

## 國立清華大學第 9 屆傑出產學研究獎得獎人簡介



### 電機工程學系 張孟凡特聘教授

張教授以「元件、電路互動」為方法，研究下世代記憶體、低功耗記憶體、非揮發性邏輯與記憶體內運算電路設計，近 4 年發表 49 篇跨微電子三大次領域(元件、電路與 EDA)頂尖會議論文(25 篇 ISSCC、9 篇 IEDM、1 篇 DAC、14 篇 VLSIC)、38 篇 IEEE 期刊論文、並獲得 20 個美國專利。為全世界近 4 年於 ISSCC (top-1 晶片領域頂尖會議)之記憶體領域發表最多篇論文之學校團隊、已建立世界級記憶體研究團隊。

張教授近 4 年共主持跨校共 27 件產學合作研究計畫，研究聚焦於記憶體內運算電路(Computing-in-memory, CIM)包含非揮發性記憶體內運算電路與揮發性記憶體內運算電路。與世界級半導體公司產學合作記憶體內運算電路之研究(台積電、聯發科、聯詠、M31、Qualcomm 等)。多項技術已發揮產業效益。

張教授研究成果獲國際肯定，目前擔任 IEDM、ISSCC 等頂尖會議之程序委員，並為 IEEE T-VLSI 及 IEEE T-CAD 期刊之副編輯，亦擔任 IEEE Nanotechnology council 之管理委員(AdCom), IEEE CASS 的 Nanotechnology and Giga Systems 委員會副主席(Chair Elected),及 IEEE CASS Distinguish Lecture。

張教授熱心服務，擔任科技部微電子學門召集人(2018-2020)、科技部半導體射月計畫主軸負責人(2018-2022)，智慧電子國家型科技計畫(2011-2016)與智慧電子橋接計畫(2016-2017)之副執行長，IEEE Taipei Section 第 21 屆(2017-2018)與 20 屆(2015-2016)理事、IEEE SSCS Taipei Chapter 主席等。亦曾獲得科技部傑出研究獎 2 次、有庠科技獎、中國電機工程學會傑出電機工程教授獎、旺宏金砂獎等肯定、國際電機電子工程學會(IEEE)院士。

Dr. Chang is a full Professor in the Dept. of Electrical Engineering of National Tsing Hua University (NTHU), Taiwan. Dr. Chang obtained considerable practical experience before joining NTHU in 2006, having spent more than 10 years working in

industry.

Between 1997 and 2006, Dr. Chang worked in the development of SRAM/ROM/Flash macros/compiler at Mentor Graphics (New Jersey, US), TSMC (Taiwan), and the Intellectual Property Library Company (Taiwan). His research interests include circuit design for volatile and nonvolatile memory, 3D-Memory, nonvolatile and spintronics logics, circuit-device-interactions in non-CMOS devices, memristor circuits, computing-in-memory and neuromorphic circuits for deep learning and artificial intelligent (AI) chips.

Since 2018, Dr. Chang has authored or co-authored more than 40+ top conference papers (including 25 ISSCC, 14 VLSI Symposia, 9 IEDM, and 1 DAC) as well as 30+ IEEE journal papers and 20+ US patents. He is an associate editor for IEEE TVLSI, and IEEE TCAD. He has been serving on technical program committees for ISSCC, IEDM (Executive committee, Chair of MT sub-committee), DAC, A-SSCC, IEEE CAS Society (Chair Elect of NG-TC), and numerous international conferences. He is a Distinguished Lecturer (DL) for IEEE Circuits and Systems Society (CASS) during 2017-2018. He is the recipient of several prestigious national-level awards in Taiwan, including the Outstanding Research Award of MOST-Taiwan, Outstanding Electrical Engineering Professor Award, Y.Z. Hsu Technology Award, Outstanding Chip Design Awards, and Golden Silicon Awards. He has also been serving as the Program Director of Micro-Electronics Program of Ministry of Science and Technology (MOST) in Taiwan during 2018-2020. He is a Fellow of the IEEE.