and Research (A\*Star), rounds off the 20.

### Honours list

#### **PROFESSOR DAVID LOU, 37, NTU School of Chemical and Biomedical Engineering**

One of NTU's youngest full professors, Prof Lou has made breakthroughs in the areas of super capacitors and next-generation batteries.

The latest figure tops the previous high of 13 Singapore researchers in the 2014 report.

The United States and Britain have the highest number of scientists listed in the report, with nearly half of the scientists affiliated with US-based institutions.

Two NTU researchers - Professor David Lou and Professor Zhang Hua - also made it to the report's list of 19 "hot" researchers, for producing at least 14 widely cited papers from 2012 to 2014.

One of his research areas involves designing nanostructured materials such as electrodes which can store more energy for advanced batteries.

His papers have been cited about 7,500 times last year.

**PROFESSOR ONG YEW SOON, 43, NTU School of Computer Engineering**

The Singaporean is best known for his research in artificial intelligence and data analytics.

Prof Ong's work in this area has also helped develop action game Dark Dots Action, which was downloaded by over 448,000 players and named the top action game in countries including the United States and China.

His work also includes developing new computational methods to design aerodynamic parts for planes to fly more efficiently.

**ASSOCIATE PROFESSOR LIU BIN, 41, NUS Faculty of Engineering**

Prof Liu does research on organic nanomaterials for energy and biomedical applications.

She and her team developed quantum-dot-size organic nanoparticles for cell tracers.

This provides real-time tracking of cells and biomolecules for several weeks, among other capabilities, enhancing research in cell biology, disease diagnosis and treatment.

**PROFESSOR LIU JIANJUN, 52 Deputy Director of Research Programmes, Genome Institute of Singapore**

Prof Liu's research looks at variations in genes which help to explain why people are subject to different risks for a certain disease or why they respond differently to the same treatment.

**Carolyn Khew**

China.

Singapore's sterling showing comes after the Government announced a record \$19 billion last week for research and development over the next five years under its Research, Innovation and Enterprise Plan 2020.

Prof Lou and Prof Zhang, ranked eighth and 12th respectively, were the only scientists from Asia in a list dominated by experts from the Broad Institute of MIT and Harvard, a research institute in Massachusetts.

Thomson Reuters said the roughly 3,000 researchers are among the world's top 1 per cent most highly cited researchers.

It estimates that there are about nine million researchers in the world, who produce more than two million reports each year.

Mr Vin Caraher, president of Thomson Reuters IP and Science, said citations are "strong and reliable indicators of the work scientists judge to be most critical to ongoing global research".

This makes "the highly cited researchers and hottest researchers a true reflection of the individuals, institutions and nations that are driving the pace of scientific discovery", he added.

Professor Ho Teck Hua, NUS deputy president (research and technology), was pleased with how Singapore and NUS fared.

"Overall, this is a very encouraging development and it is the result of Singapore's strong and sustained investment in R&D over more than two decades," he said.

NTU's Provost, Professor Freddy Boey, said the report shows that it is home to world-class scientists doing cutting-edge research. Three of the NTU scientists named in the report worked in two speciality areas, showing the impact of their work in multidisciplinary areas.

"To solve the problems of the 21st century, we need scientists who are able to think out of the box, combine solutions from different disciplines, and are good in working and leading a diverse group of researchers," he said.

Prof Lou, 37, of NTU's School of Chemical and Biomedical Engineering, has done work in super capacitors and next-generation batteries, and published about 210 research papers since 2008.

He said he is happy to be listed, noting that this also reflected the popularity of the publication that a research's paper comes out in.

"Of course, it is also a measure of the reputation of individual researchers," said the Singapore permanent resident from