



Institute of
Bioengineering and
Nanotechnology

FOR IMMEDIATE RELEASE

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MEDIA RELEASE

IBN Executive Director Professor Jackie Y. Ying Elected Fellow of the U.S. National Academy of Inventors



December 13, 2017 – Professor Jackie Y. Ying, Executive Director of the Institute of Bioengineering and Nanotechnology (IBN) of A*STAR, has been named a Fellow of the U.S. National Academy of Inventors (NAI). This is the highest professional accolade bestowed to academic inventors who have demonstrated a prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development, and welfare of society.

Prof Ying is the first researcher based in Singapore to receive this recognition. She was selected a NAI Fellow for her outstanding contributions to innovative discovery and technology, patent inventions and licensing, significant impact on society, as well as support and enhancement of innovation.

“It is a great honor to be named a fellow of the U.S. National Academy of Inventors,” said Prof Ying. “Having gone to the same college as Thomas Edison, I was always inspired to be an inventor. To be able to make a societal impact through technological breakthroughs and innovations is the most exciting aspect of research.”

Prof Ying has over 180 primary patents and patent applications. 32 of her patents have been licensed to multinational and start-up companies for a diverse range of applications

A*STAR Outstanding Publications Award 2009, 2010, 2012, 2013, 2014, 2016 and 2017
A*STAR Patent Power Award 2009, 2010 and 2017
Singapore HEALTH Award (Platinum) 2012, (Gold) 2008 and 2010

A member of A*STAR's Biomedical Sciences Institutes (Co. Reg. No. 199702109N)

in nanomedicine, drug delivery, cell and tissue engineering, medical implants, biosensors, medical devices, diagnostics, drug screening, catalysis and battery. Her inventions have led to the founding of 11 spin-offs. One of the companies that she co-founded, SmartCells Inc., has developed a technology platform that is capable of auto-regulating the release of insulin therapeutic depending on the blood glucose levels. The company was acquired by Merck in 2010, with milestone-based aggregate payments in excess of US\$500 million to further develop this nanomedicine for clinical trials.

As the Executive Director of IBN, Prof Ying has been instrumental in establishing an interdisciplinary research environment that catalyzes cross-disciplinary innovations. IBN currently has an active portfolio of over 680 primary patents and patent applications. Over 130 of IBN's patents have been successfully licensed to multinational and start-up companies.

According to Professor Kenneth Smith, Edwin R. Gilliland Professor of Chemical Engineering (Emeritus) at the Massachusetts Institute of Technology (MIT) and Chair of IBN's Scientific Advisory Board, "Prof Ying has amassed an incredible record of scientific contributions that she has converted to important inventions and then to significant new commercial ventures. This talent was evident during her career as a faculty member at MIT but it has truly flowered since she assumed the role of Executive Director of IBN in Singapore. When she arrived, the Singaporean economy was not particularly entrepreneurial, but 13 new start-up companies have since been successfully spun out of IBN, and this achievement now serves as a role model for other research institutes and for other aspiring inventors."

"It has been very fulfilling to create an innovative culture at IBN. This promotes internal and external collaborations among the engineers, scientists and medical doctors, and encourages our students in the IBN Youth Research Program to pursue research careers that would make a significant impact to Singapore and globally. My next step is to establish an incubator to facilitate the seeding and growth of spin-off companies in the medtech and biotech sectors," shared Prof Ying.

Prof Ying has won numerous international awards for her inventions. She was selected as an Inaugural TR100 Young Innovator by *Technology Review*. She was named one of the "One Hundred Engineers of the Modern Era" by the American Institute of Chemical Engineers (AIChE) in its Centennial Celebration. Her team's invention on MicroKit received the 2011 Asian Innovation Silver Award from the *Wall Street Journal Asia*. She received the Crown Prince Grand Prize and the ASEAN New Invention and Innovation First Prize in the Brunei Crown Prince Creative, Innovative Product and Technological Advancement (CIPTA) Award. Prof Ying was the inaugural winner of the US\$500,000 Mustafa Prize "Top Scientific Achievement Award" in 2015 for her innovation in bio-nanotechnology.

NAI is a non-profit member organization comprising U.S. and international universities, and governmental and non-profit research institutes. It was founded in 2010 to recognize and encourage inventors with patents issued from the U.S. Patent and Trademark Office, enhance the visibility of academic technology and innovation, encourage the disclosure of intellectual property, educate and mentor innovative students, and translate the inventions of its members to benefit society.

The 2017 NAI Fellows are inventors on nearly 6,000 issued U.S. patents, bringing the collective patents held by all fellows to more than 32,000 issued U.S. patents. With the election of the 2017 class, there are now 912 NAI Fellows. The induction ceremony will be held on April 5, 2018 at the Seventh Annual Conference of the National Academy of Inventors in Washington, D.C., USA.

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About the Institute of Bioengineering and Nanotechnology (IBN)

The Institute of Bioengineering and Nanotechnology (IBN) is the world's first bioengineering and nanotechnology research institute. Established in 2003, IBN's mission is to conduct multidisciplinary research across science, engineering, and medicine for breakthroughs to improve healthcare and quality of life. IBN's research activities are focused on Nanomedicine, Synthetic Biosystems, Biodevices and Diagnostics, and Green Chemistry and Energy. The Institute has published over 1,300 papers in leading scientific journals, filed over 680 active patents and patent applications on its inventions, and established 13 spin-off companies. To nurture young research talents, IBN runs a Youth Research Program that offers students research attachment opportunities and exposure to biomedical research.

For more information on IBN, please visit www.ibn.a-star.edu.sg.

About the Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is Singapore's lead public sector agency that spearheads economic oriented research to advance scientific discovery and develop innovative technology. Through open innovation, we collaborate with our partners in both the public and private sectors to benefit society.

As a Science and Technology Organization, A*STAR bridges the gap between academia and industry. Our research creates economic growth and jobs for Singapore, and enhances lives by contributing to societal benefits such as improving outcomes in healthcare, urban living, and sustainability.

We play a key role in nurturing and developing a diversity of talent and leaders in our Agency and Research Institutes, the wider research community and industry. A*STAR oversees 18 biomedical sciences and physical sciences and engineering research entities primarily located in Biopolis and Fusionopolis.

For more information on A*STAR, please visit www.a-star.edu.sg.