

PERSONAL INFORMATION

Name: Lay-Kee **Ang** (Ricky)
Nationality: Singaporean (Married with 2 children)
Address: Singapore University of Technology and Design
8 Somapah Road, Singapore 487372
Telephone: (65) 6499-4558; Fax: (65) 6779-5161
Email: ricky_ang@sutd.edu.sg

Fellow, IEEE (2022)

Top 2% Scientists (in Applied Physics) by Stanford University report (2021)

Fellow, UK Institute of Physics IOP (2020)

IEEE NPSS distinguished lecture (2018)

Singapore Public Administration Medal (Bronze) (2017)

EDUCATION

Ph.D. (Plasma Physics option), June 1999 , MSc June 1996

Nuclear Engineering and Radiological Sciences,

University of Michigan, Ann Arbor, MI 48109 USA

(Ranked as the #1 Graduate School in Nuclear Engineering in USA)

PhD Thesis: Laser-Surface Interaction: Energy Absorption and Surface Structures

Advisor: Prof. Y. Y. Lau

B.Sc., June 1994

Nuclear Engineering and Engineering Physics (now as Engineering and System Science)

National Tsing Hua University (NTHU), Hsinchu, Taiwan, R.O.C.

Special Certification

Microwave Linear Accelerators, by USA Particle Accelerator School, 1999

Certificate of MAGIC Particle-In-Cell code, by mission Research Corporation, 1997

LANL Director Postdoctoral Fellow, 9/1999 – 8/2001

Applied Physics division

Los Alamos National Laboratory (LANL), USA

Graduate Student Research Assistant, 9/1994 – 7/1999

Nuclear Engineering and Radiological Sciences (NERS)

University of Michigan, Ann Arbor, USA

SUTD PROFESSIONAL APPOINTMENTS

Dean, HOC Science, Mathematics, and Technology, SUTD 6/2018 – present

Ng Teng Fong Chair Professor, Director, SUTD-ZJU IDEA 6/2016 – present

Professor, Science and Math, EPD, SUTD 2016 – present

Acting Head, Engineering Product Development, SUTD 9/2017 – 6/2019

Director, Office of Graduate Studies, SUTD 1/2015 – 12/2017

SUTD PhD program Director 3/2012 – 12/2014

Associate Professor (tenured), EPD, SUTD 11/2011 – 2015

NTU PROFESSIONAL APPOINTMENTS

Visiting Associate Professor, NTU	11/2011 – 5/2013
Assistant and tenured Associate Professor, Division of Microelectronics School of Electrical and Electronic Engineering Nanyang Technological University (NTU), Singapore	9/2001 – 10/2011
Director, NTU-TUM MSc Progame (Microelectronics)	9/2009 – 6/2011
NTU Hall Fellow (Hall 2)	7/2005 – 10/2011
Associate Fellow, Institute of Advanced Studies, NTU	2007 – 2010
Adjunct Professor	4/2006 – 10/2011
Computational Electronics and Photonics (CEP) group Institute of High-Performance Computing (IHPC), A*STAR	

VISITING POSITIONS

Visiting Professor, National Central University, Taiwan	2010
Visiting Scientist, University of Michigan, USA	2007
Visiting Scientist, Los Alamos National Laboratory, USA	2003 – 2006, 2011

INDIVIDUAL AWARDS

Top 2% Scientists by Stanford U (1.04% in Applied Physics)	November 2021
Fellow, Institute of Physics, UK	June 2020
IEEE NPSS Distinguished Lecturer	Sept 2018
The Public Administration Medal (Bronze), Singapore	Aug 2017
SUTD Faculty Excellence Award (Professional Service)	Feb 2015
USA AFOSR Window of Science (WOS) Travel Award (4X)	7/2018, 11/2015, 1/2012, 3/2007
USA ONR Global Visiting Scientist Award (2X)	7/2017, 11/2009
American Physical Society DPP annual meeting, Invited Speaker	2005, 2012
Finalist, 2010 NTU-EEE Teaching Excellent Award	June 2010
World Knowledge Dialogue (WKD) Young Scientist Award	Sep 2006
LANL Director Postdoctoral Fellowship	1999 to 2001
Excellent Foreign Student Award by Taiwan, R.O.C.	1991 and 1993
Outstanding Academic Award by NTHU, Taiwan, R.O.C.	1991 and 1993

GROUP Members (PhD students and postdocs) AWARDS

International level

IEEE NPSS PSAC Igor Alexeff Outstanding Student: Mei Er Pan (PhD)	Nov 2020
IEEE NPSS Graduate Fellowship: Shijun Liang (PhD)	March 2016
IEEE IVNC Shoulder-Gray-Spindt award: Shijun Liang (PhD)	July 2015
OCPA-APS best poster award-first in plasma: Yingbin Zhu (PhD)	June 2014
OCPA-APS best poster award-third in photonics: Kelvin Ooi (PhD)	June 2014
IEEE NPSS Graduate Fellowship: Yingbin Zhu (PhD)	April 2014
IEEE ICOPS Best paper award (finalist): Wu Lin (PhD)	June 2007

