

Research Summary 2018

Division of Electrical Engineering

College of EECS
National Taiwan University

國立臺灣大學電資學院電機學群
(一〇七年度)

研究概況及成果

2018 Research Summary

Division of Electrical Engineering

Department of Electrical Engineering

Graduate Institute of Electrical Engineering

Graduate Institute of Photonics and Optoelectronics

Graduate Institute of Communication Engineering

Graduate Institute of Electronics Engineering

Graduate Institute of Biomedical Electronic and Bioinformatics



College of Electrical Engineering and Computer Science
National Taiwan University
Taipei, Taiwan, Republic of China

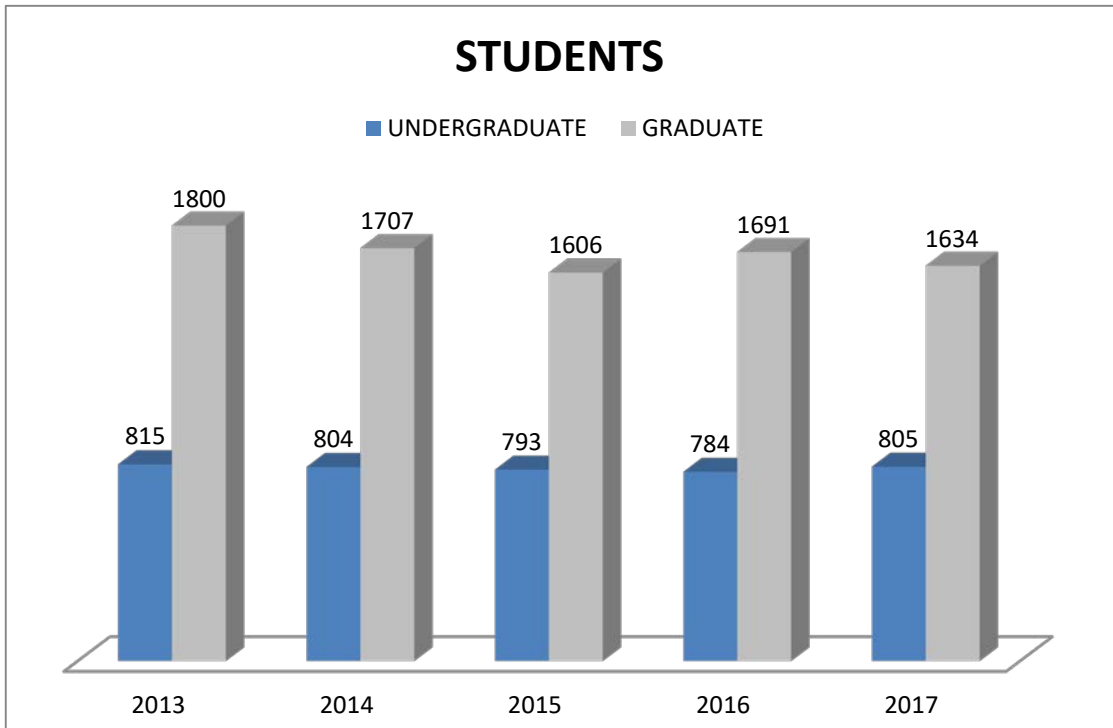
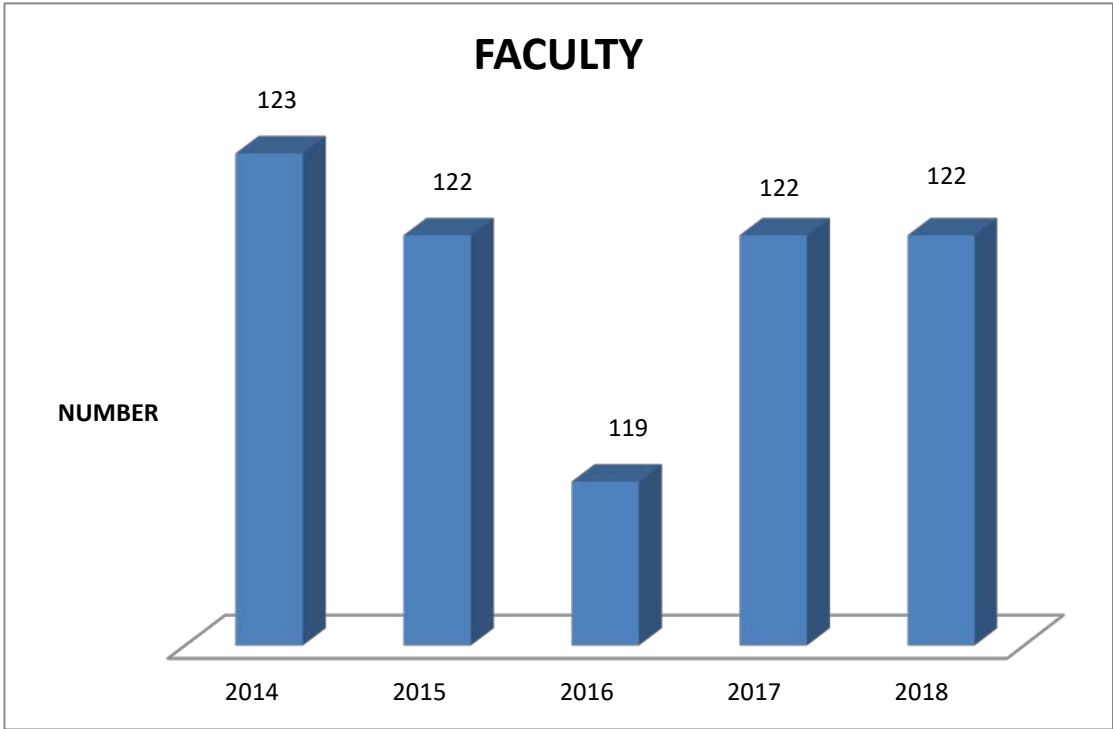
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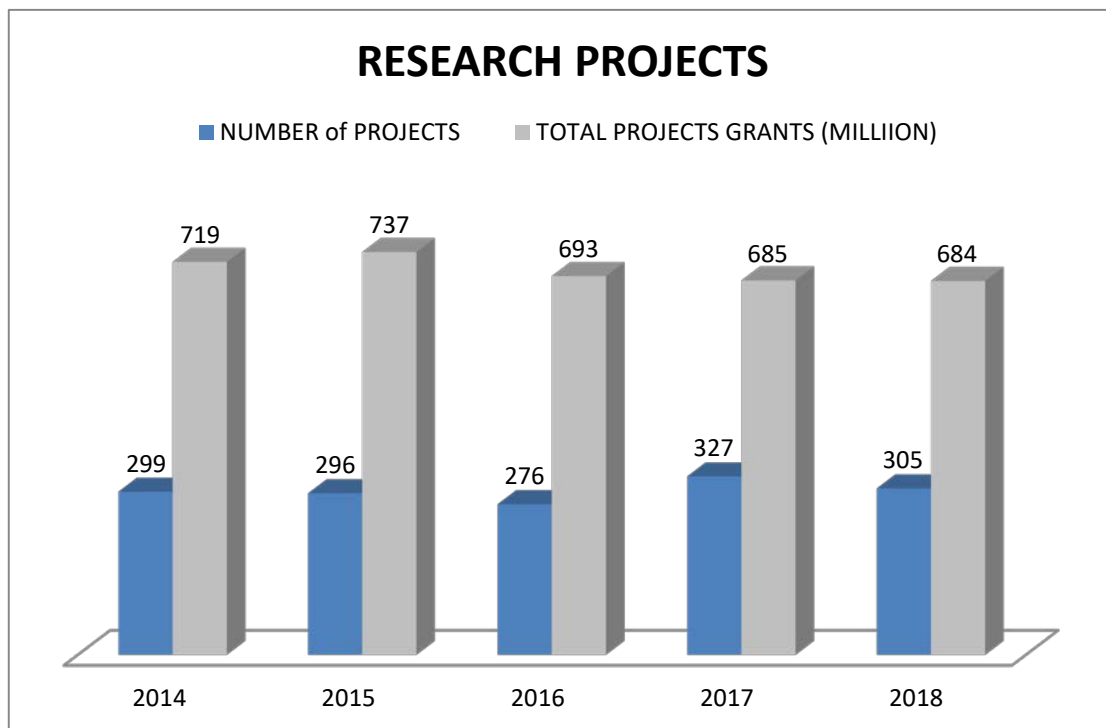
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SCI 期刊論文篇數

西元	2014	2015	2016	2017	2018	總計
論文篇數	393	365	292	283	254	1,587
教師人數	123	122	119	122	122	608
平均篇數	3.2	2.99	2.45	2.32	2.08	2.61

自 Science Citation Index Expanded-SCIE [Web of Science] 查詢

IEEE/IET Journal Papers

Year	2014	2015	2016	2017	2018	Total
Total of IEEE/IEE Papers	119	124	125	107	103	578
No. of Full-Time Faculty Members	123	122	119	122	122	608
Average IEEE/IEE Papers per Faculty Member	0.97	1.02	1.05	0.88	0.84	0.95

Science Citation Index Expanded-SCIE [Web of Science] 查詢

The Faculty



Dean of College of Electrical Engineering and Computer Science

Yao-Wen Chang (張耀文)

Yao-Wen Chang (張耀文) was born in Chia-Yi, Taiwan in 1966. He received the B.S. degree in Computer Science and Information Engineering from National Taiwan University (NTU) in 1988, and the M.S. and Ph.D. degrees in Computer Science from the University of Texas at Austin in 1993 and 1996, respectively.

He is an IEEE Fellow and is currently the President-elect of the IEEE Council on EDA (CEDA), 1st non-US/European president-elect. Currently, he is the dean of the College of Electrical Engineering and Computer Science (院長), NTU, and Distinguished Professor of the Department of Electrical Engineering and the Graduate Institute of Electronics Engineering, NTU, Taipei, Taiwan. He was a Deputy Vice President of academic affairs of NTU from 2016 to 2018, an associate dean of the College of Electrical Engineering and Computer Science from 2012-2016, and the director/chairman of the Graduate Institute of Electronics Engineering of NTU from 2010 to 2013. Dr. Chang was a visiting professor of Waseda University (早稻田大學) in Japan from 2005 to 2010 and a visiting scholar of the Computer Science and Artificial Intelligence Laboratory (CSAIL) of Massachusetts Institute of Technology (MIT) in 2014. He was a 2nd Lieutenant during his compulsory military service from 1988 to 1990, a Research Assistant in the Institute of Information Science, Academia Sinica, Taiwan from 1990 to 1991, and a Teaching/Research Assistant in the Department of Computer Sciences, the University of Texas at Austin from 1992 to 1996. In the summers of 1994 and 1995, he was a Research Staff Member in the VLSI Design Group at IBM T. J. Watson Research Center, Yorktown Heights, New York and a teaching assistant in the VLSI Design Automation Group at IBM, Austin, Texas, respectively. From 1996 to 2001, he was an Associate Professor in the Department of Computer and Information Science, National Chiao Tung University, Hsinchu, Taiwan. His current research interests include electronic design automation (with emphases on physical design and manufacturability) and combinatorial optimization. He has been working very closely with the semiconductor industry on projects and has co-authored a book on routing (Springer, 2007), co-edited a book on electronic design automation (Morgan Kaufmann, 2009; 934 pages), and published 300 ACM/IEEE conference/journal papers in these areas, including a few highly cited works on floorplanning, placement, routing, manufacturability, and FPGA. His NTUplace3 placer was the core engine of the popular Digital Custom Placer of SpringSoft, acquired by the #1 EDA vendor, Synopsys, with US \$406M dollars in 2012. His NTUplace4 is a 3-time champions at the contests of the three premier conferences, DAC'12, ICCAD'13, and ISPD'15. He was ranked #1 worldwide among 40K+ researchers by the Microsoft Academic Search Database for Recent Five-Year Citations in the Hardware and Architecture Domain during November 2011 -- March 2012 (no such rating is available now). Dr. Chang received four awards at the 50th ACM/IEEE DAC in 2013 for the 1st Most Papers in the 5th Decade (34 DAC papers in the 5th decade; #1 worldwide), Most Prolific Author (at least 6 papers) in a Single Year (2012, 2013), DAC Prolific Author Award (40 Club; now 62 papers, the #2 all-time DAC prolific author), one of the Longest Publication Streaks (15 years from 1999 to 2013; now 20 years, the #2 all-time DAC history). Dr. Chang is a 1st-place winner of six recent major ACM/IEEE EDA contests, including the 2015 ACM ISPD Blockage-Aware Detailed Routing-Driven Placement Contest, the 2013 IEEE CAD Contest @ ICCAD (Legalization and Detailed Placement), the 2012 ACM/IEEE DAC Routability-Driven Placement Contest, the 2012 ACM ISPD Discrete Gate Sizing Contest, the 2011 IEEE CEDA PATOS Timing Analysis Contest, and the 2009 ACM ISPD Clock Network Synthesis Contest. He has also received 18 other top-3 contest awards during the past decade. He is a recipient of nine Best Paper Awards (2017 ACM/IEEE DAC, 2010 and 1995 IEEE ICCD, etc.), the 2007 IEEE/ACM ICCAD Professor

Margarida Jacome Memorial Award, and five Best-in-Track Papers at recent DAC and ICCAD. He has received 24 Best Paper Award Nominations from top international conferences, including DAC (6 times), ICCAD (4 times), and ISPD (5 times) since 2000. He has received many research awards, such as the 2007, 2010, and 2013 Distinguished Research Awards (highest honor), Contract Research Fellow (2016--2018), and the 2004 Dr. Wu Ta You Memorial Award, all from Ministry of Science and Technology (formerly National Science Council) of Taiwan, and the 2015 MXIC Chair Professorship from NTU, the 2017 TECO Award, the 2010, 2012, and 2013 IBM Faculty Awards, the 2009 Distinguished EE Professor from the CIEE, the 2004 MXIC Young Chair Professorship from the MXIC Corp, the inaugural Research Achievement Award from NTU in 2004, distinguished teaching award in 2013 (highest honor for top 1% teachers for 5 years)/excellent teaching awards (eight times in 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2018; ranked #1 in the department for students' teaching surveys in 2004, 2005, 2009, 2013, 2018) from NTU, and excellent teaching award from National Chiao Tung University in 2000 (ranked #1 in the Department for this inaugural award). Dr. Chang has served as an editor / associate editor of premier journals, including IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) 2008 -- 2013 (Taiwan's 1st TCAD AE), IEEE Transactions on VLSI Systems (TVLSI) 2015-now, IEEE Design & Test of Computers 2012 -- 2014 and 2016-now (as an interviews editor), IET Computers & Digital Techniques, the international Journal of Information Science and Engineering (JISE), etc. He has served as the steering committee/general/program chairs of ISPD (1st from Asia), and general/program chairs of ICCAD (1st from Taiwan), and program chair of ASP-DAC and FPT, and on the IEEE CEDA and ICCAD Executive Committees, the ASP-DAC Steering Committee, and the technical program committees of all major EDA conferences, including DAC, ICCAD, ISPD, ASP-DAC, DATE, ICCD, GLSVLSI, VLSI-DAT, FPL, FPT, APCCAS, etc. He was the CEDA Vice President of Conferences 2016-2017 and Technical Activities 2014-2015. He received the Outstanding Service Award from IEEE CEDA in 2015 and Service Award from ACM in 2012. He has served as the chair of the EDA Consortium of the Ministry of Education of Taiwan and an independent board director of Genesys Logic, Inc, a technical consultant of MediaTek Inc., RealTek Semiconductor Corp., and Faraday Technology Inc., and a member of the Board Governors of the Taiwan IC Design Society, a Review Committee Member of the National Science Council, and a Principal Reviewer of the SBIR projects of the Ministry of Economics Affairs, Taiwan. He co-founded the Maxeda Technology, Inc. in 2015. 張耀文簡傳 張耀文現為臺灣大學終身特聘教授兼電機資訊學院院長。曾擔任臺灣大學副教務長 (2016-2018), 電機資訊學院副院長 (2012-2016)、電子所所長(2010-2013)、副所長(2008-2010)和臺灣大學技轉組組長(2007-2008)、美國麻省理工學院訪問學者(2014)和日本早稻田大學客座教授(2004-2010)。

其主要研究領域為電子設計自動化 (EDA)，合著有專書兩本 (Morgan Kaufmann 出版的 938 頁 EDA 教科書等) 和 300 篇的 ACM/IEEE 期刊和會議論文。其近五年論文引用數曾名列微軟 Academic Search Database 的 Hardware & Architecture 領域全球四萬餘學者第一 (2011-2012, 現無此統計)，電路擺置工具 NTUplace3 為思源科技(現為 Synopsys)暢銷工具 Laker Custom Digital Placer 的核心引擎，多項技術被採用為當今業界設計工具的核心引擎。曾獲多項教學與研究獎，包含臺灣大學教學傑出獎(top 1% 最高榮譽)和旺宏電子講座教授、科技部研究傑出獎(最高榮譽，三次)、科技部特約研究員 (2016-2018)、IBM Faculty Award (三次)、第五十屆頂尖會議 ACM/IEEE Design Automation Conference (DAC)四項論文獎(包含第五個十年 2004-2013 全球最多論文獎，34 篇 DAC 論文；現為 DAC 55 年歷史上第二多產論文作者 [張教授從事此領域研究僅 25 年]; DAC 論文發表連續長度前二名，目前 20 年)、ACM/IEEE EDA 競賽六次冠軍(全球第一)、九次最佳論文獎 (含最近 2017 ACM/IEEE DAC [台灣 54 年來第二篇，第一篇於 1988 年由中研院獲得]等) 和 24 次 ACM/IEEE 最佳

論文獎提名。張教授為首位非歐美的 IEEE CEDA (Council on EDA) 候任總裁 (2018-2019)，並將為總裁 (2020-2021)，曾任其技術活動副總裁(2014-2015)，會議副總裁(2016-2017)和獎勵委員 (2015-2017)。曾為頂尖會議 IEEE/ACM ICCAD (台灣首位)和 ACM ISPD (亞洲首位) 議程委員會/會議/指導委員會主席和台灣首位頂尖期刊 IEEE TCAD 副編輯 (2008-2013)；由於其傑出和創新的貢獻 (例如，首創 ISPD 的 Lifetime Achievement Award 和其相關系列活動)，獲頒 2015 IEEE CEDA Outstanding Service Award (亞洲首位) 和 2012 ACM Service Award。張教授和業界互動密切，曾任創惟科技獨立董事、智原科技、瑞昱半導體和聯發科技技術顧問，並以其多年研發技術合創至達科技(Maxeda Technology)。其在 2000 年初起 (擔任教育部教改計畫 EDA 聯盟召集人等)，創辦各項影響深遠的 EDA 競賽和學術推廣活動，領導台灣團隊在國際舞台上發光發熱，大幅提升台灣在 EDA 領域的國際影響力和知名度，深獲國際社群的讚賞 (例如，其於 2000 年創辦的 EDA 競賽，現已成為在 IEEE/ACM ICCAD 舉辦的國際最大 EDA 競賽；其所帶領的 EDA 課程改進計畫，已衍生出受國際學界和業界歡迎和採用的 900 餘頁 EDA 教科書；其於 2004 年推動的 EDA 頂尖國際會議論文倍增計畫，已使台灣近十年來每年在最頂尖 EDA 國際會議 DAC 和 ICCAD 的合併論文發表數名列全球第二，僅次於美國；其於 2007 年推動的 CADathlon 培訓計畫，已使台灣成為 ACM CADathlon Contest 的最大贏家)。張耀文為 IEEE 學會會士 (Fellow)。

EE Times Citation (5/15/2013): 'Taiwan: Microelectronics Expertise Widens': "Taiwan's success so far has been in large part due to electronic design automation (EDA) expertise, where it has only been outperformed by the U.S. for the last five years -- as measured by number of research papers its presented at the IEEE's Design Automation Conference (DAC) and International Conference on Computer Aided Design (ICCAD). (Yao-Wen) Chang is typical at NTU, a microelectronics pioneer in EDA, due to receive four separate awards at DAC 2013's 50th anniversary celebration next month,..." EE Times Citation (4/6/2015): 'The Best and Brightest Worldwide': "The best engineering minds on the planet compete each year in the ACM's ISPD design contest, which was won this year by the National Taiwan University."

EE Times Citation (4/13/2011): 'ISPD spots 3D, maskless-lithography trends': "Starting this year, ISPD will initiate another tradition by introducing commemorative sessions to honor respected pioneers in the PD field, to trace their contributions in shaping the PD landscape, to explore future directions following their footsteps," said Yao-Wen Chang, a professor at National Taiwan University and general chair of ISPD 2011.

