

Curriculum Vitae Prof. Dr. Jackie Yi-Ru Ying



Name: Jackie Yi-Ru Ying

Born: 30 April 1966

Main areas of research: Nanotechnology, bioengineering, nanomaterial, biomaterials, biosystems

Jackie Yi-Ru Ying is a chemist who works in the area of nanotechnology. Her research focuses on the synthesis of nanostructured materials for applications in nanomedicine, antimicrobial agents, cell and tissue engineering, biosensors and diagnostics, and green chemistry and energy.

Academic and Professional Career

- since 2018 A*STAR Senior Fellow, NanoBio Lab, Singapore
- 2003 - 2018 Executive Director of the Institute of Bioengineering and Nanotechnology, Singapore
- 1992 - 2005 Professor of Chemical Engineering, Massachusetts Institute of Technology (MIT), USA
- 1991 PhD in chemical engineering, Princeton University, Princeton, USA
- 1988 Master in chemical engineering, Princeton University, Princeton, USA
- 1987 Bachelor in chemical engineering, Cooper Union, New York City, USA

Functions in Scientific Societies and Committees

- since 2017 Founder and Board of Directors, Cellbae Pte Ltd
- since 2016 Founder and Board of Directors, Astral Peptide Pte Ltd
- since 2016 Founder and Board of Directors, Astral Nanotec Pte Ltd
- since 2015 Founder and Board of Directors, GreenT Biomed Pte Ltd
- since 2015 Governing Board of the Mechanobiology Institute, National University of Singapore

since 2015 Scientific Advisory Committee, Centre for Research in Medical Devices (CÚRAM),
National University of Ireland Galway

since 2008 Adjunct Professor of Chemistry, National University of Singapore

since 2008 Editor-in-Chief of Nano Today

2008 - 2010 Founder and Board of Directors , Curiox Biosystems Pte Ltd

2003 - 2004 Founder and Board of Directors, SmartCells, Inc.

2003 - 2006 Scientific Advisory Board, SmartCells, Inc.

Honours and Awarded Memberships

2017 Fellow, US National Academy of Inventors

2016 Gano Dunn Award, The Cooper Union Alumni Association

2016 Fellow, Singapore National Academy of Science

2015 The Mustafa Prize “Top Scientific Achievement Award”

2015 Medal of Honor, The Academy of Sciences of Iran

2015 Fellow, American Association for the Advancement of Science (AAAS)

2015 College of Fellows, American Institute for Medical and Biological Engineering

2015 Brunei Crown Prince Grand Prize in Creative, Innovative Product and Technological Advancement

2014 Fellow, Royal Society of Chemistry (UK)

2013 Fellow, Materials Research Society

2012 International Union of Biochemistry and Molecular Biology (IUBMB) Jubilee Medal and Lectureship

2011 Asian Innovation Silver Award, Wall Street Journal Asia

2010 Singapore National Institute of Chemistry-BASF Award in Materials Chemistry

2008 Named as one of the “One Hundred Engineers of the Modern Era” by American Institute of Chemical Engineers (Centennial Celebration, 2008)

2005 Member of the German National Academy of Sciences Leopoldina

2004 - 2009 World Economic Forum Young Global Leader

2000 American Institute of Chemical Engineers Allan P. Colburn Award

1999 Technology Review Inaugural TR100 Young Innovator Award

1997 American Chemical Society Faculty Fellowship Award in Solid-State Chemistry

- 1996 Camille Dreyfus Teacher-Scholar Award
- 1995 David and Lucile Packard Fellowship for Science and Engineering
- 1995 American Ceramic Society Ross C. Purdy Award for the Most Valuable Contribution to the Ceramic Technical Literature
- 1995 Office of Naval Research Young Investigator Award
- 1992 National Science Foundation Young Investigator Award

Major Scientific Interests

Jackie Yi-Ru Ying is a chemist who works in the area of nanotechnology. Her research focuses on the synthesis of nanostructured materials for applications in nanomedicine, antimicrobial agents, cell and tissue engineering, biosensors and diagnostics, and green chemistry and energy. Her research is interdisciplinary in nature, with a theme in the synthesis of advanced nanostructured materials for biomaterial and catalytic applications.

Her laboratory has been responsible for several novel wet-chemical and physical vapor synthesis approaches that create nanocomposites, nanoporous materials and nanodevices with unique size-dependent characteristics. These new systems are designed for applications ranging from biosensors and diagnostics, nanomedicine and targeted delivery of drugs, cell culture substrates and biomaterials, in vitro toxicology and drug screening, pharmaceuticals and chemicals synthesis, to battery and fuel cells.