Local or University level awards

SUTD Best PhD Dissertation Award: Shijun Liang (PhD)	Oct 2018
SUTD Research excellent award (#1): Yee Sin Ang (Postdoc)	July 2017
Industry Award, SUTD industry workshop: Shijun Liang (PhD)	July 2017
Industry Award, SUTD industry workshop: Huang Wei (PhD)	July 2017
Institute of Physics Singapore best poster award: Yee Sin Ang (postdoc)	March 2016
SUTD Research excellence award (top 3): Shijun Liang (PHD)	July 2016

PROFESSIONAL MEMBERSHIPS, EDITORSHIPS, ADVISOR BOARD

Fellow	IEEE (NPSS, EDS)	1995 – present
Fellow	UK Institute of Physics	2000 – present
Member	American Physical Society (APS), DPP	1996 – present
Committee H	URSI (UNION RADIO-SCIENTIFIQUE INTERNATIONALE)	2017 – present
Senior member	Institution of Engineers Singapore (IES)	2017 – present
Jury Panel	2022 Falling Walls (Physical Science)	2022
Editor Board	IOP Nano Express journal	2020 – present
Guest Editor	IEEE Transaction on Plasma Science	2016 – present
Editor Board	MPDI – Plasma journal	2017 – 2018
Editor board	The Open Journal of Plasma Physics	2007 – 2015
ExCom member	IEEE NPSS PSAC	2020 – present
Chair	IEEE NPSS Singapore chapter	2022 – present
Vice chair / others	IEEE NPSS Singapore chapter	2015 – 2021
Founding Chair	IEEE NPSS Singapore chapter	2013 – 2014
Advisor Board	School of Math and Science, Singapore Poly	7/2019-present
Advisor Board	School of MAE, Singapore Poly	7/2012 – 6/2021

SUTD UNIVERSITY SERVICES (appointed by President or Provost)

MOE University Engineering Scholarship Interview (for Poly)	May – June 2020
Aviation Studies Institute (ASI) Council, SUTD and CAAS	4/2019 – present
SUTD Short Immersion Trip committee	3/2019 – present
SUTD-LTA Transport Research Centre Exco member	4/2018 – present
MOE START Representative for SUTD	2016 – present
Singapore Science and Engineering Fair Steering Committee	2017 – present
Learning and Research Governance Sub-Committee under IT	2/2018 – present
Advisory committee for Library and information Service	6/2015 – 5/2019
SUTD hall fellow, Blue stair-case student hostel	5/2012 – 12/2014

CONFERENCE ORGANIZATIONS

Role	Conference
Technical Committee	IEEE conference on Plasma Science (ICOPS 2020)

(TA3)	Singapore
Technical Committee (TA1.1)	IEEE Conference of Plasma Science (ICOPS 2019) Orlando Florida
Judging committee	AAPPS-DPP U40 Young Research Award
International Advisory Committee	Asian-Pacific Symposium of Plasma and Terahertz Science and Technology (25-28 Sept 2018)
Programme committee	IEEE Nanotechnology Materials and Devices Conference (NMDC), Singapore (2 – 4 Oct 2017)
International Committee	IEEE International Conference on Plasma Science, Atlantic City, New Jersey, USA (21-25 May 2017)
Plasma Program committee	OCPA9, Beijing, China (17 – 20 July 2017)
International committee	EMN Open Access week – Energy Materials Nanotechnology, Chengdu, China (22-25 Sept 2015)
International Committee	IEEE International Conference on Plasma Science, Washington DC USA (25-29 May, 2014)
Session chair (Vacuum Microelectronics)	IEEE Pulsed power and Plasma Science, San Francisco, CA, USA (16-21 June, 2013)
Session chair (High Power Microwaves)	IEEE International Conference of Plasma Science, Albuquerque, NM, USA (17-22 June, 2007)
co-Chairman Local organizing committee	The International Workshop on New Trends in Biomolecular Modeling, NTU-Institute of Advanced Studies, Singapore (March 15-16, 2007)
Member Local organizing committee	The International Workshop on Spintronics, Singapore (May 8-12, 2006)
Session co-chair (Modeling of Nanoelectronics)	NanoSingapore 2006 - IEEE Conference on Emerging Technologies – Nanoelectronics, Singapore (Jan 2006)

SUMMARY of RESEARCH

His broad research interests are in the development of theoretical scaling laws and models for a wide range of topics in Applied Physics. He is one of pioneers in developing the quantum scaling law for Child-Langmuir law and new electron emission law (thermionic, field and photo-emission) for novel two-dimensional (2D) materials and operating at ultrashort pulse regime. His current research projects are electron emission for plasma physics, charge injection of electrical contacts, quantum-materials based electronics and photonics, AI-based design and fractional modeling. His research projects not only funded from Singapore, but also from USA Defense (AFOSR-AOARD, ONR-Global). He is a fellow of IEEE, a fellow of UK Institute of Physics, and IEEE NPSS Distinguished Lecturer.

More information on his research and group members can be found in his research group website: https://people.sutd.edu.sg/ricky_ang/