EDACafe Citation (11/20/2007): 'International Conference on Computer Aided Design (ICCAD) Witnesses Global Expansion Through Asian Leadership and Participation': "ICCAD 2007 saw increasing participation of leading researchers..., with particular emphasis on Taiwan... This year's CADathlon featured students from NTU as winners of both the 1st and 2nd places,... the 1st time a non-US team won the champion and the 1st time the top two teams came from the same institution... These outstanding wins are the result of multiple initiatives driven from Taiwan... Professor Yao-Wen Chang, who chairs the Design Automation and Test sub-initiative, leveraged the CADathlon to evaluate the effectiveness of local VLSI and SoC education programs, aimed at cultivating graduate students to meet the strong demand of the semiconductor industry in Taiwan... ICCAD accepted 16 papers from Taiwan... 2nd worldwide... NTU received 2 best paper award candidates... 1 memorial award... a first for any single institution at ICCAD."

EE Times Citation (4/17/2008): 'Future of Chip Design Revealed at ISPD': "how the Taiwanese beat both the US and Europeans in the ISPD Global Routing Contest..."

Andrew Kahng (2009 DAC General Chair, "Crafting the Future of EDA," 10/16/2009): "One example of a non-U.S. focal point: Taiwan. Taiwan schools are very strong in the CADathlon held

at ICCAD each year. They win the placement and global routing contests at ISPD. And, they can be expected to do very strong research in areas such as DFM. On the commercial side, we see the rapidly increasing visibility of SpringSoft.”



Chairman of the Department of Electrical Engineering

Chih-Wen Liu (劉志文)

Chih-Wen Liu (劉志文) He received the B.S. degree in electrical engineering from National Taiwan University in 1987 and the M.S. and Ph.D degrees from Cornell University in 1992 and 1994. Currently, he is a Distinguished Professor and Chairman in the department of electrical engineering of National Taiwan University, and director of Green Electric Energy Research Center. His research areas are in smart grids, electric machines and magnetic field guided

endoscope.

He receives Outstanding Young Electrical Engineer Award from the Chinese Institute of Electrical Engineering, in 2001(中國電機工程學會「優秀青年電機工程師獎」), the Best Paper Award from the Chinese Institute of Engineers in 2002(中國工程師學會「詹天佑論文獎章」), the Prize Paper Award from IEEE/PES Transmission and Distribution Conference and Exhibition in 2002, Research Contribution Award from National Taiwan University in 2004(國立台灣大學「研究貢獻獎」), the First Class Principal Investigator Award from National Science Council in 2005(國科會「第一級研究計畫主持人獎」), and Academics Contribution Award from the college of EECS of National Taiwan University in 2013 (國立台灣大學電機資訊學院「學術貢獻獎」), Outstanding Electrical Engineering Professor Award from the Chinese Institute of Electrical Engineering in 2014(中國電機工程學會 [傑出電機工程教授獎]), and the Distinguished Research Award from the Ministry of Science and Technology in 2008 and 2018, respectively(科技部(國科會) [傑出研究獎])。He is a Fellow of the IEEE(Institute of Electrical and Electronics Engineers, 國際電機電子工程學會會士).



Director of Graduate Institute of Photonics and Optoelectronics

Gong-Ru Lin (林恭如)

Biographical Sketch--Prof. Gong-Ru Lin received his B. S. degree of Physics from Soochow University in 1988, M. S. and Ph. D degrees of electro-optical engineering from National Chiao Tung University (NCTU) in 1990 and 1996, respectively. He joined National Lien Ho College of Technology in 1997 and Tatung University in 1998 as assistant professor, and became an associate professor with National Taipei University of Technology in 2002. He has promoted as a professor in 2004 with the Institute of Electro-Optical Engineering at National Chiao Tung University. Prof. Lin is currently with the Graduate Institute of Photonics and Optoelectronics and Department of Electrical Engineering, National Taiwan University. In addition, Prof. Lin is the chairman of Graduate Institute of Photonics and Optoelectronics (in 2016-2019) and the associate dean of College of Electrical Engineering and Computer Science (since 2018), National Taiwan University. He was promoted the distinguished professor (in 2015-2018) and the lifetime distinguished professor (since 2018). Prof. Lin is also the member of Optical Society of America

(OSA), the International Society for Optical Engineering (SPIE), the Institution of Engineering and Technology (IET), and the Institute of Physics, the Lasers and Electro-Optics (LEOS) and the Microwave Theory and Techniques (MTT) societies of IEEE. He also joined as the permanent members of the Optical Engineering Society, Physical Society, and CIEE of R. O. C. For society service, he has also served in SPIE as Award Committee (since 2003) and Fellow Committee, Secretary of Taiwan Chapter (since 2004), and Vice Chair of Taiwan Chapter (since 2006). He was also the treasurer (since 2004), Vice Chair (since 2006), and Chair (since 2008) of IEEE/LEOS Taipei Chapter. In 2009-2012, he was nominated as the Member-at-Large and Committee of the Membership and Education Services Council of OSA, where his adjunct positions include Award Committee and Membership Committee. He is the current President of the Taiwan Photonics Society (since 2017).

Research and Publication--Prof. Lin's research focuses on optical communications using semiconductor lasers and fiber lasers, covering versatile topics such as visible light communication, wireline/wireless optical network fusion, mode-locked fiber lasers, Group-IV semiconductor photonics. Prof. Lin has developed the weak-resonant-cavity Fabry-Perot laser diodes with low endface reflectivity as DWDM and MMWof transmitters in PON/AON access link at wireline 88-Gbit/s and wireless 30-Gbit/s data rates. He also pioneers the dual-mode semiconductor laser technology for remotely photonic heterodyne of MMW carriers to facilitate millimeter-wave radio-over-fiber. His advanced works on Si quantum dots with unique quantum confined feature expedites efficient light emission and high-speed optical switching for next-generation Si photonic inter-connect computation. Recently, he initiates the innovative blue/violet laser diode lighting communication with QAM-OFDM 25 Gbit/s. His persistent study on 2D topological material based saturable absorbers also makes advancements on femtosecond passively mode-locked fiber laser technology. Through the research collaboration and technology transfer with worldwide companies such as TSMC, CHT, EPISTAR, FOXCONN, etc., his laboratory is leading the high-speed communication analysis and ultrafast photonic diagnosis to provide academic/industrial services. In 2015, Tektronix Ltd. contracted Prof. Lin to establish the NTU-Tektronix Joint Research Center, which is the first and only research institute of Tektronix among global universities. Prof. Lin has (co)authored more than 400 papers in SCI-ranked journals and over 600 papers in domestic and international conferences. The citation of his papers is ranked the top among all Taiwanese authored publications in flagship journals including ACS Photonics and Laser Physics Letter. His work on the underwater blue laser communication awarded the Top 100 Scientific Reports Physics Paper in 2017. Two of his works on visible light communications and ultrafast fiber lasers were selected as the highly cited papers in the Web of Science over 4 years. His papers hold total citations of >6000 in Google Scholar and >5000 in WoS database with corresponding H-index of 39 in SCI and 41 in Google websites.

Honors, Awards and Recognitions--Prof. Lin is currently as the steering committee of CLEO-PR and APMP. In addition, Prof. Lin was invited as the technical program committee of OSA Nanophotonics, IEEE OMEMS and Nanophotonics, ICAIT, ACP, and OPT etc. He has given several invited talks in Asia Pacific Optical Communication Conference (APOC) and SPIE Photonics Europe 2006, etc. Prof. Lin is the Senior Editor and Associate Editor of the IEEE Photonics Journal and the Topical Editor of Optics Letters. Prof. Lin is currently the associate editor and editorial board member of "Journal of Nanomaterials", "Current Nanoscience", and the "Recent Patents on Engineering." Moreover, Prof. Lin served as the associate editor of "Journal of Lightwave Technology" in 2011-2013. He is also the referee of several journals published by the IEEE/LEOS, OSA, and Elsevier Science. He received three times the Outstanding Research Awards from National Science Council in 1997, 1998, and 2000, and was included in Who's Who in Science and Engineering, 6th Ed. since 2002 for recognizing his contribution to optical science and engineering. His work has also been recognized by the ultrafast community and awarded the

2000 Tien Jea Bien Young Scholar Prize by the Optical Engineering Society of R. O. C. for outstanding achievement in the field of Photonics by the age of 34. Prof. Lin was elected by the International Biographical Center as the international Scientist of the Year 2002, he also received the Third Best Scientific and Technical Paper Award (with co-authors) from the Far Eastern Y. Z. Hsu Science & Technology Memorial Foundation of R. O. C. in 2004, the Young Scholar Research Award from NCTU in 2005, and the Award of Outstanding Youth Electrical Engineer from SIEE in 2005. To date, Prof. Lin was promoted as a senior member in the Laser and Electro-Optics (LEOS) society of IEEE since 2004. Prof. Lin's work has been recognized by the development of the all-optical communication devices and technology and awarded a Fellow of SPIE (FSPIE) since 2008. In addition, his distinguished works on the Si quantum dot light-emitting diodes has awarded a Fellow of IET (FIET) since 2009. His prestigious achievement on exploring fundamental physics and industrial technologies of ultrafast fiber laser and awarded a Fellow of IOP (FIOP) since 2010. Prof. Lin has also been elected as the visiting and traveling lecturer of SPIE and OSA in 2012, the Distinguished Professor of Electrical Engineering (中國電機工程學會-傑出電機工程教授) from the Chinese Institute of Electrical Engineering in 2013, the Fellow of OSA since 2014. Prof. Lin received twice the Distinguished Research Award from National Science Council (國科會傑出獎) in 2011 and the Ministry of Science and Technology (科技部傑出獎) in 2015. He has been appointed as the MOST Research Fellow since 2018.



Director of Graduate Institute of Communication Engineering

Hsuan-Jung Su (蘇炫榮)

Hsuan-Jung Su received the B.S. degree in Electronics Engineering from the National Chiao Tung University, Taiwan, in 1992, and the M.S. and Ph.D. degrees in Electrical Engineering from the University of Maryland, College Park, in 1996 and 1999, respectively.

From 1999 to 2000, he was a Postdoctoral Research Associate with the Institute for Systems Research, University of Maryland. From 2000 to 2003, he was with the Bell Laboratories, Lucent Technologies, Holmdel, New Jersey, where he received the Central Bell Labs Teamwork Award in 2002 and the Bell Labs President's Gold Award in 2003 for his contribution to the 3G wireless network design and standardization. In 2003, Dr. Su joined the Department of Electrical Engineering and Graduate Institute of Communication Engineering, National Taiwan University, where he is currently a Professor. From 2014 to 2015, Dr. Su was a Visiting Fellow at Princeton University. Dr. Su is an Area Editor of the Physical Communication (PHYCOM) journal (Elsevier), and has guest edited special issues for journals such as IEEE Access. He has also served on the organizing committees and TPCs of many international conferences, including serving as the Finance Chair of IEEE ICASSP 2009, the Finance Co-Chair and a TPC Track Chair of IEEE VTC 2010 Spring, a TPC Co-Chair of WPMC 2012, a TPC Co-Chair of IEEE GreenCom 2014, and the TPC Chair of WOCC 2015. Su was the Chair of IEEE Information Theory Society, Taipei Chapter (2013-2015), the Secretary and Treasurer (2014-2015) and the Technical Affairs Committee Vice Chair (2016-2017) of the IEEE Communications Society Asia-Pacific Board. His research interests cover coding, modulation, signal processing, interference management, resource allocation, and MAC protocols of wireless communication, cognitive, M2M (IoT) and D2D networks.



Director of Graduate Institute of Electronic Engineering

An-Yeu (Andy) Wu (吳安宇)

An-Yeu (Andy) Wu (IEEE M'96-SM'12-F'15) received the B.S. degree from National Taiwan University in 1987, and the M.S. and Ph.D. degrees from the University of Maryland, College Park in 1992 and 1995, respectively, all in Electrical Engineering.

From August 1995 to July 1996, he was a Member of Technical Staff (MTS) at AT&T Bell Laboratories, Murray Hill, NJ, working on high-speed transmission IC designs. From 1996 to July 2000, he was with the Electrical Engineering Department of National Central University, Taiwan. In August 2000, he joined the faculty of the Department of Electrical Engineering and the Graduate Institute of Electronics Engineering, National Taiwan University (NTU), where he is currently a Professor. His research interests include low-power/high-performance VLSI architectures for DSP and communication applications, adaptive/multirate signal processing, reconfigurable broadband access systems and architectures, bio-medical signal processing, and System-on-Chip (SoC)/Network-on-Chip (NoC) platform for software/hardware co-design. He has published more than 190 refereed journal and conference papers in above research areas, together with five book chapters and 16 granted US patents.

Dr. Wu had served as Associate Editor in several leading IEEE journals in circuits and signal processing areas, such as the IEEE TRANSACTIONS ON SIGNAL PROCESSING, the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—PART I, the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—PART II, and the IEEE TRANSACTIONS ON VERY LARGE SCALE INTEGRATION (VLSI) SYSTEMS. He acted as the Lead Guest Editor of the special issue of “2010 IEEE Workshop on Signal Processing Systems (SiPS) in JSPS (published in Nov. 2011), and the special issue of “Signal Processing for Broadband Access Systems: Techniques and Implementations,” in EURASIP Journal on Applied Signal Processing (published in December 2003). He also acted as the Guest Editor of a special issue of “Low-Power, Reliable, and Secure Solutions for Realization of Internet of Things,” in IEEE Journal on Emerging and Selected Topics in Circuits and Systems (published in March 2013). He also served on the technical program committees of many major IEEE International Conferences, such as ISCAS, ICASSP, SiPS ASSCC, AP-ASIC, SOCC, and ISPACS. Prof. Wu served as the General Co-Chair of 2013 International Symposium on VLSI Design, Automation & Test (VLSI-DAT), and 2013 IEEE Workshop on Signal Processing Systems (SiPS). He also served as Technical Program Co-Chair of 2014 International SoC Design Conference (ISOCC) and 2014 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS). From 2012 to 2014, he served as the Chair of VLSI Systems and Applications (VSA) Technical Committee (TC), one of the largest TCs in IEEE Circuits and Systems (CAS) Society. He is now a Steering Committee Member of IEEE Trans. VLSI Systems on behalf of CASS, and a Senior Editorial Board member for IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS). Starting from Jan. 2019, he will serve as Deputy Editor-in-Chief (DEiC) of JETCAS.

From August 2007 to Dec. 2009, he was on leave from NTU and served as the Deputy General Director of SoC Technology Center (STC), Industrial Technology Research Institute (ITRI), Hsinchu, TAIWAN, supervising WiMAX, Parallel Core Architecture (PAC) VLIW DSP Processor, and Android-based Multicore SoC platform projects. Meanwhile, he served as General Director of Semiconductor Industry Promotion Office (SIPO), under Ministry of Economy Affairs (MOEA), promoting semiconductor industry issues for the government. Since March 2014, Dr. Wu is in charge of the overall talent cultivation program in National Program for Intelligent Electronics (NPIE), under sponsorship of Ministry of Education in Taiwan.

In 2015, Prof. Wu was elevated to IEEE Fellow for his contributions to “DSP algorithms and VLSI designs for communication IC/SoC.” Starting from August 2016, he serves as the Director of Graduate Institute of Electronics Engineering (GIEE), National Taiwan University.

Dr. Wu received numerous awards for his technical achievements and academic society services, including 2016 Technology Invention Award by Far Eastern Y.Z. Hsu Science and Technology Memorial Foundation; 2010 Outstanding EE Professor Award from The Chinese Institute of Electrical Engineering (CIEE), Taiwan, three Best Paper Awards in 2017, 2014 and 2010 International Symposium on VLSI Design, Automation and Test (VLSI-DAT), Excellent Patent Award from Industrial Technology Research Institute (ITRI) in 2009, Teaching Award of Common Education Course, National Taiwan University in 2007, Dr. Wu Ta-you Award (Young Investigator Award) from National Science Council (NSC), Taiwan (the only nominee from Microelectronics research group of the NSC) in 2005, Distinguished Young Engineer Award from The Chinese Institute of Electrical Engineering (CIEE) in 2004, Best Engineering Paper Award, from the Chinese Institute of Engineers (CIE), Taiwan in 2004, and Young Chair Professor Award from Macronix International Corporation (MXIC) Education Foundation in 2003.



Soo-Chang Pei (貝蘇章)

Soo-Chang Pei (貝蘇章) was born in Soo-Auo, Taiwan, China on February 20, 1949. He received the B. S. degree from National Taiwan University in 1970 and the M. S. and Ph. D. degree from the University of California, Santa Barbara in 1972 and 1975 respectively, all in electrical engineering.

He was an engineering officer in the Chinese Navy Shipyard from 1970 to 1971. From 1971 to 1975, he was a research assistant at the University of California, Santa Barbara. He was the Professor and Chairman in the EE department of Tatung Institute of Technology and National Taiwan University, from 1981 to 1983 and 1995 to 1998, respectively. Presently, he is the Professor of EE department at National Taiwan University. His research interests include digital signal processing, image processing, optical information processing, and laser holography. Dr. Pei received National Sun Yet- Sen Academic Achievement Award in Engineering in 1984, the Distinguished Research Award from the National Science Council from 1990-1998, outstanding Electrical Engineering Professor Award from the Chinese Institute of Electrical Engineering in 1998, and the Academic Achievement Award in Engineering from the Ministry of Education in 1998, the IEEE Fellow in 2000 for contributions to the development of digital eigenfilter design, color image coding and signal compression, and to electrical engineering education in Taiwan, the Pan Wen-Yuan Distinguished Research Award in 2002, and the National Chair Professor Award from Ministry of Education in 2002 and 2008. The IEEE Life Fellow in 2015 for recognition of the years of royal membership and support of the activities of IEEE. He has been President of the Chinese Image Processing and Pattern Recognition Society in Taiwan from 1996-1998.

Dr. Pei is IEEE Life Fellow and a member of Eta Keppa Nu and the Optical Society of America.



Lin-shan Lee (李琳山)

Lin-shan Lee received a B.S. from National Taiwan University in 1974, and a Ph.D. from Stanford University in 1977, both in Electrical Engineering. He has been a professor of Electrical Engineering and Computer Science of National Taiwan University since 1982, and served as the head of Computer Science Department (1982-1987) and the dean of College of Electrical Engineering and Computer Science (2009-2012) of the university. He holds a joint appointment with Institute of Information Science of Academia Sinica as a research fellow, and served as the director of the institute (1991-1997).

His research interests include various topics in communications such as digital transmission theory and signal processing for communications, as well as various topics in spoken language processing including speech recognition and synthesis, spontaneous speech and prosodic modeling, spoken dialogues, spoken content retrieval and understanding, and computer-assisted language learning. He developed and published the earliest but very complete set of fundamental technologies for Chinese spoken language processing including speech synthesis (1986-89), natural sentence grammar and parser (1986-91) and large vocabulary speech recognition (1987-97). He also demonstrated a good number of the earliest versions of Chinese spoken language processing systems in the world which marked the beginning of Chinese spoken language processing, including text-to-speech systems (since 1984), a natural language analyzer (1986), large vocabulary speech recognition systems (since 1991), spoken content retrieval systems (since 1997), and spoken dialogue systems (since 1998). His major contributions to spoken content retrieval and browsing in recent years were also well recognized globally.

He served on various positions of IEEE Communications Society, including regional chair for Asia Pacific (1994-1995), member of the Board of Governors (1995-1997), Vice President for International Affairs (1996-1997) and the Awards Committee chair (1998-1999). He was the Technical Program Chair of IEEE Global Telecommunications Conference (Globecom) 2002 at Taipei. He served as a Board member of International Speech Communication Association (ISCA) (2001-2009). He also served as the Distinguished Lecturer of IEEE Signal Processing Society (2007-2008), an associate editor of IEEE Signal Processing Magazine (2003-2006) and IEEE/ACM Transactions on Audio, Speech and Language Processing (2012-2013), a member of the Overview Paper Editorial Board of IEEE Signal Processing Society (2009-2010), and the general chair of International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2009 at Taipei.

He authored substantially in international journals and conferences, and has a good number of domestic and international patents. He received the Medal of Electrical Engineering from the Chinese Institute of Electrical Engineering of Taiwan (1991). He was elected IEEE Fellow in 1992 (with citation: For Contributions to Computer Voice Input/Output Technologies for Mandarin Chinese and Engineering Education) and ISCA Fellow in 2010 (with citation: for Contributions to Chinese Spoken Language Processing and Speech Information Retrieval, and Services to the Speech and Language Community). He also received the Meritorious Service Award from IEEE Signal Processing Society in 2011 (with citation: for Extraordinary Service to the Speech and Signal Processing Community), and the Exemplary Global Service Award from IEEE Communications Society (with citation: for Contributions in International Activities, Development of Global Collaboration, and Promotion of Global Volunteer Participation and Services). He received the National Chair Professorship of Taiwan, ROC in 2004, and the Presidential Science Prize of Taiwan, ROC in 2015.



Si-Chen Lee (李嗣涇)

Si-Chen Lee (李嗣涇) was born in Taiwan, on August 13, 1952. He received the B.S. degree in electrical engineering from National Taiwan University in 1974 and Ph.D degree in electrical engineering from Stanford University in 1981 with a work consisting of experimental investigation of the AlGaAs/GaAs multi-heterojunction properties.

From 1980 to 1982, he worked at Energy Conversion Devices Inc. concerning the application of amorphous silicon hydrogen alloy to the solar cells. He joined the Department of Electrical Engineering, National Taiwan University in 1982 as a visiting associate professor, and is a professor now.

He served as the chairman of the Department from 1988 to 1992 and the Dean of academic affairs of National Taiwan University from 1996 to 2002, the President of National Taiwan University from 2005 to 2013. His current research interests are in the various kinds of thin film transistors including amorphous silicon, oxide semiconductors and two dimensional materials. He is developing infrared plasmonic and waveguide thermal emitter based on metal/insulator/ metal structure with applications to gas detection, biological reaction of cells and cancer treatment. He also works on the infrared sensors including InAs/GaAs strained layer quantum dot/ring infrared photodetector and amorphous silicon sensors incorporated the photonic crystal structure for applications to the narrow band infrared absorption. He has moved into the area of SiGe nanowire transistors and successfully developed the electric field assisted directional growth of SiGe nanowire. Since 1988, he pioneered a research work on the Chinese traditional qigong and somatic science.

Dr. Lee is an IEEE Fellow, member of the Chinese Institute of Electrical Engineering, he has received Dr. Sun Yat-San Academic award in 1987, five consecutive outstanding research awards of National Science Council from 1986 to 1996. He has been elected as a member of The Asia-Pacific Academy of Materials (APAM) in 1997, and received IEEE Third Millennium Medal for outstanding achievements and contributions in the area of Semiconductor Devices in 2000. In 2002, he was awarded the Medal of Electrical Engineering from the Association of Chinese Electrical Engineer. He has received 47th Academic Award of Ministry of Education in 2003. He was awarded honorary Doctor Degrees by Kansai University of Japan in 2005 and Exeter University in 2011.



Yuan-Yih Hsu (許源浴)

Yuan-Yih Hsu (許源浴) was born in Taiwan on June 19, 1955. He received his B.Sc., M.sc., and Ph.D. degrees, all in electrical engineering, from National Taiwan University, Taipei, Taiwan.

Since 1977, he has been with National Taiwan University, where he is now a professor.

Dr. Hsu was elected as one of the Ten Outstanding Young Engineers by the Chinese Institute of Engineers in 1989. He received Distinguished Research Awards from the National Science Council in 1986-1995.

At present, his research interests include applications of power electronics to power industry and wind energy generation.

He is a senior member of IEEE.



Hung-Chun Chang (張宏鈞)

Hung-chun Chang (張宏鈞) was born in Taipei, Taiwan, Republic of China, on February 8, 1954. He received the B.S. degree from National Taiwan University, Taipei, R.O.C., in 1976, and the M.S. and Ph.D. degrees from Stanford University, Stanford, CA, in 1980 and 1983, respectively, all in electrical engineering.

From 1978 to 1984, he was with the Space, Telecommunications, and Radioscience Laboratory of Stanford University. In August 1984, he joined the faculty of the Electrical Engineering Department of National Taiwan University, where he is currently a Distinguished Professor. He was the NTU Himax Chair Professor during 2011. He served as Vice-chairman of the EE Department from 1989 to 1991 and Chairman of the newly-established Graduate Institute of Electro-Optical Engineering at the same University from 1992 to 1998. His current research interests include the electromagnetic theory, design, and application of photonic structures and devices for fiber optics, integrated optics, optoelectronics, nanophotonics, and plasmonics.

Dr. Chang is a member of Sigma Xi, the Phi Tau Phi Scholastic Honor Society, the Chinese Institute of Engineers, the Taiwan Photonics Society, the Photonics Society of Chinese-Americans, the Institute of Electrical and Electronics Engineers (IEEE, Senior member), the Optical Society of America (OSA, Fellow), the Electromagnetics Academy (Fellow), the Institute of Electronics, Information and Communication Engineers (IEICE of Japan, serving as its Representative in Taipei from 2002 to 2007), and China/SRS(Taipei) National Committee (a Standing Committee member during 1988-1993 and since 2006, and the Commission B Official Member since 2002) of the International Union of Radio Science (URSI). He was among the recipients of the Young Scientists Award at the URSI XXIIInd General Assembly in 1987, was elected one of the Ten Outstanding Young Engineers by the Chinese Institute of Engineers in 1990, and one of the Ten Outstanding Young Persons by the R.O.C. Junior Chamber International in 1994. In 1993, he was one of the recipients of the Distinguished Teaching Award sponsored by the Ministry of Education of the Republic of China. He received the Distinguished Research Awards from the National Science Council for 1990-1992, 1992-1994, and 1996-1998. He was awarded the National Science Council Research Fellowship for the period 1998-2004 and the Merit NSC Research Fellow Award in 2004. He was General Chair of 2013 OSA Topical Meeting on Integrated Photonics Research, Silicon and Nano Photonics (IPR 2013), held in Puerto Rico.



Jenn-Gwo Hwu (胡振國)

Jenn-Gwo Hwu was born in Tainan, Taiwan, Republic of China, on August 29, 1955. He received the B.S. degree in electronic engineering from National Chiao-Tung University, Republic of China, in 1977 and the M.S. and Ph.D. degrees in electrical engineering from National Taiwan University, Republic of China, in 1979 and 1985, respectively.

He joined the faculty of National Taiwan University in 1981. Presently, he is a Professor in the Department of Electrical Engineering and the Graduate Institute of Electronics Engineering, National Taiwan University. From 1997 to 1998, he was the vice chairman of the Department of Electrical Engineering, National Taiwan University. From February 2004 to January 2006, he was invited as the Dean of the College of Electrical Engineering and Computer Science, National United University, Miaoli, Taiwan, Republic of China. From December 2005 to December 2008, he was invited as the Coordinator of Micro-Electronics Engineering Program, Department of Engineering and Applied Sciences, National Science Council, Taiwan, Republic of China. On August 2006, he was appointed as the Distinguished Professor of National Taiwan University. And from August 2007 to July 2010, he was appointed as the chairperson of the Department of Electrical Engineering, National Taiwan University. His research work is mainly on ultra-thin gate oxide and its related Si MOS devices. He has experience in teaching the courses of Circuits, Electronics, Solid-State Electronics, Semiconductor Engineering, MOS Capacitor Devices, Radiation Effects on MOS System, and Special Topic on Oxide Reliability.

He was qualified to be a licensed Professional and Technical Engineer on Electrical and Electronics Engineering, R.O.C., in 1978 and 1980, respectively. He was honored as the owner of Outstanding Teaching Award in 1991 by The Ministry of Education and in 1987, 2003, and 2008 by National Taiwan University. He was also the owner of Excellent Teaching Award in 1988, 1989, 1990, 1991, and 1993 by the College of Engineering, National Taiwan University, and in 1999, 2000, and 2002 by National Taiwan University. In 1999, he was the recipient of Jan Ten-You Paper Award by The Chinese Institute of Engineering, R.O.C. In 2005, he was the recipient of Scientific Paper Award by Far Eastern Y.Z.Hsu Science and Technology Memory Foundation, Taiwan, R.O.C. In 2012, he was awarded the Himax Chair Professorship at National Taiwan University. In 2017, he was awarded the Outstanding Research Award by Ministry of Science and Technology (2016-2019).



Ju-Hong Lee (李枝宏)

Ju-Hong Lee (李枝宏) was born in I-Lan, Taiwan. He received the B.S. degree from the National Cheng-Kung University, Tainan, Taiwan, , the M.S. degree from the National Taiwan University, Taipei, , and the Ph.D. degree from Rensselaer Polytechnic Institute, Troy, New York, U.S.A., all in electrical engineering.

From September 1980 to July 1984, he was a Research Assistant and was involved in research on multidimensional recursive digital filtering in the Department of Electrical, Computer, and Systems Engineering at Rensselaer Polytechnic Institute. From August 1984 to July 1986, he was a Visiting Associate Professor and later in August 1986 became an Associate Professor in the Department of Electrical Engineering, National Taiwan University (NTU). Since August 1989, he has been a Professor at the same university. He was appointed Visiting Professor in the Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore, U.S.A., during a sabbatical leave in 1996. His current research interests include multidimensional digital signal processing, multirate signal and image processing, detection and estimation theory, analysis and processing of joint vibration signals for the diagnosis of cartilage pathology, statistical signal processing, and adaptive signal processing for smart antennas with applications in mobile wireless communication systems.

Dr. Lee received the Excellence Research Awards from the National Science Council (NSC) of Taiwan in the academic years of 1988, 1989, and 1991-1994, respectively, and the Outstanding Research Awards from the NSC in the academic years of 1998-2004, respectively, and the NSC

Research Fellowships for the academic years of 2005-2008 and 2011-2014, respectively. In 2015, He received the Merit MOST Research Fellow Award from the Ministry of Science and Technology (MOST) of Taiwan. He has been appointed NTU's Tenured Distinguished Professor since August 2006.



Hen-Wai Tsao (曹恆偉)

Hen-Wai Tsao (曹恆偉) received the B.S, M.S, and Ph. D. degrees in electrical engineering from National Taiwan University, Taipei, Taiwan, R. O. C. in 1975, 1978, and 1990, respectively.

He joined the faculty of the Department of Electrical Engineering, National Taiwan University in 1978 and became a professor in 1991. His main research interests are broadband communication system(wireless and wired), communication electronics circuits, satellite navigation receiver systems and electronic instrumentation. He is a member of IEEE.



Ruey-Beei Wu (吳瑞北)

Ruey-Beei Wu (吳瑞北) was born in Tainan, Taiwan, Republic of China, on October 27, 1957. He received the B.S.E.E. and Ph.D. degrees from National Taiwan University, Taipei, Taiwan, in 1979 and 1985, respectively.

Ruey-Beei joined the faculty of this department in 1982 and was promoted as a Professor in 1990. He served as the Department Chair since August 2004 to July 2007. He has been with the Graduate Institute of Communications Engineering since its foundation in 1997. He was a Post Doctor at the IBM East Fishkill Facility, NY, from March 1986 to February 1987; a Visiting Researcher at the Electrical Engineering Department, University of California at Los Angeles, from August 1994 to July 1995, and a Visiting Professor at the Department of Information Technology, Ghent University, Belgium, from March to July, 2009.

From May 1998 to April 2000, he was appointed as Director of the National Center for High-performance Computing and was responsible for Taiwan's Next Generation Internet project anchored by the National Science Council. From November 2002 to July 2004, he served as Director of the Department of Planning & Evaluation, National Science Council, for the coordination of the national science & technology development. He also served as the President of the Institute for Information Industry from Dec. 2012 to May 2016.

His research interests include computational electromagnetics, transmission line and waveguide discontinuities, microwave and millimeter wave planar circuits, and interconnection modeling and design for advanced packaging. He has authored more than 300 papers in international journals and conferences, and a couple of domestic and American patents,

He is a member of the Phi Tau Phi Scholastic Society, the Chinese Institute of Engineers, the Chinese Institute of Electrical Engineers, the Institute of Electrical and Electronics Engineers (IEEE), and the International Union of Radio Science (URSI). He served on editorial works for several international journals, including Associate Editor of the Journal of Chinese Institute of Electrical Engineering in 1996, Associate Editor of IEEE Transactions on Microwave Theory and

Techniques in 2005-08, and Associate Editor of the IEEE Transactions on Advanced Packaging which later become IEEE Transactions on Components, Packaging, and Manufacturing Technology, in 2009-13.

He was elected to serve as Chair of the IEEE Taipei Session in 2007-2009. Owing to his leadership, the Section received 2008 R10 Distinguished Large Section Award and then MGA Outstanding Large Section Award for 2008 Activities with citation "for successful efforts in fulfilling the educational and scientific goals of IEEE for the benefit of the public by maintaining, enhancing, and supporting the Student Branches, Technical Chapters, and Affinity Groups of the IEEE Taipei Section in Region 10". He was also recognized by the IEEE Region 10 with Outstanding Volunteer Award in 2009 and elected to receive the IEEE MGA Innovation Award for "his outstanding efforts in promoting IEEE membership, chapter consolidation, and talents cultivation, especially initiating the Electromagnetics Education Initiative."

He is IEEE Fellow with citation "for contributions to coplanar waveguide passive components." He has received numerous awards, including the Youth of Scientific Talent Award by National Culture Renaissance Association in 1975, the Outstanding Young Scientist Fellowship by URSI in 1990, the Distinguished Research Awards by National Science Council in 1990, '93, '95, and '97, the Outstanding Young Engineer Award by Chinese Institute of Engineers in 1992, the Outstanding Electrical Engineering Professor Award by Chinese Institute of Electrical Engineers in 1999, and the Outstanding Research Award from National Science Council in 2005. His paper entitled "Fast methodology for determining eye-diagram characteristics of lossy transmission lines," was selected to receive the 2009 Best Paper Award of IEEE Transactions on Advanced Packaging. In 2011, he received the IEEE EPEPS 20th Edition Recognition Award with citation: "for providing the leadership and outstanding contributions to the organization of EPEPS for its sustained growth over the past twenty years." He also received the outstanding research award from Wen-Yuan Pan Foundation and the 57th Academic Award from the Ministry of Education, Taiwan, in 2013.



Shyh-Kang Jeng (鄭士康)

Shyh-Kang Jeng (鄭士康) received the B.S.E.E. and the Ph.D. degrees from National Taiwan University, Taipei, Taiwan, Republic of China, in 1979 and 1983, respectively.

In 1981 he joined the faculty of the Department of Electrical Engineering, National Taiwan University, where he is now a Professor. From 1984 to 1985 he was an electronic data processing officer and an instructor on information system analysis and design at the National Defense Management College, Chung-Ho, Taiwan, R.O.C. From 1985 to 1993 he visited University of Illinois, Urbana-Champaign, USA, as a Visiting Research Associate Professor and a Visiting Research Professor several times. In 1999 he visited Center for Computer Research in Music and Acoustics, Stanford University, USA, for half of a year. He also served as a Session Chairman in 1994 Joint International IEEE/APS Symposium and URSI Radio Science Meeting in Seattle, USA, and 2005 IEEE AP-S International Symposium and USNC/URSI Radio Science Meeting in Washington DC, USA. He has also been invited to review papers for IEEE Transactions on Antennas and Propagation, IEEE Transactions on Microwave Theory and Techniques, IEEE Transactions on Vehicular Technology, and IEEE Transactions on Multimedia. He is also a recipient of the 1998 Outstanding Research Award of National Science Council and 2004 Outstanding Teaching Award of National Taiwan University. His research interest includes theory and applications of

electromagnetics, acoustic signal processing, computational cognitive neuroscience, and cognitive neurorobotics.



Yean-Woei Kiang (江衍偉)

Yean-Woei Kiang (江衍偉) was born in Panchiao, Taiwan, R.O.C., on October 27, 1954. He received the B.S.E.E., M.S.E.E., and Ph.D. degrees in 1977, 1979, and 1984, respectively, all from National Taiwan University, Taipei, Taiwan, R.O.C. In 1979 he joined the faculty of the Department of Electrical Engineering, National Taiwan University, where he is now a Professor. From 1982 to 1984, he was a Visiting Scholar at the Department of Electrical Engineering, University of Illinois, Urbana-Champaign, Illinois, U.S.A. His research interests include wave propagation, scattering, inverse scattering, and optoelectronics.



Sheng-De Wang (王勝德)

Sheng-De Wang (王勝德) was born in Taiwan in 1957. He received the B.S. degree from National Tsing Hua University, Hsinchu, Taiwan, in 1980, and the M. S. and the Ph. D. degrees in electrical engineering from National Taiwan University, Taipei, Taiwan, in 1982 and 1986, respectively.

Since 1986 he has been on the faculty of the department of electrical engineering at National Taiwan University, Taipei, Taiwan, where he is currently a professor. From 1995 to 2001, he also served as the director of computer operating group of computer and information network center, National Taiwan University. He was a visiting scholar in Department of Electrical Engineering, University of Washington, Seattle during the academic year of 1998-1999. From 2001 to 2003, He has been served as the Department Chair of Department of Electrical Engineering, National Chi Nan University, Puli, Taiwan for the 2-year appointment. His research interests include parallel and distributed computing, embedded systems, and computer security.

Dr. Wang is a member of the Association for Computing Machinery and IEEE computer societies. He is also a member of Phi Tau Phi Honor society.



Li-Chen Fu (傅立成)

Li-Chen Fu received the B.S. degree from National Taiwan University in 1981, and the Ph.D. degree from the University of California, Berkeley, in 1987. Since 1987, he joined National Taiwan University, and was awarded Lifetime Distinguished Professorship and Irving T. Ho Chair-professorship in 2007. Currently, he serves as Director of NTU Center for Artificial Intelligence (AI) and Advanced Robotics as well as Co-director of MOST (Ministry of Science and Technology)/NTU Joint Research Center for AI Technology and All Vista Healthcare. He has also served as the university Secretary General from 2005 to 2008. His areas of research interest include Robotics, Visual Detection and Tracking, and Control Theory & Applications.

Dr. Fu has been extremely active and highly regarded in his technical field. He has served as the Program Chair of 「2004 IEEE Conference on Control Applications (CCA)」. In terms of the editorial work, he has served as Associate Editor of the prestigious control journal, called *Automatica* from 1996 to 1999. Starting from 1999, he started a new international control journal, called *Asian Journal of Control*, and became an Editor-in-Chief of the journal till now. Due to his profound academic reputation, he was appointed as Vice-President for Publication of Asian Control Association (ACA) since 2006, and then was elected as President of ACA during 2012–2013. Due to his active role in international control community, he was elected as BoG member of IEEE Control Systems Society (CSS) from 2014 to 2016, and is now serving as a Vice President for Membership of IEEE CSS.

Dr. Fu has received numerous recognitions for his outstanding performance in research and education during his almost 30 year technical career. Domestically, he has received multiple Distinguished Research Awards from Ministry of Science & Technology (MOST) before 2000, Outstanding Youth Medal in 1991, Ten Outstanding Young Persons Award in 1999, Outstanding Control Engineering Award from Chinese Automatic Control Society (CACS) in 2000, Industry-Academia Collaboration Award from Ministry of Education (MOE) in 2004, TECO Technology Award in 2005, Outstanding Research Award from Pan Wen Yuan Foundation in 2012, and Academic Award from MOE in 2015. Internationally, he was awarded IEEE Fellow in 2004, has been elected as a Distinguished Lecturer for IEEE Control Systems Society from 2013~2015, was awarded 「Wook Hyun Kwon Education Prize」 from Asian Control Association in 2015, was elevated to IFAC Fellow in 2016, and was awarded 「Outstanding Service Award」 from Asian Control Association in 2017.



Hsu-chun Yen (顏嗣鈞)

Hsu-Chun Yen (顏嗣鈞) was born in Taiwan, Republic of China, on May 29, 1958. He received the B.S. degree in electrical engineering from National Taiwan University, Taiwan, in 1980, the M.S. degree in computer engineering from National Chiao-Tung University, Taiwan, in 1982, and the Ph.D. degree in computer science from the University of Texas at Austin, U.S.A., in 1986.

He is presently a Distinguished Professor of Electrical Engineering at National Taiwan University, where he initially joined in August 1990. He has served as Director of NTU Computer and Information Networking Center since February 1st, 2014. He served as Chairman of the Electrical Engineering Department from August 2010 to July 2013. From August 2007 to July 2010, he took a sabbatical leave of absence to serve as Dean of School of Information Sciences at Kainan University in Taoyuan, Taiwan. From August 1986 to July 1990, he was an Assistant Professor of Computer Science at Iowa State University, Ames, Iowa, U.S.A.

He is an editor of the *International Journal of Foundations of Computer Science (IJFCS)*, World Scientific Publisher. Aside from regularly serving on program committees of various international conferences in theoretical computer science, he was the general chair of the 9th International Symposium on Automated Technology for Verification and Analysis (ATVA 2011), program co-chair of the 16th International Conference on Developments in Language Theory (DLT 2012) and program co-chair of the 11th International Conference on Implementation and Application of Automata (CIAA 2006). He is also a member of the steering committees of CIAA and ATVA. He is a recipient of the NSC (National Science Council, Taiwan) Distinguished Research Award for

his research work. His current research interests include automata theory and formal languages, Petri net theory, graph drawing, design and analysis of algorithms, and formal methods.



Hao-Hsiung Lin (林浩雄)

Hao-Hsiung Lin (林浩雄) was born in Taichung, Taiwan, 1956. He received the B.S., M.S., and Ph.D degrees in electrical engineering from National Taiwan University, Taiwan in 1978, 1980, and 1985, respectively. During his Ph.D. work, he invented the emitter-thinning structure of heterojunction bipolar transistor (HBT), which is currently used in commercial HBTs. He has been with the Department of Electrical Engineering at National Taiwan University since 1980, and was promoted as a full professor in 1992. He was a visiting scholar at Stanford university, working on molecular beam epitaxy and deep-level transient spectroscopy, in 1985. From 2001 to 2004, he served as the vice chairman of the Department of Electrical Engineering, National Taiwan University. His research area is the molecular beam epitaxy (MBE) of III-V compound semiconductors. Besides the aforementioned HBT structure, he invented the first InAsN mid-infrared quantum well laser operating at 2.4 μm . His current research interests are on the MBE growth of dilute nitrides, mid-infrared semiconductors, and nano-hetero-epitaxy of compound semiconductors. Dr. Lin is a member of the Chinese Institute of Engineers and a senior member of IEEE.



Liang-Gee Chen (陳良基)

Prof. Liang-Gee Chen (陳良基) received the B.S., M.S., and Ph.D. degrees in electrical engineering from National Cheng Kung University, Tainan, Taiwan, R.O.C. in 1979, 1981, and 1986, respectively. In 1988, he joined the Department of Electrical Engineering, National Taiwan University. During 1993–1994, he was a Visiting Consultant in the DSP Research Department, AT&T Bell Labs, Murray Hill, NJ. In 1997, he was a Visiting Scholar of the Department of Electrical Engineering, University of Washington, Seattle. During 2004–2006, he was the Vice President and General Director of the Electronics Research and Service Organization (ERSO) of the Industrial Technology Research Institute (ITRI). Since 2007, he has been serving as a Co-Director General of National SoC Program. He was the Deputy Dean of office of Research and Development in National Taiwan University during 2008–2009. During 2009–2012, he was the Deputy Dean of college of EECS and a Distinguished Professor of Department of Electrical Engineering at National Taiwan University. He was the President of National Applied Research Laboratories during 2012–2013. He was the Executive Vice President for Academics & Research of National Taiwan University during 2013–2016. He was the Political Deputy Minister of Ministry of Education, R.O.C. during 2016–2017. Currently, he is the Minister of Ministry of Science and Technology, R.O.C. He is an IEEE Fellow from 2001 for his contributions to algorithm and architecture design on video coding systems. In 2009, he was awarded TWAS Prizes and National Professorship. His research interests are DSP IC design, video signal processing and bio-signal processing. He has over 550 publications, 48 patents and 31 US patents.

Dr. Chen has served as an Associate Editor of IEEE Transactions on Circuits and Systems for Video Technology in 1996–2008, as Associate Editor of the IEEE Transactions on VLSI Systems in 1999–2001, and as Associate Editor of IEEE Transactions Circuits and Systems II in 2000–2001.

He has been the Associate Editor of the Journal of Circuits, Systems, and Signal Processing (CSSP) in 1999-2009, and a Guest Editor for the Journal of Video Signal Processing Systems. He has been the Associate Editor for IEEE Signal Processing Magazine in 2009-2011, and as Associate Editor of the Journal of Information Science and Engineering (JISE) in 2002-2009. Since 2007, he has served as an Associate Editor of Research Letter in Signal Processing and for EURASIP Journal on Advances in Signal Processing. He is an Associate Editor for the Journal of Journal of Signal Processing Systems (formerly the Journal of VLSI Signal Processing Systems for Signal, Image, and Video Technology) since 2005. During 2001-2004, he was also the Associate Editor of the Proceedings of the IEEE. He was the General Chair of 7th VLSI Design/CAD Symposium in 1995 and of the 1999 IEEE Workshop on Signal Processing Systems: Design and Implementation. He was Chair of Taipei Chapter of IEEE Circuits and Systems (CAS) Society, and is a member of IEEE CAS Technical Committee of VLSI Systems and Applications, the Technical Committee of Visual Signal Processing and Communications, and the IEEE Signal Processing Technical Committee of Design and Implementation of SP Systems. He was the Chair of the IEEE CAS Technical Committee on Multimedia Systems and Applications. During 2001–2002, he served as a Distinguished Lecturer of IEEE CAS Society. He has been the program committee member of IEEE ISSCC in 2004 - 2007. He is the TPC chair of 2009 IEEE ICASSP and ISCAS 2012. He received the Best Paper Award from the R.O.C. Computer Society in 1990 and 1994. In 1990 to 2005, he received Long-Term (Acer) Paper Awards annually. In 1992, he received the Best Paper Award of the 1992 Asia-Pacific Conference on circuits and systems in the VLSI design track. In 1993, he received the Annual Paper Award of Chinese Engineer Society. In 1996, 2000 and 2002, he received the Outstanding Research Award from the National Science Council, and in 2000, the Dragon Excellence Award from Acer. He guides students won the DAC/ISSCC Student Design Contest for five times since 2004, and had the honor of Student Paper Contest at ICASSP 2006, and won the international conference on 3D Systems and Applications(3DSA)2013 Best Paper Award. He is a member of Phi Tau Phi.



Mao-Chao Lin (林茂昭)

Mao-Chao Lin (林茂昭) was born in Taipei, Taiwan, Republic of China, on December 24, 1954.

He received the Bachelor and Master degree, both in electrical engineering, from National Taiwan University in 1977 and 1979, respectively. He also received the Ph.D. degree in electrical engineering from University of Hawaii in 1986.

From 1979 to 1982, he was an assistant scientist of Chung-Shan Institute of Science and Technology at Lung-Tan, Taiwan. He is currently a Professor in Department of Electrical Engineering, National Taiwan University. His research interests is in the area of coding theory and Digital communications.

He has served as Chair of IEEE Information Theory society Taipei chapter in 1994 and 1995. He has served as Chair of IEEE Communications society Taipei chapter in 2004 and 2005. He has served as one of the three TPC Cochairs of ISITA2010/ISSSTA2010 (2010 International Symposium on Information Theory and Its Applications/2010 International Symposium on Spread Spectrum Techniques and Applications) at Taichung, Oct. 17-20, 2010.



Sy-Yen Kuo (郭斯彥)

Sy-Yen Kuo(郭斯彥) is the Pegatron Chair Professor at the Department of Electrical Engineering, National Taiwan University (NTU), Taipei, Taiwan. He was the Dean of College of Electrical Engineering and Computer Science in NTU from 2012 to 2015 and the Chairman of Department of Electrical Engineering in NTU from 2001 to 2004. He also took a leave from NTU and served as a Chair Professor and Dean of the College of Electrical Engineering and Computer Science, National Taiwan University of Science and Technology from 2006 to 2009. He received the BS (1979) in Electrical Engineering from National Taiwan University, the MS (1982) in Electrical & Computer Engineering from the University of California at Santa Barbara, and the PhD (1987) in Computer Science from the University of Illinois at Urbana-Champaign. He spent his sabbatical years as a Visiting Professor at Hong Kong Polytechnic University from 2011-2012 and at the Chinese University of Hong Kong from 2004-2005, and as a visiting researcher at AT&T Labs-Research, New Jersey from 1999 to 2000, respectively. He was a faculty member in the Department of Electrical and Computer Engineering at the University of Arizona from 1988 to 1991, and an engineer at Fairchild Semiconductor and Silvar-Lisco, both in California, from 1982 to 1984. In 1989, he also worked as a summer faculty fellow at Jet Propulsion Laboratory of California Institute of Technology. His current research interests include dependable systems and networks, mobile computing, cloud computing, and quantum computing and communications.

Professor Kuo is an IEEE Fellow. He has published more than 400 papers in journals and conferences, and also holds 21 US patents, 19 Taiwan patents, and 10 patents from other countries. He received the Distinguished Research Award and the Distinguished Research Fellow award from the National Science Council, Taiwan. He was also a recipient of the Best Paper Award in the 1996 International Symposium on Software Reliability Engineering, the Best Paper Award in the simulation and test category at the 1986 IEEE/ACM Design Automation Conference (DAC), the National Science Foundation's Research Initiation Award in 1989, and the IEEE/ACM Design Automation Scholarship in 1990 and 1991.

Chih-Chung (C. C.) Yang (楊志忠)



Distinguished Professor, Graduate Institute of Photonics and Optoelectronics, National Taiwan University

Professor Yang received his BS and Ph.D. degrees, both in electrical engineering, from National Taiwan University and University of Illinois at Urbana-Champaign, in 1976 and 1984, respectively. After nine year service as a faculty member at the Pennsylvania State University, he returned to Taiwan in 1993 and became a faculty member in the Institute of Photonics and Optoelectronics, and Department of Electrical Engineering, National Taiwan University, in which he is currently a distinguished professor. Professor Yang has published about 300 SCI journal papers and made more than 700 presentations at prestigious international conferences, including over 130 invited talks. His research areas include MBE and MOCVD growths of wide-band-gap semiconductor nanostructures, LED fabrication, plasmonics, and bio-photonics. Professor Yang is a fellow of Optical Society of America and a fellow of SPIE. He is also a recipient of the MOST outstanding research award.



Feipei Lai (賴飛熊)

Feipei Lai received a B.S.E.E. degree from National Taiwan University in 1980, and M.S. and Ph.D. degrees in computer science from the University of Illinois at Urbana-Champaign in 1984 and 1987, respectively.

He is a professor in the Graduate Institute of Biomedical Electronics and Bioinformatics, the Department of Computer Science & Information Engineering and the Department of Electrical Engineering at National Taiwan University. He was a vice superintendent of National Taiwan University Hospital. He was the chairman of Taiwan Network Information Center. He was a visiting professor in the Department of Computer Science and Engineering at the University of Minnesota, Minneapolis, USA. He was also a guest Professor at University of Dortmund, Germany and a visiting senior computer system engineer in the Center for Supercomputing Research and Development at the University of Illinois at Urbana-Champaign. Dr. Lai holds 7 Taiwan patents and 4 USA patents currently. His current research interests are SOC low power computing, Medical Information System.

Dr. Lai is one of the founders of the Institute of Information & Computing Machinery. He is also a member of Phi Kappa Phi, Phi Tau Phi, Chinese Institute of Engineers. Dr. Lai was the chairman of Taiwan Internet Content Rating Foundation. He received the Taiwan Fuji Xerox Research award in 1991, K-T Li's Breaking-through award in 2008 and IBM faculty Award and NTU Distinguished Service Award in 2009. Dr. Lai is a senior member of IEEE and included in "Who's Who in Science and Engineering" and "Who's Who in the World".



Shi-Chung Chang (張時中)

Shi-Chung Chang (張時中) received his B.S.E.E. degree from National Taiwan University, Taiwan, Republic of China, in 1979, and his M.S. and Ph.D. degrees in electrical and systems engineering from the University of Connecticut, Storrs, in 1983 and 1986 respectively.

From 1979 to 1981 he served as an Ensign in the Chinese Navy, Taiwan. He worked as a technical intern at the Pacific Gas and Electric Co., San Francisco, in the summer of 1985. During 1987, he was a member of the Technical Staff, decision systems section, ALPHATECH, Inc., Burlington, MA. He has been with the Electrical Engineering Department of National Taiwan University since 1988 and was promoted to Professor in 1994. During 2001-2002, he served as the Dean of Student Affairs and a Professor of Electrical Engineering, National Chi Nan University, Pu-Li, Taiwan. He was a visiting scholar at the Electrical and Computer Engineering Department of the University of Connecticut during his sabbatical leave in the 2003-2004 and 2006-2007 academic years. He was a commissioner of the National Communications Commission, Taiwan, ROC, 2010-2012, and led the execution of digital terrestrial TV switchover. Besides the Electrical Engineering Department, he is now jointly appointed by the Graduate Institute of Industrial Engineering and the Graduate Institute of Communication Engineering, National Taiwan University, as well. His research interests include optimization theory and algorithms, operation scheduling and control of production and power systems, network management and economics, distributed decision making and dynamic spectrum and network sharing research. He has been a principal investigator and consultant to many industry and government funded projects in the above areas, and has published more than 190 technical papers. He received, in 1996, the award of outstanding achievements in University-Industry

Collaboration by Ministry of Education for his pioneering and successful research collaborations with Taiwan semiconductor industry on production scheduling and control. He was invited by Singapore Semiconductor Industry Association as an IEEE distinguished lecturer of a masterclass on “Enabling Intelligent Semiconductor Fabrication: Optimal Scheduling & Knowledge Engineering for Yield Analysis,” 14 –16 April, 2014.

Dr. Chang is a member of Eta Kappa Nu, Phi Kappa Phi and the Academy of Distinguished Engineers and Hall of Fame, College of Engineering, University of Connecticut.



Tzi-Dar Chiueh (關志達)

Tzi-Dar Chiueh was born in Taipei, Taiwan on in 1960. In 1983, he received the B.S.E.E. degree from the National Taiwan University, Taipei, Taiwan. He also received the M.S. and Ph.D. degrees in electrical engineering from the California Institute of Technology, Pasadena, California, in 1986 and 1989, respectively.

Since 1989, he has been at the Department of Electrical Engineering, National Taiwan University, where he is presently a Professor. In 2004-2007, he served as the Director of the Graduate Institute of Electronics Engineering in the same university. He has held visiting positions at ETH Zurich Switzerland in 2000-2001 and at State University of New York at Stony Brook in 2003-2004. His research interests include IC design for digital communication systems, neural network, and signal processing for bio-medical systems. Between November 2010 and Jan 2014, he served as the Director General of the National Chip Implementation Center (www.cic.org.tw) in Hsinchu, Taiwan. He also served as the Vice President of the National Applied Research Laboratories (www.narlabs.org.tw) between May 2015 and Feb. 2017. Prof. Chiueh has received the Acer Longtern Award 11 times and the Golden Silicon Award in 2002, 2005, 2007, and 2009. His teaching efforts were recognized eight times by the Teaching Excellence Award from NTU. Prof. Chiueh was the recipient of the Outstanding Research Award from National Science Council, Taiwan in 2004–2007. In 2005, he received the Outstanding Electrical Engineering Professor from the Chinese Institute of Electrical Engineers (Taiwan), and was awarded the Himax Chair Professorship at NTU in 2006. In 2009, he received the Outstanding Industry Contribution Award from the Ministry of Economic Affairs, Taiwan. He received the Outstanding Technology Transfer Contribution Award from Ministry of Science and Technology, Taiwan in 2016. Prof. Chiueh is an IEEE Fellow.



Shey-Shi Lu (呂學士)

Shey-Shi Lu (呂學士) received his B.S. degree, M.S. Degree, and Ph.D. Degree from National Taiwan University, Cornell University, and University of Minnesota, all in electrical engineering, in 1985, 1988, and 1991, respectively. His master thesis was related to the planar doped barrier hot electron transistor while his Ph.D thesis was about the uniaxial stress effect on the AlGaAs/GaAs quantum well/barrier structures. During the summer of 1990, he was a research aide at the IBM T.J. Watson research center working on the diffusion ohmic contact. He joined the Department of Electrical Engineering, National Taiwan University in August of 1991 as associated professor and was promoted to full professor in 1995. He served as the director of Graduate Institute of Electronics Engineering, National Taiwan

University from 2007 to 2010. He received Outstanding Research Award from National Science Council, Distinguished Engineering Professor Award from Chinese Institute of Electrical Engineering, and Fu Szu-Nien Award from National Taiwan University in 2009, 2006, and 2005, respectively. His current research interests are in the areas of CMOS-based biomedical system on a chip (SoC), digital circuits, analog circuits and radio-frequency integrated circuits (RFIC). Dr. Lu is a senior member of IEEE.



Chin-Laung Lei (雷欽隆)

Chin-Laung Lei received his B.S. degree in Electrical Engineering from National Taiwan University in 1980, and his Ph.D. degree in Computer Science from the University of Texas at Austin in 1986. From 1986 to 1988, he was an assistant professor in the Computer and Information Science Department at the Ohio State University, Columbus, Ohio, U.S.A. In 1988 he joined the faculty of the Department of Electrical Engineering, National Taiwan University, where he is now a professor. His current research interests include computer and network security, cryptography, parallel and distributed processing, design and analysis of algorithms, and operating system design. Dr. Lei has published over 200 technical articles in scientific journals and conference proceedings, and he is a co-winner of the first IEEE LICS test-of-time award. He was the vice president of the Chinese Cryptology and Information Security Association from 2006 to 2012. He is also a member of International Association for Cryptologic Research and the Institute of Electrical and Electronics Engineers.



Zsehong Tsai (蔡志宏)

Zsehong Tsai (蔡志宏) received his B.S. degree in electrical engineering from National Taiwan University (NTU), Taipei, in 1983, and the M.S. and Ph.D. degrees from the University of California, Los Angeles, in 1985 and 1988, respectively. During 1988-1990, he worked as a Member of Technical Staff at AT&T Bell Laboratories, where he investigated performance aspects of network management systems. Since 1990, he has been with the Department of Electrical Engineering and Graduate Institute of Communication Engineering of NTU, where he is currently a professor.

During 1998-2004, he joined National Telecommunication Program Office (NTPO) of National Science Council (NSC), R.O.C. as the leader of the Broadband Internet Research Group. Dr. Tsai has been active in Telecommunication deregulations since Taiwan started the liberalization process of its telecomm market. For many years, he was a member of Telecommunications Advisory Board (TAB) of Ministry of Transportation and Communications (MOTC), Taiwan, R.O.C. During 2002-2004, he was assigned by MOTC to serve in the Board of Directors of Chunghwa Telecom(CHT). During 2004-2017, he then served as an independent director of CHT.

During 2004-2006, he was the Deputy Executive Secretary of STAG(Science and Technology Advisory Group) of the Executive Yuan. During 2009-2014, he also served as the Deputy Executive Officer of the Networked Communication Program of NSC. Starting 2017, he became the Executive Secretary of the Office of Science and Technology of the Executive Yuan.

Dr. Tsai's academic research interests include broadband network, performance analysis and network planning. His recent research directions also cover topics in spectrum planning, spectrum

sharing and telecommunication policies. Dr. Tsai is a receipt of the CIE (Chinese Institute of Engineers) Technical Paper Award in 1997.



Ming-Syan Chen (陳銘憲)

Ming-Syan Chen (陳銘憲) received the Ph.D. degrees in Computer, Information and Control Engineering from The University of Michigan, Ann Arbor, MI, USA. He is now the Dean of the College of Electrical Engineering and Computer Science and also a Distinguished Professor in EE Department at National Taiwan University. He was a research staff member at IBM Thomas J. Watson Research Center, Yorktown Heights, NY, USA from 1988 to 1996, the Director of GICE from 2003 to 2006, the President/CEO of Institute for Information Industry (III), which is one of the largest organizations for information technology in Taiwan, from 2007 to 2008, and also a Distinguished Research Fellow and the Director of Research Center of Information Technology Innovation (CITI) in the Academia Sinica from 2008 to 2015. His research interests include databases, data mining, social networks, and multimedia networking, and he has published more than 350 papers in his research areas. In addition to serving as program chairs/vice-chairs and keynote/tutorial speakers in many international conferences, Dr. Chen has served as an associate editor of IEEE TKDE, VLDB Journal, KAIS, and also JISE, and also the Editor-in-Chief of the International Journal of Electrical Engineering (IJEE). Dr. Chen was the Chief Executive Officer of Networked Communication Program, which is a national program coordinating several primary activities in information and communication technologies in Taiwan. He is a recipient of the Academic Award of the Ministry of Education, the NSC (National Science Council) Distinguished Research Award, Y.Z. Hsu Science Chair Professor Award, Pan Wen Yuan Distinguished Research Award, Teco Award, Honorary Medal of Information, and K.-T. Li Research Breakthrough Award for his research work, and also the Outstanding Innovation Award from IBM Corporate for his contribution to a major database product. He received numerous awards for his research, teaching, inventions and patent applications. Dr. Chen is a Fellow of ACM and a Fellow of IEEE.



Hwei Wang (王暉)

Hwei Wang (S'83-M'87-SM'95-F'06) was born in Tainan, Taiwan, in 1958. He received the B. S. degree in electrical engineering from National Taiwan University, Taipei, Taiwan, ROC, in 1980, and the M. S. and Ph. D. degrees in electrical engineering from Michigan State University, East Lansing, Michigan in 1984 and 1987, respectively.

During his graduate study, he was engaged in the research on theoretical and numerical analysis of electromagnetic radiation and scattering problems. He was also involved in the development of microwave remote detecting/sensing systems. Dr. Wang joined Electronic Systems and Technology Division of TRW Inc. since 1987. He has been an MTS and Staff Engineer responsible for MMIC modeling of CAD tools, MMIC testing evaluation and design and became the Senior Section Manager of MMW Sensor Product Section in RF Product Center. He visited the Institute of Electronics, National Chiao-Tung University, Hsin-Chu, Taiwan, in 1993 to teach MMIC related topics and returned to TRW in 1994. He joined the faculty of the Department of Electrical Engineering of National Taiwan University, Taipei, Taiwan, as a Professor in February 1998. He served as the Director of Graduate Institute of Communication

Engineering of National Taiwan University from Aug. 2006 to July 2009. He is currently the Associate Dean of the College of Electrical Engineering and Computer Science.

Dr. Wang is a member of the honor society Phi Kappa Phi and Tau Beta Pi. He received the Distinguished Research Award of National Science Council, Taiwan, at 2003. He was the Richard M. Hong Endowed Chair Professor of National Taiwan University in 2005-2007. He was elected as an IEEE Fellow in 2006, and has been appointed as an IEEE Distinguished Microwave Lecturer for the term of 2007-2009. Dr. Wang received the Academic Achievement Award from Ministry of Education, Taiwan, in 2007, and the Distinguished Research Award from Pan Wen-Yuan's Foundation in 2008. He has been Life National Chair Professor of Ministry of Education, ROC since 2013. He also has been appointed as the NTU Chair Professor from 2016.



Ching-Fuh Lin (林清富)

Prof. Ching-Fuh Lin obtained the B.S. degree from National Taiwan University in 1983, and the M.S. and Ph.D. degrees from Cornell University, Ithaca, NY, in 1989 and 1993, respectively, all in electrical engineering.

He is the founding Director of Innovative Photonics Advanced Research Center (i-PARC) and a joint distinguished professor in the Graduate Institute of Photonics and Optoelectronics, Graduate Institute of Electronics Engineering, and Department of Electrical Engineering at National Taiwan University. His major research area is in photonics, including photonics sensing techniques, Si-based photonics, organic-inorganic composites for light emission & sunlight harvest, broadband semiconductor lasers & optical amplifiers, integration of photonics and electronics.

He is a Fellow of IEEE, a Fellow of SPIE, Member of Asia-Pacific Academy of Materials, and a member of OSA. He has published over 180 journal papers and 500 conference papers and holds more than 70 patents. He is also the sole author of two books, "Optics and Photonics: Fundamentals and Applications" (in Chinese, 2012), and "Optical Components for Communications: Principles and Applications", published by Kluwer Academic Publishers (USA 2004), and co-authors a book, "Organic, Inorganic and Hybrid Solar Cells –Principles and Practice", published by John Wiley & Sons, Inc. and IEEE Press, 2012. He had obtained the Outstanding Research Award (2003) and several Class A Research Awards from National Science Council of Taiwan, ROC, Outstanding Research Award (2017) from Ministry of Science and Technology of Taiwan, ROC, and the Outstanding Electrical Engineering Professor Award from the Chinese Institute of Electrical Engineering. He and his students had also been granted the 18th Acer Research Golden Award, 18th Acer Research Excellent Award, 14th Acer Research Excellent Award, 6th Y. Z. Hsu Technology Invention Award, Outstanding R&D Innovation Award of NTU 2014, Outstanding Technology Transfer Contribution Award of MOST 2014, Collins Thesis Awards for years of 1998, 2001, 2002, 2004, 2007, 2009, 2010, and 2012.

Prof. Lin has served in the International Scientific Committee of 27th, 28th, 29th, 30th, 32nd, 33rd, & 35th European Photovoltaic Solar Energy Conference and Exhibition and as the Chair of IEEE LEOS Chapter Taipei Section, the Board member of the 17th IEEE Taipei Section, and the Council member of the 10th Optical Engineering Society of ROC and Taiwan Photonics Society.



Shen-Iuan Liu (劉深淵)

Shen-Iuan Liu (S'88–M'93–SM'03–F'10) was born in Keelung, Taiwan, Republic of China, 1965. He received the B.S. and Ph.D. degrees in electrical engineering from National Taiwan University (NTU), Taipei, Taiwan, R.O.C., in 1987 and 1991, respectively. During 1991–1993, he served as a second lieutenant in the Chinese Air Force. During 1991–1994, he was an Associate Professor in the Department of Electronic Engineering, National Taiwan Institute of Technology. He joined the Department of Electrical Engineering, NTU, in 1994, where he has been a professor since 1998. Now, he is a distinguished professor in NTU since Aug. 2010. His research interests are in analog and digital integrated circuits and systems.

In 2004–2008, Dr. Liu has served as chair of the IEEE SSCS Taipei Chapter, which achieved the Best Chapter Award in 2009. He has served as general chair of the 15th VLSI Design/CAD Symposium, Taiwan, R.O.C. (2004) and as Program Co-chair of the Fourth IEEE Asia-Pacific Conference on Advanced System Integrated Circuits, Fukuoka, Japan (2004). He was the recipient of the Engineering Paper Award from the Chinese Institute of Engineers in 2003, the Young Professor Teaching Award from MXIC Inc., the Research Achievement Award from NTU, and the Outstanding Research Award from National Science Council in 2004. He has served as a technical program committee member for ISSCC in 2006–2008, IEEE VLSI-DAT in 2008–2010, and A-SSCC in 2005–2010. He was an Associate Editor for IEEE JOURNAL OF SOLID-STATE CIRCUITS in 2006–2009 and a Guest Editor for IEEE JOURNAL OF SOLID-STATE CIRCUITS Special Issue in 2008 Dec. He was an Associate Editor for IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—II: EXPRESS BRIEFS in 2006–2007. He was an Associate Editor for IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I: REGULAR PAPERS in 2008–2009. He was the Editorial Board of Research Letters in Electronics in 2008–2009. He is also an Associate Editor for IEICE (The Institute of Electronics, Information and Communication Engineers) TRANSACTIONS ON ELECTRONICIS from 2008. He is an Associate Editor for ETRI Journal, and also an Associate Editor for Journal of Semiconductor Technology and Science, Korea, from 2009. He is a Fellow of IEEE and a member of IEICE.



Yung-Yaw Chen (陳永耀)

Yung-Yaw Chen (陳永耀) received the B.S. degree in electrical engineering from National Taiwan University in 1981 and the Ph.D. degree in electrical engineering and computer sciences from University of California at Berkeley in 1989.

He is currently a professor of the department of electrical engineering, National Taiwan University, Taipei, Taiwan, where he does research on intelligent control, fuzzy logic, computational intelligence, precision servo control, hyperthermia treatment planning, and augmented reality mini-invasive surgical system. He has published over 130 papers, including about 40 journal papers in these areas. He received the Excellent Research Awards from National Science Council in 1990 and 1991. He acted as the Program Chair in 1996 Asian Fuzzy Systems Symposium and Vice Program Chair in 2000 IFSA conference and also served as an associate editor in International Journal of Fuzzy Systems. He is a member of the IEEE Control Systems Society, Computer Society, Neural Networks Society, Systems, Man, and Cybernetics Society, and Ultrasound society.



Lon A. Wang (王倫)

Lon A. Wang (王倫) received his Ph.D. degree in Optical Sciences Center from the University of Arizona in 1988. Following graduation, he continued as postdoctoral researcher. In 1989 he joined Bell Communication Research (BEELCORE) where he worked in the areas of wavelength division multiplexing technologies and optical fiber network system technologies. In 1992, he joined the Institute of Electro-Optical Engineering and the Department of Electrical Engineering, National Taiwan University, where he is currently a professor. His current interests are design, fabrication, and modeling of active

and passive fiber devices and guided-wave components for photonic integrated circuits, optical fiber communication and sensing system applications; semiconductor nano-fabrication for integrated circuits and electro-optical devices.



Jean-Fu Kiang (江簡富)

Jean-Fu Kiang (江簡富) received the BS degree in Electrical Engineering from National Taiwan University in 1979 and the Ph.D. degree in Electrical Engineering from Massachusetts Institute of Technology in 1989. He has been a professor of the Department of Electrical Engineering and the Graduate Institute of Communication Engineering, National Taiwan University since 1999.

He has been guiding his students to apply different ideas, theories and methods in exploration of various electromagnetic phenomena and possible applications. Recent endeavors include how to merge multiple modes in a dielectric resonator antenna to increase its bandwidth (2007- 2009); how a tsunami wave perturbs the ionosphere and affects the GPS signals, leading to a method to detect a tsunami within 15 minutes of occurrence (2009); how to design 3D miniaturized broadband antennas with size of $\lambda/10$ (2010, 2011); how to improve the accuracy of a differential GPS system to within a few cm at a distance of 100 km from the reference station, leading to one possible application to measure the real-time wind field within a typhoon (2011); how to optimize a large phased array with tens of thousands of antenna elements by using evolutionary algorithms (2013-2015); how to reconstruct a better image of a celestial object 60 million light-years from the Earth, based on very-long baseline interferometry (2014); how to design super-lenses with meta-materials to achieve a resolution of $\lambda/30$ (2014); how to simulate wave propagation in the lower atmosphere, considering the effects of refractivity profile inversion and turbulence, under different weather conditions (2014); how to model the synchronization among an array of coupled oscillators originally operating at different frequencies (2014, 2015); how to reconstruct high-fidelity microwave images of multiple underground objects (2014, 2015); how to simulate wave scattering by a very large rough surface (2015); how to compensate for the coupling among antennas in an array to improve the direction-of-arrival estimation to within 0.1 degree, even from directions far away from normal incidence (2015); how to evaluate the impact on ground objects from a high-altitude electromagnetic pulse (2016); how to estimate the parameters of an evolving sand-and-dust storm using improved radar equations (2016); how to apply LEO-ground infrared laser occultation technique and a harmony search algorithm to retrieve major greenhouse gas profiles around a specific receiver site in nearly real time (2017); how to apply synthetic- aperture radar (SAR) imaging on ground objects at high squint angles (2017); how to compensate motion errors in SAR imaging (2017); how to apply microwave hyperthermia to treat cancers (2018, 2019); how to process radar signals to estimate direction-of-arrival (DOA) and

carrier frequency of multiple signal sources with co-primed array and triply-primed array techniques (2018, 2019); how to compute the brightness temperatures from very lossy medium by using finite-difference time-domain (FDTD) method to obtain near-field bistatic transmission coefficients and by extending the Planck's law to lossy medium (2019).

Documents of these works and other interesting explorations can be viewed at the website: http://cc.ee.ntu.edu.tw/~jfkang/selected_publications.html



Jyh-Horng Chen (陳志宏)

Jyh-Horng Chen (陳志宏) was born in Taipei, Taiwan, R.O.C. on May 17, 1960. He received his B.S. degree in Electrical Engineering from National Taiwan University in 1982.

After two-year's service in Marine Corps as an information officer, he decided to switch and focus his study on Biomedical Engineering. In 1986, Mr. Chen received his M.S. degree in Medical Engineering from National Yang-Ming Medical College. With a Visiting Scholar Fellowship From Ministry of Education, Mr. Chen started his Ph.D. study in the intercampus Bioengineering Program at UCB and UCSF (University of California, at Berkeley and San Francisco) where he received the Ph.D. degree in 1991.

From 1986 to 1987, Mr. Chen worked at Tele-robotics Lab at School of Optometry at UCB studying the optimization angle for 3 - Dimensional "virtual reality" vision. Later, he went into Nuclear Magnetic Resonance (NMR) Lab at Pharmaceutical Chemistry Department and Radiology department at UCSF working on the basic flow measurements, MR angiography and fundamental in-vivo NMR spectroscopy. Since 1988, Mr. Chen was in the Radiologic Imaging Lab of UCSF as a research assistant. His research interests are in the basic modeling of relaxation times in various biological tissues at different magnetic fields, the measurements of diffusion coefficient and microcirculation in the brain and echo-planar imaging.

Dr. Chen joined the faculty of Electrical Engineering Department at National Taiwan University (NTUEE) as an associate professor in 1991. He is a professor since 2000 and is acting as the chair of Institute Biomedical Engineering at NTU since 2002. Recently, Dr. Chen established an interdisciplinary MRI lab at NTU (IMRL, NTU) with a 3T MR imager to work on functional magnetic resonance imaging. Mr. Chen also designs new man-machine interface system for the disables. Other research interests include general medical imaging systems design, sensory aid design, biological signal detection, VLSI cochlear implant and medical informatics. Currently, he teaches several courses in Introductory Biomedical Engineering, Magnetic Resonance Imaging, Medical Imaging System, Medical Imaging Analysis, special topics in human vision and neuro-physiology.

Dr. Chen is a member of IEEE, AdCom (Administration Committee) of IEEE/ EMBS, International Society for Magnetic Resonance in Medicine (ISMRM) and Society of Molecular Imaging.



Cheewee Liu (劉致為)

Cheewee Liu is currently a distinguished professor of electrical engineering with the joint appointment of Graduate Institute of Electronics Engineering, Graduate Institute of Photonics and Optoelectronics Engineering, and Center of Condensed Matter Sciences at National Taiwan University, Taiwan. He is the chair professor of Micro in 2017, the chair professor of MXIC in 2018 and IEEE Fellow. He is also a senior researcher of National Nano Device Labs, Taiwan. He received his B.S. in electrical engineering at National Taiwan University in 1985, and Ph.D. in electrical engineering at Princeton University

in 1994.

Reflecting the diversity of industrial need in Taiwan, his research covers strained Si/Ge MOSFETs, IGZO TFTs, and solar cells. Due to his extensive experience on Si/Ge chemical vapor deposition and knowledge of SiGe materials, he achieved a record high electron mobility of 2×10^6 cm²/Vs of Si with fractional quantum hall effects. His early work on SiGe quantum well PFETs is now in production. Currently, he focuses on the process and carrier transport of Ge NFETs, as an alternative to III-V NFET on Si. Liu made the first triangular gate-all-around Ge channel NFETs and PFETs on Si to enhance the electrostatics and mobility. He developed high K dielectrics on Ge with the record equivalent oxide thickness of 0.39 nm. He demonstrated the first vertically stacked GeSn GAA channels using CVD epi. He pioneered the analytic modeling of strain fields around through-Si-Vias (3D IC) and dislocation stressors. For add-on functionality and material characterization, he invented the metal-insulator-semiconductor structures for light emitting diodes and detectors. Si, Ge, SiGe, and SiC have been all demonstrated. The aim of IGZO TFT is to increase the mobility (μ_n) and to reduce the I_{off} . The IGZO driver can serve the display applications beyond the amorphous Si and poly Si. The key issue is to reduce or engineer the defects in such a complicated system. His initial effort on the solar cells was the micromorph which was commonly believed to have the low cost advantages years ago. He worked with the largest amorphous thin film solar company in Taiwan and built a 10 KW panel on roof in campus. He also found the Al₂O₃ passivation on CIGS surface, and demonstrated a bifacial CIGS and Si cell. For Si wafer cells, the co-activation of implanted emitters and back surface fields is achieved in n-wafers with efficiency more than 18%. As a short summary, he has 220+ international SCI journal papers, 331+ conference papers (22 IEDM, 3VLSI), 38 Taiwan patents, 2 China patents and 35 US patents.

Liu received the 2016-2019 Outstanding Research Award, Ministry of Science and Technology, Taiwan, 2015 International Association of Advanced Materials Scientist Award, 2012 Outstanding Research Award, College of Electrical Engineering and Computer Science, National Taiwan University, 2003-2005 Outstanding Research Award, National Science Council, Taiwan, 2003/2004 Outstanding Research Award, ERSO/ITRI, Taiwan, and Semiconductor Research Corporation, Cross-discipline Semiconductor Research Award in 2002.

He has served as a TPC member for many SiGe-related conferences over the course of several years, such as SiGe: Materials, Processing, and Devices in ECS, international SiGe technology and device meetings (ISTDM), and International Conference on Silicon Epitaxy and Heterostructures (ICSI). He will be the general chair of ISTDM/ICSI-2021 held in Taipei, Taiwan.

In the devices community, Liu has served as Associate Editor of IEEE Transactions on Nanotechnology (2016-now), Guest Editor, MRS Bulletin (August 2014), Editor of IEEE Transactions on Device and Materials Reliability (2012-now), TPC of IEDM (2008-2010), VLSI/TSA (2003, 2004, and 2008-2012), ISTDM TPC chair 2008, and IEDM subcommittee chair 2010. He also organized various bilateral workshops (2010 nano/micro electronics and embedded

system, Pilani, India; 2010 TW-Russia workshop, 2008/2009 NSC-JST nano device workshop, 2009/2012 EU-Taiwan 450 nm workshop.



Chieh-Hsiung Kuan (管傑雄)

Chieh-Hsiung Kuan (管傑雄) was born in Taipei, Taiwan, in 1962. He received the B. S. degree in electrical engineering from National Taiwan University in 1985, the M. S. A. degree and the Ph.D. degree in electrical engineering from Princeton University in 1990 and 1994 respectively. During his Ph.D. work, he was major in the dark current and noise characteristics of the infrared hot-electron transistors and cooperated with the U. S. Army Laboratory at Fort Monmouth in New Jersey. He joined the Department of Electrical Engineering, National Taiwan University in 1994, as an associate professor and was promoted as full professor in 2002. His current research interests include the infrared photodiode for room temperature operation, the quantum well infrared photodetector and laser, superlattice infrared photodetector and the associated multi-color detector, and the topics on how to measure and suppress the noise in the detectors. He has set up E-beam and high-resolution microscope systems to research further in advanced lithography technology. The infrared detector, composed of two superlattices separated by a wide barrier and proposed by Dr. Kuan in 2002, was cited as a newsbreak in the June issue of Laser Focus World. Dr. Kuan is a member of IEEE Society and Phi-Tau-Phi Honored Scholar Society.



Chi-Kuang Sun (孫啟光)

Chi-Kuang Sun (孫啟光) was born in Tainan, Taiwan in 1965. He received the B. S. degree in Electrical Engineering from National Taiwan University in 1987, and the M. S. and Ph. D. degrees in Applied Physics from Harvard University in 1990 and 1995, respectively. He was a visiting scientist at the Research Laboratory of Electronics, Massachusetts Institute of Technology between 1992 and 1994 and between 2015 and 2016, respectively, working on femtosecond laser development, ultrafast phenomena studies of semiconductor lasers, and biophotonic imaging. He was with the NSF Center of Quantized Electronics Structure (QUEST) at the University of California at Santa Barbara from 1995 to 1996 as an assistant research fellow, conducting research on quantum dots, GaN, microcavity, and high speed communication systems.

Dr. Sun was an associate professor since 1996 and is now a distinguished professor in the Graduate Institute of Photonics and Optoelectronics, Graduate Institute of Biomedical Electronics and Bioinformatics, and Department of Electrical Engineering at National Taiwan University. He is also an adjunct research fellow in the Research Center for Applied Science and Institute of Physics, Academia Sinica. He is the founder of the Molecular Imaging Center of NTU, one of the 7 NTU Excellence Centers. His current research interests are primarily concerned with femtosecond optics, medical microscopy, nanoacoustics and nanoultrasonics, as well as molecular and nano imaging.

He has received numerous honors and awards and is a fellow of the Optical Society of America (2004), Royal Microscopical Society (2004) of London, IEEE (2009), and SPIE (2009). He received the Outstanding Research Awards (2004-2007, 2009-2012, 2012-2015) from the Ministry of Science and Technology, Merit Awards of National Health Research Institute of Taiwan (2003-

2009;2009-2016), Academia Sinica Research Award for Junior Researchers (2001) from Academia Sinica of Taiwan, Y.Z. Hsu Science Chair Professorship (2014), AmTRAN Chair Professorship (2017), Pan-Wen-Yuan Foundation Outstanding Research Award (2013), Leica Microsystems Innovation Award (2003) from Focus on Microscopy in Italy, and C.N. Yang Outstanding Young Researcher Award (2000) from Association of Asian Pacific Physical Society. He served as the chair of the Taiwan Section of Optical Society of America between 2007 and 2008 and the topical editor of Optics Letters (2013-2016). He is currently the Chairperson of the Photonics Division, MOST and an editorial board member of Scientific Reports.



Lung-Han Peng (彭隆瀚)

Lung-Han Peng (彭隆瀚) was born at Bay-Kang (北港), Taiwan in 1964. He received his bachelor's degree in Electrical Engineering from National Taiwan University in 1986, and his Master's and Ph.D. degree in Applied Physics from Harvard University in 1989 and 1994, respectively. He was a visiting scientist at Massachusetts Institute of Technology in 1994 and post-doctoral fellow at Oak Ridge National Laboratory in 1995.

He is now a professor at the Institute of Electro-Optical Engineering and Department of Electrical Engineering in National Taiwan University. His research interest includes semiconductor optics and nonlinear optics. Dr. Peng is a member of IEEE society.



Pai-Chi Li (李百祺)

Pai-Chi Li is the TBF Chair in Biotechnology, and he was the Getac Chair as well as the Y. Z. Hsu Science Chair Professor. He received the B.S. degree in Electrical Engineering from National Taiwan University in 1987, and the M.S. and Ph.D. degrees from the University of Michigan, Ann Arbor in 1990 and 1994, respectively, both in Electrical Engineering: Systems. He joined Acuson Corporation, Mountain View, CA, as a member of the Technical Staff in June 1994. His work in Acuson was primarily in the areas of medical ultrasonic imaging system design for both cardiology and general imaging applications. In August 1997, he went back to National Taiwan University, where he is currently Vice President for Research and Development. He is Distinguished Professor of Department of Electrical Engineering and Institute of Biomedical Electronics and Bioinformatics. He was Associate Dean of College of Electrical Engineering and Computer Science from 2015-2018. He served as Founding Director of Institute of Biomedical Electronics and Bioinformatics in 2006-2009 and National Taiwan University Yong-Lin Biomedical Engineering Center in 2009. His current research interests include biomedical ultrasound and medical devices. Dr. Li is IEEE Fellow, IAMBE Fellow, AIUM Fellow and SPIE Fellow. He was also Editor-in-Chief of Journal of Medical and Biological Engineering, and has been Associate Editor of Ultrasound in Medicine and Biology, Associate Editor of IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, and on the Editorial Board of Ultrasonic Imaging and Photoacoustics. He has won numerous awards including Distinguished Research Award, the Dr. Wu Dayou Research Award, Distinguished Industrial Collaboration Award, Getac Chair, Y. Z. Hsu Science Award, IFMBE Vladimir K. Zworykin Award and IEEE UFFC Distinguished Lecturer.



Homer H. Chen (陳宏銘)

Homer H. Chen received the Ph.D. degree in Electrical and Computer Engineering from University of Illinois at Urbana-Champaign.

Dr. Chen's professional career has spanned industry and academia. Since August 2003, he has been with the College of Electrical Engineering and Computer Science, National Taiwan University, where he is Distinguished Professor and Irving T. Ho Chair. Prior to that, he held various R&D management and engineering positions with U.S. companies over a period of 17 years, including AT&T Bell Labs, Rockwell Science Center, iVast, and Digital Island (acquired by Cable & Wireless). He was a U.S. delegate for ISO and ITU standards committees and contributed to the development of many new interactive multimedia technologies that are now part of the MPEG-4 and JPEG-2000 standards. His professional interests lie in the broad area of multimedia signal processing and communications.

Dr. Chen is an IEEE Fellow. He was an Associate Editor of IEEE Transactions on Circuits and Systems for Video Technology from 2004 to 2010, IEEE Transactions on Image Processing from 1992 to 1994, and Pattern Recognition from 1989 to 1999. He served as a Guest Editor for IEEE Transactions on Circuits and Systems for Video Technology in 1999, IEEE Transactions on Multimedia in 2011, IEEE Journal of Selected Topics in Signal Processing in 2014, and Springer Multimedia Tools and Applications in 2015. He was a Distinguished Lecturer of the IEEE Circuits and Systems Society from 2012 to 2013. He served on the IEEE Signal Processing Society Fourier Award Committee and the Fellow Reference Committee from 2015 to 2017. Starting from 2019, he serves on the IEEE Signal Processing Society Nomination and Appointments Committee and the Senior Editorial Board of the IEEE Journal on Selected Topics in Signal Processing.



Hsiao-Wen Chung (鍾孝文)

Hsiao-Wen Chung (鍾孝文) was born in Taipei, Taiwan, in September 1965. He received the B.S. degree in electrical engineering from National Taiwan University in 1987, and the Ph.D. in bioengineering from the University of Pennsylvania in 1994. Following a post-doctoral training in the Institute of Biomedical Sciences at Academia Sinica, Nankang, Taipei, he joined the section of biomedical engineering in the Department of Electrical Engineering at National Taiwan University in 1995. His current research interest is mainly in the technical development of magnetic resonance imaging with particular

focus in clinical neural sciences.

Dr. Chung is a full member of the International Society of Magnetic Resonance in Medicine, and an adjunct professor in the Department of Radiology at Taipei Medical University and Tri-Service General Hospital.



Wanjiun Liao (廖婉君)

Wanjiun Liao received her Ph.D. degree in Electrical Engineering from the University of Southern California, Los Angeles, California, USA, in 1997. She is a Lifetime Distinguished Professor of Electrical Engineering, National Taiwan University (NTU), the Director of the Internet of Things (IoT) Research Center at NTU, and an Adjunct Research Fellow of Research Center for Information Technology Innovation, Academia Sinica, Taiwan. Dr. Liao was the Department Chair of Electrical Engineering of NTU (台大電機系主任), the Vice President for Academic Affairs of NTU (Provost) (台大教務長), and the Director General of Engineering and Technologies Department in the Ministry of Science and Technology (MOST), Taiwan (科技部工程司司長). Her research interests include wireless multimedia networking, cloud-edge computing, blockchain, and green computing and networking.

Prof. Liao was an Associate Editor of IEEE Transactions on Wireless Communications and IEEE Transactions on Multimedia, and on the Steering Committee of IEEE Transactions on Mobile Computing. She is very active in IEEE and Communications Society (ComSoc), including serving as an IEEE ComSoc Distinguished Lecturer (2011-2012), IEEE Fellow Committee (2013-2015), IEEE ComSoc Fellow Evaluation Standing Committee (2016-2018), IEEE ComSoc Director for Asia Pacific Region (Region 10) (2014-2015), and IEEE ComSoc Board of Governors (BoG) Members-at-Large (2017-2019).

Prof. Liao received many research awards and recognition from different government and professional organizations, including IEEE and ACM. She was a recipient of Outstanding Teaching Award at NTU (臺大教學傑出獎) in 2000, Outstanding EE Professor Award of Chinese IEE (中國電機工程師學會傑出電機工程教授獎) in 2006, Outstanding Research Award of National Science Council (NSC) (國科會研究傑出獎) in 2006, 2009, and 2012, K. T. Li Research Breakthrough Award (李國鼎穿石獎) in 2009, Outstanding Engineering Professor Award of Chinese Institute of Engineer (中國工程師學會傑出工程教授獎) in 2010, Teco Award (東元獎) in 2014, and Ministry of Education (MoE) Academic Award (教育部學術獎) in 2015. Dr. Liao was a recipient of the Republic of China (R.O.C.) Distinguished Women Medal (中華民國十大傑出女青年) in 2000, and received the Distinguished Alumni Award from National Chiao-Tung University (交大傑出校友) in 2012. She was the Y. Z. Hsu Scientific Chair Professor and the Himax Chair Professor. She is a Fellow of the IEEE.



Farn Wang (王凡)

Prof. Farn Wang (王凡) received the degree of Bachelor of Science in Electrical Engineering from National Taiwan University in June 1982. He received the degree of Master of Science from National Chiao-Tung University in June 1984. From September 1986 to May 1987, he was employed as a research assistant in Telecommunication Laboratories, Ministry of Communications, R.O.C. He joined the Ph.D. Program in Mathematics and Computer Science at Dartmouth College in September 1987 and then transferred to the Ph.D. Program in Computer Sciences at the University of Texas at Austin in September 1988. From August 1993 to October 1997, he is an assistant research fellow in the Institute of Information Science (IIS), Academia Sinica, Taiwan, R.O.C. From

October 1997 to July 2002, he is an associate research fellow at IIS. In August 2002, he becomes an associate professor at the Department of Electrical Engineering, National Taiwan University.

Prof. Wang's is now interested at helping the industry to reduce the cost of verification (or debugging), which has sky-rocketed up to more than 50% of the total development budget. His research mainly are focused on two techniques.

Automating human verification experiences to develop verification tools with high abstractness and efficiency. Such tools have been shown effective in MS SLAM project to reduce the bugs of Windows drivers and the quality control in Intel CPU designs. Automatic test plan generation for embedded software. In most companies, testing is still the major technique used to control the quality of software systems. Our focus is to use automated technology to analyze system spec. and generate quality test plans that can check out bugs systematically and methodically. He has also designed and implemented several verification tools for embedded systems, including ARTL, VERIFAST, SGM, and RED. He has also served as the guest-editor and guest-coeditor of IJFCS (International Journal on Foundations of Computer Science), the program chairs of FORTE 2005 and ATVA 2004, and the program cochairs of ATVA 2003, RTC"1999, RTCSA"1997. He has also served 38 times to this day (as of 2005/6) in the program committees of several international conferences. He also gave tutorials in FORTE 2004 and ATVA 2003. He is also a founding member of the ATVA steering committee.



Char-Dir Chung (鐘嘉德)

Char-Dir Chung received the B.S. degree in electrical engineering from the National Taiwan University (NTU), Taipei, in 1983, and the M.S. and Ph.D. degrees in electrical engineering from the University of Southern California, Los Angeles, in 1986 and 1989, respectively.

From 1989 to 1992, Dr. Chung was with the LinCom Corporation, Los Angeles, where he worked on analytical and simulation modeling of scientific and military satellite communication systems. From 1992 to 2005, he joined the faculty of the National Central University (NCU) in Taiwan. At NCU, he founded the Advanced Communication Laboratory in 1998, the Graduate Institute of Communication Engineering in 2000 and the Communication Engineering Department in 2003, and was the founding heads of these organizations. Since 2005, he has been on the faculty of the National Taiwan University, where he is now a Distinguished Professor of the Electrical Engineering Department and the Graduate Institute of Communication Engineering. Prof. Chung was endowed with the SiS Technology Chair for the 2009 academic year at NTU. His current research interests include digital modulation theory, wireless communications, spread spectrum communications and statistical signal processing. He has published more than 80 journal and conference papers and holds 6 patent rights in these areas.

Dr. Chung received the Group Achievement Award from the National Aeronautics and Space Administration, USA, in 1991; the Young Scientists Award from the International Union of Radio Science in 1993; the annual Research Award from the National Science Council, ROC, in 1992 and from 1994 to 2001, the Kentucky Colonel grade from the Commonwealth of Kentucky, USA, in 2003, and the FORMOSAT-2 Satellite Project Award from the National Space Center, ROC, in 2005. In 2005, Dr. Chung was ranked as the first-grade project investigator by the National Science Council, ROC. He served as the Chairman of IEEE Information Theory Society, Taipei Chapter, from 1997 to 1999, and the Secretary of Taipei Section from 2007 to 2008. He was an editor for the Journal of the Chinese Institute of Electrical Engineering from 2000 to 2004 and an editor for

the Magazine of the same organization from 2003 to 2008. He was a guest co-editor for the IEEE Transactions on Vehicular Technology (Special Issue on Intelligent Transportation Systems and Telematics Applications) in 2008. Dr. Chung is a Fellow of the IEEE.

Dr. Chung has been very active in industrial development and government services in Taiwan. From 2004 to 2008, he served as the Chairman of the Wireless System Group of the National Science and Technology Program for Telecommunications, and the founding Chairman of the Taiwan Broadband Wireless Communications Industry Alliance. Since 2001, Dr. Chung joined several Technology Review Boards of the Ministry of Economic Affairs, and acted as the Chairman of the Board of Computer, Consumer Electronics, Communications, Optoelectronics, and Semiconductor Electronics from 2005 to 2008 and the Board of the Technologies and Applications from 2012 to 2013. Dr. Chung acted as Deputy Executive Secretary of the Science and Technology Advisory Group and of the National Information and Communication Security Taskforce during 2008-2011, Executive Secretary of the Digital Convergence Taskforce during 2011-2012 and of the National Information and Communication Initiative Committee during 2014-2016, Member and Executive Secretary of the Board of Science and Technology during 2014-2016, and Minister without Portfolio in 2016, all under the Executive Yuan (the Cabinet), and was involved in cross-ministry national policy making and coordination in a variety of science and technology areas including information and communications, digital content, digital convergence, electronics, technological innovation, biotechnology, agrobiotechnology, talent cultivation, etc. Dr. Chung was awarded Merit Medal by Executive Yuan in 2016 to honor his contribution in reviewing national programs and making national policies in science and technology.



Sheng-Lung Huang (黃升龍)

Dr. Sheng-Lung Huang (黃升龍) received the B.S. degree from the Department of Electrical Engineering, National Taiwan University in 1986, and the M. S. and Ph. D. degrees from the Department of Electrical Engineering, University of Maryland, College Park in 1990 and 1993, respectively.

He joined the Graduate Institute of Photonics and Optoelectronics (GIPO) and Department of Electrical Engineering, National Taiwan University in 2006. Starting 2007, he served as the Chairman of GIPO for 3 years. He was also a guest professor at the Abbe School of Photonics, Friedrich-Schiller University of Jena, Germany, 2014. Prior to joining National Taiwan University, he served as Chairman of the Institute of Electro-Optical Engineering, National Sun Yat-Sen University from 2003 to 2005.

Dr. Huang's research interest is on crystalline fiber based devices and applications. He pioneered the development of cellular-resolution optical coherence tomography, and has used it clinically on early diagnosis of cancer and diseases. His work on crystal fiber based devices and applications have been invited for more than 50 international conference talks, including Optical Fiber Conference (OFC), IEEE LEOS annual meeting, SPIE Photonics West, etc. In 2014, he co-founded a startup company, Apollo Medical Optics, and he has served as the CTO.

Dr. Huang served as Chairman of IEEE/LEOS (now IEEE/PS) Taipei Chapter, 2005/2006. He was a steering board member, European Master of Science in Photonics (EMSP). Dr. Huang has organized several international conferences and workshops, including OECC 2011 and the 2nd BioPhotonics, 2013. Dr. Huang serves as an Associate Editor of the IEEE Photonics Journal and

was a Topical Editor, Optics Letters, for 6 years (2005–2011). He was a Guest Editor for Taiwan Photonics Society Quarterly in 2008.

Dr. Huang has received the Outstanding Research Award from the Ministry of Science and Technology, and the University/Industry Cooperation Award from the Ministry of Education. He has also jointly awarded Chimei Innovation Excellence Award and Optical Communications Elite Award. He is a Fellow of the OSA.



Chii-Wann Lin (林啟萬)

Chii-Wann Lin received his B.S. from Department of Electrical Engineering, NCKU in 1984. He then started his career in biomedical engineering with M.S. degree from Graduate Institute of Biomedical Engineering, NYMU in 1986. He received his Ph.D. from CWRU, USA in 1993. He joined the Center for Biomedical Engineering, College of Medicine, NTU from Sept. 1993. He is now a professor in Institute of Biomedical Engineering and holds joint appointments in both Department of Electrical Engineering and Institute of

Applied Mechanics, NTU. He is also a member of IEEE EMBS and Chinese BMES. He was the President of Taiwan Association of Chemical Sensors (ACST) from 2008-2010 and served as the chairperson for international steering committee of ACCS 2013 and ACCS 2015. He is director of NTU-ITRI Joint Nano Research Center from Sept. 2014. His research interests include biomedical micro sensors, optical biochip, surface plasmon resonance, bio-plasmonics, and e-health devices. He has involved in two medical device startup companies based on technology transfer from his research outcomes.



See-May Phoong (馮世邁)

See-May Phoong (M'96-SM'04) was born in Johor, Malaysia, in 1968. He received the B.S. degree in electrical engineering from the National Taiwan University (NTU), Taipei, Taiwan, R.O.C., in 1991 and M.S. and Ph.D. degrees in electrical engineering from the California Institute of Technology (Caltech), Pasadena, California, in 1992 and 1996, respectively.

He was with the Faculty of the Department of Electronic and Electrical Engineering, Nanyang Technological University, Singapore, from September 1996 to September 1997. In September 1997, he joined the Graduate Institute of Communication Engineering and the Department of Electrical Engineering, NTU, as an Assistant Professor, and since August 2006, he has been a Professor.

Dr. Phoong has previously served as an Associate Editor for IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing (Jan. 2002 -- Dec. 2003) and IEEE Signal Processing Letters (March 2002 – Feb. 2005), and IEEE Transactions on Circuits and Systems I. His interests include filter banks and their application to communications, OFDM, synchronization and estimation problems in wideband multicarrier systems. He received the Charles H. Wilts Prize (1997) for outstanding independent research in electrical engineering at Caltech. He was also a recipient of the Chinese Institute of Electrical Engineering's Outstanding Youth Electrical Engineer Award (2005).



Chung-Chih Wu (吳忠幟)

Dr. Chung-chih Wu (吳忠幟) received his B.S. degree in electrical engineering from National Taiwan University in 1990, and the M.A. and Ph.D. degrees in electrical engineering from Princeton University in 1994 and 1997, respectively.

From 1990 to 1992, he was an ensign instructor at R.O.C. Naval Communication and Electronics School, Kaohsiung, Taiwan. From 1997 to 1998, he was with the Electronic Research and Service Organization in the Industry Technology Research Institute (ERSO/ITRI), Hsin-Chu, Taiwan, as a researcher in the division of flat panel display. In 1998, he joined the faculty of National Taiwan University in the Department of Electrical Engineering, Graduate Institute of Photonics and Optoelectronics, and Graduate Institute Electronics Engineering, where he is currently Distinguished Professor (特聘教授) of NTU. His current research interests include organic semiconductors and devices, oxide semiconductors and devices, flexible and transparent TFTs, flat panel displays, and nano science and technologies.

Dr. Wu is the recipient of 2001 NTU Outstanding Teaching Award (2001 台灣大學教學優良獎), 2003 Dr. Wu Da-You Research Award, National Science Council (2003 國科會吳大猷先生紀念獎), 2003 Outstanding Paper Award, Far Eastern Y.Z. Hsu Science and Technology Memorial Foundation (2003 有庠科技論文獎), 2003 Outstanding Young Electrical Engineer Award of Chinese Institute of Electrical Engineering (2003 中國電機工程師學會, 優秀青年電機工程師), 2004 Academia Sinica Research Award for Junior Scholars (2004 中研院年輕學者研究著作獎), 2004 NTU Outstanding Research Achievement Award (93 年度台灣大學研究成就獎/傅斯年獎), Outstanding Innovation Award, Industrial Technology Research Institute (2004 工研院傑出創新獎), 2006, 2009 and 2012 Distinguished Research Award, National Science Council (95、98、101 年度國科會傑出研究獎), 2007 and 2010 NTU Distinguished Research Achievement Award (96 及 99 年度台灣大學傑出研究成就獎), 2011 Distinguished Electrical Engineering Professor, Chinese Institute of Electrical Engineering (2011 中國電機工程學會傑出電機工程教授), 2011 Thomson Reuters Research Front Award (2011 湯森路透卓越科學研究獎). Dr. Wu was elected as one of Top 10 Rising Stars in Taiwan (Science and Technology) by Central News Agency in 2005 (2005 年台灣十大潛力人物-科技學術類, 財團法人中央通訊社).



Tzong-Lin Wu (吳宗霖)

Tzong-Lin Wu, received the B.S.E.E. and Ph.D. degrees from National Taiwan University (NTU), in 1991 and 1995, respectively. From 1995 to 1996, Tzong-Lin was a Senior Engineer at Micro-electronics Technology Inc., in Hsinchu, Taiwan. In 1996, after receiving his Ph.D. degree, he joined the Central Research Institute of the Tatung Company, Taipei, Taiwan, where he was involved in the analysis and measurement of electromagnetic compatibility/electromagnetic interference (EMC/EMI) problems of high-speed digital systems. In 1998, he decided in favor of an academic career and accepted a position at the Electrical Engineering Department, National Sun Yat-Sen University. Since 2006, he has been a Professor in the Department of Electrical Engineering and Graduate Institute of Communication Engineering (GICE), NTU. In Summer 2008, he was a Visiting Professor with the

Electrical Engineering Department, University of California at Los Angeles (UCLA). His research interests include EMC/EMI and signal/power integrity design for high-speed digital/optical systems. Tzong-Lin served as the Director of the GICE in 2012-2018. He is currently the Associate Dean of College of Electrical Engineering and Computer Science.

Tzong-Lin received the Excellent Research Award and the Excellent Advisor Award from National Sun Yat-Sen University in 2000 and 2003, respectively, the Outstanding Young Engineers Award from the Chinese Institute of Electrical Engineers in 2002, and the Wu Ta-You Memorial Award (吳大猷先生紀念獎) from the National Science Council (NSC) in 2005, Outstanding Research Award (國科會傑出研究獎) from NSC in 2011, 2014, and 2017, the IEEE Transactions on Advanced Packaging Best Paper Award in 2011, Outstanding Research Innovation Award (台大研發創新傑出獎) from NTU in 2013, Outstanding Technology Transfer Contribution Award (國科會傑出技術移轉貢獻獎) from NSC in 2013, 2014 Outstanding Teaching Award (台大教學傑出獎) in NTU (top 1%), and 2015 IEEE EMC Society Motohisa Kanda Award for a IEEE T-EMC paper with highest citation for those published papers in past 5 years. He has served as the Chair of the Institute of Electronics, Information and Communication Engineers (IEICE) Taipei Section in 2007-2011, the Treasurer of the IEEE Taipei Section in 2007-2008. He was a member of the Board of Directors (理事) of the IEEE Taipei Section in 2009-2010 and 2013-2018, and the member of Board of Directors (BoD) of IEEE EMC Society in 2016-2020. He served the IEEE EMC Society as a Distinguished Lecturer for the period 2008–2009. He was Co-Chair of the 2007 IEEE Electrical Design of Advanced Packaging and Systems (EDAPS) workshop, General Chair of the 2015 Asia Pacific EMC Symposium (APEMC), and Technical Program Chair of the 2010 and 2012 IEEE EDAPS Symposiums. He was the Associate Editor of IEEE Transactions on EMC (2015-2018) and IEEE Transactions on CPMT (2016-2018). He is now the Editor-in-Chief of IEEE Transactions on EMC and International Journal of Electrical Engineering (IJEE). Dr. Wu is IEEE Fellow.



Tian-Wei Huang (黃天偉)

Tian-Wei Huang received his Ph.D. degree in EE from UCLA, in 1993. Then he joined TRW (now is Northrop Grumman), where he designed RFIC up to 190 GHz. From 1998 to 2002, he was with Lucent Technologies and Cisco Systems, where he developed the high-speed wireless systems. In 2002, he joined the faculty of National Taiwan Univ. Currently; he is the TPC member of IEEE RFIC symposium. He is also a voting member of IEEE 60-GHz gigabit wireless standard. His research interests include millimeter-wave RF-CMOS design, and gigabit wireless systems.



Ren C. Luo (羅仁權)

Prof. Ren C. Luo (M;82;SM;87; Fellow;92)--- Prof. Luo was a Research Engineer at Waldrich Siegen GmbH in Germany, Chief Engineer at Victor Machinery Co. Inc and was a Scientific Research Staff at Fraunhofer Institute for Production and Design in Berlin, Germany. With Diplom Ingenieure in Germany, he was a Scientific Research Staff in the Institute for Measurement and Control Engineering in Berlin and contributed on design of various sensors integrated control systems.

Prof. Luo received his Ph.D from the Technische Universitaet Berlin, Berlin, Germany. He was an Assistant Professor of Electrical Engineering and Computer Science in University of Illinois at Chicago and contributed on teaching and research in the area of sensor based robotics and flexible automation system. He later joined the Department of Electrical and Computer Engineering as an Assistant, Associate and Full tenured Professor and the founding Director of the University of North Carolina Systems Center for Robotics and Intelligent Machines at North Carolina State University in Raleigh, North Carolina, USA. Prof. Luo was a Toshiba Chair Professor of Electrical Engineering in the Institute of Industrial Science at University of Tokyo, Japan. He has served as Dean of College of Engineering for 6 years at National Chung Cheng University in Taiwan. He became President of National Chung Cheng University since 2001 and completed his two terms presidency by 2007. Prof. Luo is currently a Irving T. Ho Chair Professor and a life distinguished professor in the Department of Electrical Engineering at National Taiwan University. He is also currently served as Hon. President of Robotics Society of Taiwan, and President of Taiwan Research and Development Managers Association.

Prof. Luo has made research contributions in (1) Sensor-controlled Intelligent Robot system--- Medical Robot(e.g. surgical robotics, minimum invasive surgery etc.), Service Robot, Autonomous Mobile Robot, Humanoid Robot, Security Robot, Home Education and Entertainment Companion Robot; (2) Multisensor Fusion and Integration for Intelligent Systems; (3) Visual Servo Feedback Control Systems; (4) 3D printing and Rapid Prototyping for Advanced Manufacturing Automation Systems; (5) Intelligent Mechatronics Systems (6) Micro and Nanotechnologies Prof. Luo has published more than 450 refereed papers and more than 20 patents from USA and Taiwan. Prof. Luo has received IEEE Eugean Mittleman Outstanding Research Achievement Award; IEEE IROS Harashima Award for Innovative Technologies; ALCOA Distinguished Engineering Research Award at USA; Honorary Citizen Award of Obudai University, Hungary; Outstanding Achievement Award of Banki Donat University of Hungary; TECO Company Outstanding Science and Technology Research Achievement Award; National Science Council Outstanding Research Awards for seven years consecutively; National Science Council Distinguished Research Awards Automation Engineering Medal Award from Institute of Automation Engineers and Outstanding Engineering Professor Award from the Chinese Institute of Engineers; He and his students have won twice Championship for the AAAI (American Association of Artificial Intelligence) sponsored International Robots Competition in 1993(at Washington D.C) and 1995 (at Montreal) respectively and Championship of 2004 International Student Experimental Hands-on Competition via Internet on Intelligent Mechatronics and Automation; Won 5 times Championship for Hands-on robotics competition in IEEE International Robotics Hands on Competition and Symposium (IRHOCS) since 2009 consecutively. He also received Excellent Paper and Research Result Competition Award by the Institute of Information; Computing Machinery of Taiwan. Prof. Luo served as Editor-in-Chief of IEEE/ASME Transactions on Mechatronics for five years. He is current co-Editor-in-Chief of IEEE Transactions on Industrial Electronics (Impact Factor 5.468). Prof. Luo is a Fellow of IEEE since 1992 and a Fellow of IET (new name, IET, The Institution of Engineering and Technology).

Prof. Luo has served as the General Chair for the IEEE and other International conferences more than 10 times, which includes IEEE/SICE International Conference on Intelligent Robots and Systems (IROS 1992 and IROS 2010); IEEE International Conference on Multi-sensor Fusion and Integration for Intelligent Systems (MFI 1994 and MFI 1999); IEEE International Conference on Robotics and Automation (ICRA 2003); IEEE International Conference on Industrial Electronics (IECON 1996 and IECON 2007), etc. Prof. Luo also contributes regularly to international conferences by serving as Program Chairs, program committees, and offers short courses or tutorials and invited more than 40 plenary/keynote speeches at international conferences in various countries.

Prof. Luo also served as Ph.D external examiner and evaluator of major competitive research proposals for the various universities and national research councils and agencies in USA, Hong Kong, Taiwan, Japan, Singapore, Australia and Canada and European Union. Prof. Luo was the President of IEEE Industrial Electronics Society (2000-2001). He has served as Science and Technology Advisor to Executive Yuan (Prime Minister Office) in Taiwan; an advisor to the Ministry of Economic Affairs. He was the Program Director of the Automation Research Program of National Science Council. Prof. Luo has served on numerous National Committees. He chaired the budgetary committee of national science and technology four-year initiatives, chaired various review and evaluation committees for the major government funded research and development programs to the large scale companies and non-profit governmental research laboratories and institutions.

As the President of National Chung Cheng University (NCCU), Prof. Luo has worked tirelessly and effectively to promote the national and global interests of the university. He is the founding President of the Association of Chang-Yung-Chia Universities, a consortium of 16 universities. He was also the President of Chinese Institute of Automation Engineers, the President of Phi Tau Phi Honor Society, and the President of Chinese Business Incubation Association, which consists of 100 Business Incubation Centers with more than 2,600 SME companies, in which Prof. Luo founded and served as Director for the NCCU's business incubation center with more than 100 residential incubation companies on campus, the highest number of residential companies among all incubation centers. NCCU is also the first NCCU-MIT technology enabled active learning system (TEALs) program established in Taiwan. During his six years tenure of serving as President of National Chung Cheng University, the university has doubled the number of students from about 6,000 students to more than 12,000. The overall performance in terms of research publications, external funding, patents, technology transfers has made NCCU become one of the top universities among 160 universities and colleges in Taiwan.

最高學歷：德國柏林工業大學電機工程博士;德國柏林工業大學國家工程師

現任：

國立台灣大學電機工程學系何宜慈講座教授暨終身特聘教授;國立台灣大學智慧機器人及自動化國際研究中心主任; 歐盟產業發展指導委員會委員; 台灣機器人學會榮譽理事長;

經歷：

國立中正大學校長(2001-2007);國立中正大學工學院院長;國立中正大學講座教授; 日本東京大學講座教授; 國立中山大學榮譽講座教授;美國北卡州立大學系統智慧型機器人研究中心主任;美國北卡州立大學電機電腦工程系終身職正教授;美國北卡州立大學電機電腦工程系終身職副教授;美國北卡州立大學電機電腦工程系助理教授;美國伊利諾大學助理教授;擔任加拿大滑鐵盧大學聘請之國外博士論文考官;擔任香港理工大學國聘請之外博士論文考官;IEEE 國際工業電子學會總裁(係我國第一位擔任此國際學術團體職位者);IEEE/ASME 國際機電整合期刊總主編 (Editor-in-Chief);IEEE 國際工業電子工程師學會首席執行副總裁;IEEE 國際機器人及自動化學會執行委員會及科技委員會主席;IEEE 國際工業電子學會主管刊物出版的副總裁;IEEE 國際工業電子學會主管科技的副總裁;中華民國自動化科技學會理事長(1999-2003);中華民國斐陶斐榮譽學會理事長(2003-2005);中華民國中小企業育成協會理事長 (2005-2007);彰雲嘉十六所大學院校聯盟創會理事長 (2003-2006);東元獎聯誼會理事長 (2003-Present);中華民國經濟部顧問(1998-2002);中華民國行政院科技顧問 (2003-2004);行政院國家科學委員會自動化學門召集人(1999-2002);行政院國家科學委員會傑出研究獎決審委員;行政院國家科學委員會傑出科技人才獎決審委員;行政院國家科學委員會諮

議委員會諮議委員--工程處自動化學門;行政院國家科學委員會諮議委員會諮議委員--工程處電機及控制學門;受邀擔任多次國際大型國家型研究計畫評審,包括美國、加拿大、日本、澳洲、香港、新加坡等國及歐盟;歐 盟產業發展指導委員會委員。

學術與研究專長:智慧型感測器控制之機器人及自動化系統理論及應用--- 醫療機器人, 服務型機器人, 全自動輪型自走機器人, 類人形機器人, 保全機器人, 教育及娛樂伴侶機器人; 智慧型多重感測器融合與整合系統;視覺伺服回授控制系統; 3D 列印控制系統及快速雛型產品開發與先進製造自動化系統;(於以上學術專業領域發表 450 餘篇學術科技論文在國際著名學術期刊、國際會議、專書及 20 多項國內外專利)。

榮譽及獎賞: 國際: 國際電機電子工程師學會(IEEE Fellow,1992);榮獲英國工程科技學會(IET Fellow, 2002);榮獲國際電機電子工程師學會(IEEE) Eugean Mittleman 傑出研究成就獎章及獎金 1996;榮獲 IEEE 國際電機電子工程師學會 IEEE IROS Harashima Award for Innovative Technologies--“for the Contribution of Innovative Robotics and Systems Technologies”; 榮獲美國 ALCOA Distinguished Engineering Research Award at USA; Honorary Citizen Award of Obudai University,Hungary; Outstanding Achievement Award.of Banki Donat University of HungaryIEEE 國際工業電子學會總裁(係我國第一位擔任此國際學術團體職位者)2000-2001;IEEE/ASME 國際機電整合期刊總主編 (Editor-in-Chief)2003-2007;匈牙利 Banki Donat 大學傑出成就獎章 1997;榮獲 IEEE 國際工業電子學會 Anthony J. Hornfeck 傑出服務獎 2004;國際學生專題實作競賽(新光保全機器人)第一名 2004;美國人工智慧學會(AAAI)舉辦國際自動行走智慧型機器人競賽第一名 1995;美國人工智慧學會(AAAI)國際自動行走智慧型機器人競賽第一名 1993;Won 5 times Championship for Hands-on robotics competition in IEEE InternationalRobotics Hands on Competition and Symposium(IRHOCS) consecutively since 2009, IEEE 世紀獎章(IEEE Millennium Medal for Outstanding Achievement) 2000;美國傳記學院 " Man of the Year-2000 "獎章;英國劍橋傳記學院--獲選列入 International Man of the Year 1997-1998;美國傳記學院傑出工程教育獎 1988; Marguis Who's Who Publications Board 獲選列入 Who's Who in the World 1987-1988;Marguis Who's Who Publications Board 獲選列入 Who's Who in Frontiers of Science and Technology 1986-1987;國內:連續三次 7 年獲得行政院國家科學委員會傑出研究獎 (1998-1999, 2000-2001,2002-2004);榮獲行政院國家科學委員會特約研究獎 2005-2008;中華民國工程師學會傑出工程教授獎 2003;第八屆東元科技獎 2001;東元獎聯誼會理事長 2004-迄今;中華民國自動化工程獎章 2007;中華民國資訊學會最優論文及成果競賽獎 2000;行政院國科會指導大專生專題研究計劃創作獎。

學術研究經驗:在美、日、德著名大學及中正大學有 20 多年教學研究經驗;在美國任教期間獲得一仟多萬美金之學術研究經費;在學術專業領域發表 300 餘篇在國際著名學術期刊論文、國際會議論文及專書;研究成就獲得多項美國、日本及國際學術機構之獎勵及榮譽;在美國及國內任教主持多項跨校跨領域大型產學合作整合研究計劃, 成果卓著;美國 ARO、ONR、DARPA、NSF 整合智慧型自動化領域前瞻研究方向規劃委員、研究計劃審查委員;澳洲教育部長遴選擔任澳洲政府大型國家型計畫決審委員。

國際學術 Activities and Leadership: 曾 40 多次受邀於重要國際會議擔任特邀主講貴賓(keynote speaker), 及重要研究領域主講貴賓(plenary speaker)等;曾任 60 多次國際會議科技委員會論文評審及會議分組主席;擔任 10 多次大型國際電機電子工程師學會(IEEE/SICE/RSJ/SPIE/RI/SME)相關學術專業領域國際會議大會總主席(General Chairman), 議程主席(Program Chairman)。

工業界經驗：在德國期間與工業界交流頻繁並有多項合作研究計劃,尤其與 Siemens, AEG,VW 及 BMW 公司有多項合作研究計劃;在美期間許多研究計劃均來自工業界,與 Westinghouse, IBM, DuPont 及 GE 公司有多項的研究計劃;在日本期間主要與 Toshiba 及 FANUC 公司進行合作研究計劃;美國 IBM 公司科技顧問(北卡州三角科學園區);美國 Research Triangle Institute 公司科技顧問;日本東芝(Toshiba)公司科技顧問;聯合國(United Nation)UNDP 科技顧問;東元集團公司技術委員會總召集人;台中精機集團公司技術總顧問;新竹工業技術研究院機械研究所科技顧問;高雄金屬工業研究發展中心科技顧問;台大慶齡創業育成中心諮詢委員會委員及技術審查委員;在美期間曾多次經我國政府遴選邀請回國參加國家建設研討會,近代工程技術研討會,引進海外新技術講習會等,瞭解國內進步情況並與多家國內工業界廠商保持密切合作關係並幫忙解決問題;專利及發明(6 項美國及中華民國)。

國內學術、政府相關部會服務及貢獻：台大、清大、交大、成大、台灣科大、海洋大學、逢甲、...等 20 餘校教師升等外審評審委員台大、清大、交大、成大、中山、台灣科大、逢甲、南台科大、...等大學及技職體系等 20 餘校研討會主講台大、清大、交大、...等校相關系所與學院自我評鑑評鑑委員;財團法人金屬工業研究發展中心前瞻創新研究計劃指導委員;經濟部法人科專計畫績效成果評審委員;財團法人工業技術研究院前瞻創新計劃指導委員 行政院國家科學委員會自動化學門召集人;行政院政府科技計劃跨部會評審領域召集人 新竹工業技術研究院本部所屬各研究所前瞻創新研究計劃決審委員;經濟部工業局多項機電相關及自動化/電子化/電子商務之計畫諮議委員及評審委員;經濟部商業司有關物流及資訊流研究推廣計畫主審;經濟部財團法人智慧財產管理制度評鑑主審委員;經濟部科專優良技術獎召集人;金屬工業研究發展中心研究計劃諮議委員、評審委員;連續三年擔任行政院政府科技計劃跨部會評審領域召集人;經濟部產業政策白皮書領域召集人;經濟部 "鼓勵中小企業開發新技術推動計畫" 總召集人;教育部製造科技改進計畫"機電設計及整合"推動辦公室總主持人;嘉義市政府工業策進委員會委員;嘉義縣政府縣政顧問;考試院銓敘部全國卓越公務員評審委員。



Liang-Hung Lu (呂良鴻)

Liang-Hung Lu (呂良鴻) was born in Taipei, Taiwan, in 1968. He received the B.S. and M.S. degrees in electronics engineering from National Chiao-Tung University in 1991 and 1993, respectively, and the Ph. D. degree in electrical engineering from the University of Michigan, Ann Arbor, MI, in 2001. During his graduate study, he was involved in SiGe HBT technology and monolithic microwave integrated circuit (MMIC) designs. From 2001 to 2002, he was with IBM Watson Research Center, Yorktown Heights, NY, working on low-power and RF integrated circuits for silicon-on-insulator (SOI) technology. In the August of 2002, he joined the faculty of the Graduate Institute of Electronics Engineering and the Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, where he is currently a Professor. His research interests include CMOS/BiCMOS RF and mixed-signal integrated circuit designs. Dr. Lu is a member of Phi-Tau-Phi Scholastic Honor Society of Republic of China.



Chung-Ping Chen (陳中平)

Chung-Ping Chen (陳中平) Charlie Chung-Ping Chen received his B.S degree in computer science and information engineering from the National Chiao-Tung University, Hsinchu, Taiwan, in 1990 and his M.S. and Ph.D. degrees in computer science from the University of Texas at Austin in 1996 and 1998. From 1996-1999 he was with Intel Corporation as a senior CAD engineer with Strategic CAD Labs. Since 1999, he has been an assistant professor in the ECE Department at the University of Wisconsin, Madison. Since 2003, he has been an associate professor in the EE department of National Taiwan University, Taiwan. His research interests are in the areas of computer-aided design and microprocessor circuit design with an emphasis on interconnect and circuit optimization, circuit simulation, and signal/power/thermal integrity analysis and optimization. Prof. Chen served the program committee for most of the major VLSI Design Automation Conferences which include DAC, ICCAD, DATE, ISPD, ISQED, ASPDAC, and SASIMI. Prof. Chen received the D2000 award from Intel Corp. and National Sciences Foundation Faculty Early Career Development Award (CAREER) at 1999 and 2001, respectively. He also received the 2002 Sigda/ACM Outstanding Young Faculty award and 2002 Peter Schneider Faculty Development award. He received the best paper award from the International Symposium Physical Design, 2003.



Eric Y. Chuang (莊曜宇)

Eric Y Chuang received his doctorate in cancer biology with toxicology and molecular genetics as two sub-specialties from Harvard University and his doctoral thesis was to study radiation-induced mutagenesis in human cells. After graduation, he stayed at Harvard as a postdoctoral fellow for one year. He then joined the Radiation Biology Branch of National Cancer Institute (NCI), National Institutes of Health (NIH) as an IRTA fellow to study radiogenomics in Bethesda, MD, USA. Next, he became the Head of Microarray Laboratory for Radiation Oncology Sciences Program at NCI; his lab was to develop new initiatives that utilized state-of-the-art microarray technologies for studying radiation oncology related research projects. After working at the NIH for several years, he took a faculty position at National Taiwan University (NTU). In 2009, he joined the Radiation Research Program of Division of Cancer Treatment and Diagnosis at NCI as a Program Director to oversee a portfolio of NIH grants that included radiation-induced signaling pathways, molecular mechanisms and normal tissue injuries as well as radiation related genomic studies. In 2011, he returned to NTU and is currently a Professor and Director of Graduate Institute of Biomedical Electronics. Being an expert in genomic technologies, bioinformatics, cancer, radiation biology/oncology, and precision medicine, he has published more than 100 peer-reviewed papers in related fields. Moreover, Dr. Chuang is serving as an editorial board member of Scientific Reports, and the Editor-in-Chief of Translation Cancer Research.

Current Research Interests: Radiogenomics, Radiation-induced signaling pathways, Cancer genomics, Bioinformatics, and Precision medicine.



Tsungnan Lin (林宗男)

Tsung-Nan Lin (林宗男) received B.S. degree in electrical engineering from National Taiwan University, Taiwan, R.O.C. in 1989, and M.A. and Ph.D. degrees from Princeton University in 1993 and 1996, respectively, both in electrical engineering department. He was a Teaching Assistant with the Department of Electrical Engineering from 1991 to 1992. He was with NEC Research Institute as a Research Assistant from 1992 to 1996. He has been with EPSON R&D Inc and Intovoice. He was Engineering Consultant at EMC before he joined NTUEE. Since Feb. 2002, he has been an Assistant Professor in the Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan.

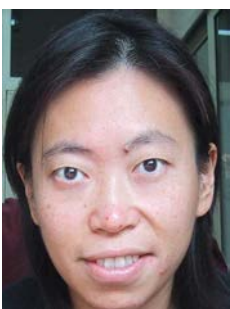
Tsung-Nan Lin is a member of PHI TAU PHI scholastic honor society and a member of IEEE. He received outstanding paper award from IEEE Neural Networks Society in 1998 and young author best award from IEEE Signal Processing Society in 1999.



Tai-Cheng Lee (李泰成)

Tai-Cheng Lee (李泰成) was born in Taiwan, R.O.C, in 1970. He received the B.S. degree from National Taiwan University in 1992, the M.S. degree from Stanford University in 1994 and the Ph.D. degree from the University of California, Los Angeles in 2001, all in electrical engineering.

He worked for LSI logic from 1994 to 1997 as a circuit design engineer. He served as an adjunct assistant professor at graduate institute of electronics engineering (GIEE), National Taiwan University from 2001 to 2002. Since 2002, he has been with electrical engineering department and GIEE, National Taiwan University, where he is a professor. His main research interests are in high-speed mixed-signal and analog circuit design, data converters, PLL systems and RF circuits.



Polly Huang (黃寶儀)

Polly Huang received her Ph.D. (1999) and M.S. (1997) in Computer Science from University of Southern California, and her B.S. (1993) in Mathematics from National Taiwan University. She joined the faculty of Department of Electrical Engineering of NTU as an assistant professor (2003), promoted to the associate professor rank (2006), and serves currently as a full professor (2010). Prior to joining NTU, she worked as a research scientist at the Computer Engineering and Networks Laboratory (TIK) of the Swiss Federal Institute of Technology (ETH) Zurich and the Institute of Pure and Applied Mathematics (IPAM) of the University of California, Los Angeles (UCLA).

Polly has participated in a wide range of research projects, including Internet characterization, network simulation, and multicast routing protocol design. These experiences have nurtured her interest in design, modeling, simulation, and performance issues of the communication networks in general. Her recent research focus includes sensor network, overlay network, and Internet characterization.

Polly was appointed an APRU Fellow by the Association of Pacific Rim Universities in 2004, the recipient of the post-doctoral fellowship from Institute of Pure and Applied Mathematics, UCLA, spring 2002. She was honored by the annual TIK award for inter-group collaboration (cash prize) from the Computer Engineering and Networks Laboratory, ETH Zurich in 2001. She was also recognized by the IS2000 Best Paper Award for promoting networked miniature computing devices. Furthermore, Polly had served as a reviewer and session chairs for various network conferences and journals and was recently invited to serve on the editorial board of Journal of Communications and Networks. She is a member of the ACM and IEEE.

Polly has participated in a wide range of research projects in the early stage of her career, including multicast routing protocol design (PIM), network simulation (ns-2), and Internet traffic characterization (traffic self-similarity). These experiences have nurtured her interest in design, modeling, simulation, and performance issues of the communication networks in general. Her recent research focus includes sensor network (SpinLoc, PipeProbe, TriopusNet, BeihuFB, YushanNet), overlay network (CoolStreaming), and Internet characterization (Skype call analysis).



Chih-I Wu (吳志毅)

Chih-I Wu joined the Graduate Institute of Electro-Optical Engineering and the Department of Electrical Engineering of National Taiwan University in 2004. His main research area focuses on optical-electronic devices and materials and semiconductor physics, which includes organic light emitting materials, metal-semiconductor interfaces, and heterojunctions in electronic devices and optical-electronics. Prior to joining NTU, he worked at Intel Corporation in the US from 2000 to 2004. His work at Intel was mainly on developing the advanced VLSI process technology, such as Cu and low k interconnects, metal gate materials, and atomic layer deposition process.

Dr. Wu got his B.S. degree from National Taiwan University and M.S. degree from Northwestern University, both in Physics. Then he went to the Department of Electrical Engineering at Princeton University, where he received his Ph.D. degree in 1999. At Princeton he worked on the electronic structures of optical-electronic semiconductors, including nitride-based semiconductors and organic thin films for light emitting diodes. Dr. Wu published more than 80 journal and conference papers and holds several US patents.



JianJang Huang (黃建璋)

JianJang Huang received the B.S. degree in Electrical Engineering (EE) and the M.S. degree in Graduate Institute of Photonics and Optoelectronics (GIPO) from National Taiwan University (NTU), Taipei, Taiwan, in 1994 and 1996, respectively, and the Ph.D. degree in Electrical Engineering from the University of Illinois, Urbana-Champaign, in 2002. In Illinois, he demonstrated the first real working GaN-based HBTs with common emitter current gain 11 at room temperature and 31 at 175K in 2000. He also demonstrated a novel Asymmetric Fabry-Perot Modulator for optical communications. He had worked with WJ (Watkins Johnson) Communications in California, as a Staff Scientist from 2002 to 2004. He was in charge of the development of GaAs HBTs for power amplifiers (PAs) and the benchmark of GaAs

MESFET PA yield rate in the production line. He then came back to Taiwan and joined the faculty members at NTU EE and GIPO in 2004.

Prof. Huang has devoted to the use of nanostructures for optoelectronic and biophotonic applications. He developed a spin-coating method for nanosphere lithography (NSL) which can be applied to nano-materials or nano-structures for significant performance improvement of light emitting diodes (LEDs), solar cells and nanorod devices. In recent years, he has focused on the research of cancer cell nanoprobe and protein sensors. He and his group bind ZnO and TiO₂ nanorods with antibodies for the in vivo and in vitro detection of cancer cells. The IGZO thin films transistors have also been employed as the protein sensors with extremely high sensitivity.

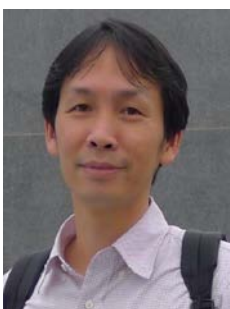
Prof. Huang's scientific accomplishments have been recognized by numerous awards. He is a member of the Phi Tau Phi Scholastic Honor Society. He received "Wu Da-Yu" award in 2008, the most prestigious one for young researchers in Taiwan sponsored by National Science Council. And in the same year, he received the award for the most excellent young electrical engineer from the Chinese Institute of Electrical Engineering. He is the chair of SPIE (San Diego, CA, USA), International Conference on Solid State Lighting, the board director of Global Communication Semiconductor, Inc. in CA, USA. He currently serves as the Editor in IEEE, Transactions on Electron Devices.



Jiun-Haw Lee (李君浩)

Jiun-Haw Lee (李君浩) was born in Taipei, Taiwan, Republic of China, on August 20, 1972. He received the B.S.E.E., M.S.E.E., and Ph.D. degrees in electrical engineering in 1994, 1995, and 2000, respectively, all from National Taiwan University, Taipei, Taiwan.

From 2000 to 2003, he was with the RiTdisplay Corporation as the director. Since 2003, he joined the faculty of National Taiwan University in the Graduate Institute of Photonics and Optoelectronics and the Department of Electrical Engineering, where he is currently a professor. His research interests include organic optoelectronic devices, display technologies, and solid-state lighting.



Tsung-Hsien Lin (林宗賢)

Tsung-Hsien Lin (M'03, SM'09) received the B.S. degree in electronics engineering from National Chiao-Tung University, Taiwan. He received his MS and Ph.D. degrees in electrical engineering from University of California at Los Angeles, in 1997 and 2001, respectively. In 2000, he joined Broadcom Corporation, Irvine, CA, where he was a Senior Staff Scientist, during which time he involved in wireless transceiver developments. In 2004, he joined the Graduate Institute of Electronics Engineering and the Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, where he is currently a Professor. His research interests are the design of wireless transceivers, clock and frequency generation systems, delta-sigma modulators, and transducer interface circuits.

Dr. Lin was the recipient of the Best Presentation Award for his paper presented at the 2007 IEEE VLSI-DAT Symposium, and the co-recipient of the Best Paper Award at the same Symposium in 2015. He was awarded the Teaching Excellence Award (教學優良獎; top 10%) from National

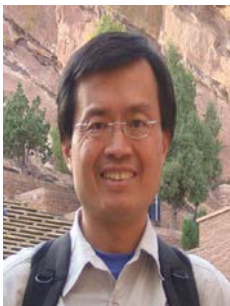
Taiwan University in 2007, 2008, 2014, 2015, and 2017, and Exceptional Teaching Excellence Award (教學傑出獎; top 1%) in 2009. He served on the IEEE Asian Solid-State Circuit Conference (A-SSCC) Technical Program Committee (TPC) from 2005 to 2011 and was the TPC Vice-Chair for 2011 A-SSCC. He was a Guest Editor for IEEE Journal of Solid-State Circuits (JSSC) in 2012 and was an Associate Editor for the same journal from 2013 to 2015. He served on the ISSCC International Technical Program Committee (ITPC) from 2010 to 2016, and was the FE Regional Committee Chair in 2016 ISSCC. He was the TPC Chair of 2017 A-SSCC.



Jri Lee (李致毅)

Jri Lee (M' 03) received the B.Sc. degree in electrical engineering from National Taiwan University, Taipei, Taiwan, in 1995, and the M.S. and Ph.D. degrees in electrical engineering from the University of California, Los Angeles (UCLA), both in 2003.

From 1997 to 1998, he was with Academia Sinica, Taipei, Taiwan, investigating control systems for novel solid-state lasers. From 2000 to 2001, he was with Cognet Microsystems, Los Angeles, CA, and subsequently with Intel Corporation, where he worked on SONET OC-192 and OC-48 transceivers. Since 2004, he has been Assistant Professor of electrical engineering at National Taiwan University. He is currently serving on the Technical Program Committees of the International Solid-State Circuits Conference (ISSCC) and Asian Solid-State Circuits Conference (A-SSCC). His research interests include broadband data communication circuits, wireless transceivers, A/D and D/A converters, phase-locked loops and low-noise broadband amplification, and modeling of passive and active devices in deep-submicron and nanometer CMOS technologies.



Yaow-Ming Chen (陳耀銘)

Yaow-Ming Chen (陳耀銘) received the B.S. degree from National Cheng-Kung University, Tainan, Taiwan, and the M.S. and Ph.D. degrees from the University of Missouri, Columbia, MO, USA, in 1989, 1993, and 1997, respectively, all in electrical engineering.

From 1997 to 2000, Dr. Chen was with I-Shou University, Taiwan, as an Assistant Professor. From 2000 to 2008, he was with National Chung Cheng University, Taiwan. In 2008 he joined National Taiwan University where he is currently a Professor in the Department of Electrical Engineering. In 2011, Dr. Chen was a Visiting Scholar with University of Wisconsin-Madison, USA. Dr. Chen has served as Associate Editors for many IEEE Journals, including IEEE Transactions on Power Electronics and IEEE Journal of Emerging and Selected Topics in Power Electronics. He is currently the Editor-in-Chief of IEEE Transactions on Power Electronics. His research interests include power electronic converters, renewable energy, and grid-tied inverter development.



Hsinyu Lee (李心予)

Prof. Hsinyu Lee's research is focused on cell biology related topics. His major research interest is to investigate the effects of lysophosphatidic acid (LPA) and sphingosine 1-phosphate (S1P) in endothelial cells. LPA and S1P are two low molecular weight lysophospholipids (LPLs) derived from enzymatic cleavage of membrane phospholipids which are highly enriched in serum. In the past 10 years, he demonstrated that LPLs are important regulators for inflammation processes. His most recent findings suggested that LPA is also an important regulator for lymphatic vessel development. These results strongly suggested that LPLs might be important regulators for cancer metastasis, tumor development and cancer cell survival. Through collaboration with colleagues at NTU hospital, he extended his research to identify neuroblastoma, hepatoma and gastric cancer related cancer markers and exploring their potential roles in tumor formation. He published 46 related papers in the past five years. He received the Excellence Teaching Awards from National Taiwan University and also from the Department of Education, ROC for his contribution in general education in NTU. He has served as reviewer for top journals such as Blood, FASEB J, CMLS and Oncogenes.



Yi-Jan Chen (陳怡然)

Yi-Jan Emery Chen (M'01–SM'07-F'18) received the B.S. degree in electrical engineering from National Taiwan University, Taipei, Taiwan, R.O.C., in 1987, the M.S. degree in electrical and computer engineering from the University of California at Santa Barbara, CA, in 1991, and the Ph.D. degree in electrical engineering from the Georgia Institute of Technology, Atlanta, in 2001.

From 1992 to 1993, he was a Software Engineer with Siemens Telecommunication, where he was involved with synchronous optical network (SONET) equipment development. From 1993 to 1996, he was with Tektronix, where he was responsible for electronic test and measurement solutions. From 2000 to 2002, he was with National Semiconductor, where he was involved with radio-frequency (RF) transceiver and RF power amplifier (PA) design. In 2002, he was with the Georgia Institute of Technology as a Member of the Research Faculty. Since 2003, he has been with National Taiwan University, where he is currently a Professor. He has authored or coauthored over 100 refereed journal and conference papers. His recent research focuses on the design of RF integrated circuits (RFICs), RF power amplifiers, LCD/LED drivers, power management ICs, and sensing/radar circuits.

Dr. Chen served as an Associate Editor of the IEEE Microwave and Wireless Components Letters from 2009 to 2015. He has been serving on the Technical Program Committees of the IEEE MTT-S International Microwave Symposium (IMS), and the IEEE Radio and Wireless Symposium (RWS) since 2008. He was the co-recipient of the 2000 IEEE MTT-S IMS Best Student Paper Award and the co-recipient of the 2008 University Team Award for Contribution to Industrial Economics from the Ministry of Economic Affairs, Taiwan. He has been the advisor of several student award recipients including the Chi-Mei Award, Macronix Golden Silicon Award, Paper Award from the Institute of Chinese Electrical Engineering, and Master Thesis Award from Taiwan IC Design Society. He is an IEEE Fellow.



Shao-Yi Chien (簡韶逸)

Shao-Yi Chien received the B.S. and Ph.D. degrees from the Department of Electrical Engineering, National Taiwan University (NTU), Taipei, Taiwan, in 1999 and 2003, respectively. During 2003 to 2004, he was a research staff in Quanta Research Institute, Tao Yuan County, Taiwan. In 2004, he joined the Graduate Institute of Electronics Engineering and Department of Electrical Engineering, National Taiwan University, as an Assistant Professor. Since 2008, he has been an Associate Professor. His research interests include video segmentation algorithm, intelligent video coding technology, perceptual coding technology, image processing for digital still cameras and display devices, computer graphics, and the associated VLSI and processor architectures. He has published more than 180 papers in these areas.

Dr. Chien serves as an Associate Editor for IEEE Transactions on Circuits and Systems for Video Technology, IEEE Transactions on Circuits and Systems I, and Springer Circuits, Systems and Signal Processing (CSSP). He also served as a Guest Editor for Springer Journal of Signal Processing Systems in 2008. He also serves on the technical program committees of several conferences, such as ISCAS, ICME, SiPS, A-SSCC, and VLSI-DAT.



Hoang Yan LIN (林晃巖)

Hoang Yan Lin (林晃巖) received the BS and PhD degrees from Electrical Engineering Department, National Taiwan University in 1987 and Graduate Institute of Electrical Engineering, National Taiwan University in 1993, respectively. He worked as a post-doctoral researcher and focused on ultra-fast laser optics in Atomic and Molecular Science Institute, Academic Sinica, Taipei from 1993 to 1995. He worked on diffractive optics, micro-optics, and projection display technology in Opto-Electronics and Systems Laboratories, Industrial Technology Research Institute, Hsinchu from 1995 to 2005. He joined the faculty and became the Associate Professor of Graduate Institute of Electro-Optical Engineering and Electrical Engineering Department, National Taiwan University in February 2005.

Prof. Lin's group in Opto-Electronics and Systems Laboratories, Industrial Technology Research Institute had several achievements: They developed a novel diffractive-optical-element-assisted auto-focusing module, which has been used in SONY's high-end digital-cameras and digital-video-camcorders. They developed the first DLPTM projection light engine, which can be compatible with the conventional color wheel and the scrolling-color-recapturing color wheel. They also developed the first single-panel LCoS (liquid-crystal-on-silicon) rear-projection high-definition-television in Taiwan.

The current research interests of Prof. Lin's group in EOE/NTU are design of optical components and integration of optical systems for digital display systems.

Prof. Lin is the conference co-chair of the Projection Display Conference in SPIE Photonics West and the program committee member of the conference on Holography and Diffractive Optics in SPIE Photonics Asia. He is a member of the SPIE and SID. He has been the invited speaker of IEEE NUSOD 2006, Singapore and of the ePIXnet Winter School 2007, Pontresina, Switzerland.



Shau-Gang Mao (毛紹綱)

Shau-Gang Mao received the Ph.D. degree in electrical engineering in 1998 from the National Taiwan University, Taipei, Taiwan, R.O.C. From 1998 to 2000, he fulfilled military service with the Coast Guard Administration, where he conducted projects on coastal surveillance and communication systems. From 2000 to 2002, he was with Da-Yeh University. He has been a professor at National Taipei University of Technology from 2002 to 2012. Since August 2012, he is a professor with the Department of Electrical Engineering and Graduate Institute of Communication Engineering, National Taiwan University, Taiwan. His research interests are in the areas of metamaterial, antenna, and active and passive circuits in RF front-end system. Dr. Mao was the secretary of the IEEE MTT-S Taipei Chapter in 2001 and the Electronic Communications in Taipei Section from 2007-2009. He received the Best Paper Award in 2001 Asia-Pacific Microwave Conference and the URSI Young Scientist Award in 2004. From 2012-2015 he was sponsored by National Science Council Outstanding Young Scholar Research Project. He has been the advisor of many student awards, including the First Place of 2015 Macronix Golden Silicon Award and the Thesis Awards from the Institute of Chinese Electrical Engineering, CTCI Foundation and Metamorphose Network of Excellence. Dr. Mao is IEEE senior member since 2006.



Feng-Li Lian (連豐力)

Feng-Li Lian (連豐力) was born in Taichung, Taiwan in 1970. He received the B.S. and M.S. degrees from National Taiwan University in 1992 and 1994, respectively, and the Ph.D. degree from the University of Michigan in 2001. From 2001 to 2002, he was a postdoctoral scholar at California Institute of Technology. Since 2002 he has been in the Department of Electrical Engineering, NTU, and, from 2009 to 2013, he was also the Division Director of Information Management, Computer & Information Networking Center, NTU. He is the recipient of the Youth Automatic Control Engineering Award (青年自動控制工程獎) from Chinese Automatic Control Society, Taiwan, in 2007, the Outstanding Youth Award (傑出青年獎) from Taiwan Association of System Science and Engineering in 2012, the Dr. Wu, Da-You Memorial Research Award (吳大猷先生紀念獎), National Science Council, Taiwan, in 2012, the Excellent Young Scholar Research Grant (優秀年輕學者研究計畫), National Science Council, Taiwan, in 2012-14, and the NTU Excellent Teaching Award (教學優良獎) in 2007, 2008, 2010, 2011, 2012, 2013, and 2018. His current research interests include distributed and networked control systems, multiple dynamical agent systems, trajectory generation and path planning.



Yi-Cheng Lin (林怡成)

Yi-Cheng Lin (林怡成) received his Ph.D. degree in electrical engineering from the University of Michigan, Ann Arbor, Michigan in 1997. From 1997 to 2003, he was with Qualcomm Inc., San Diego, California, where he involved in the research and development of advanced antenna technologies for modern wireless communication systems with satellite and terrestrial applications. In 2003, Dr. Lin joined the faculty of the Department of Electrical Engineering and the Graduate Institute of Communication

Engineering, National Taiwan University, Taipei, Taiwan. Since then, he has participated in several multi-faculty projects responsible for the design and implementation of millimeter-wave antennas with the front-end transceiver module and packaging. His research interests cover the antenna theory, design, and applications for various wireless applications. Recently, his active research topics include the EBG antenna with metamaterial, miniature MIMO antennas, UWB and multiband antennas, and broadband circularly polarized antennas.



Jie-Hong Roland Jiang (江介宏)

Jie-Hong R. Jiang received the B.S. and M.S. degrees in Electronics Engineering from National Chiao Tung University, Hsinchu, Taiwan, in 1996 and 1998, respectively. In 2004, he received the Ph.D. degree in Electrical Engineering and Computer Sciences from the University of California, Berkeley.

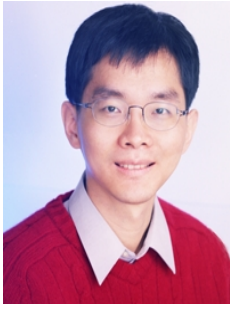
During his compulsory military service, from 1998 to 2000, he was a Second Lieutenant with the Air Force, R.O.C. Before joining National Taiwan University as an assistant professor in August 2005, he was with the University of California at Berkeley as a postdoctoral researcher. He is currently a Professor in the Department of Electrical Engineering and the Graduate Institute of Electronics Engineering at National Taiwan University. His research interests include foundations of system construction, system analysis and verification, hardware synthesis and optimization, computation with quantum physics, and analysis of biological systems.

Dr. Jiang is a member of ACM, IEEE and the Phi Tau Phi Scholastic Honor Society.



Yih-Peng Chiou (邱奕鹏)

Professor Chiou was born in Taoyuan, Taiwan, in 1969. He received the B.S. and Ph.D. degrees in electrical engineering from the National Taiwan University, Taipei, Taiwan, in 1992 and 1998, respectively. His research was on the numerical modeling techniques for optical waveguide devices. From 1999 to 2000, he was with the Taiwan Semiconductor Manufacturing Company (TSMC), where his interest was on thin film process, especially the plasma enhanced chemical vapor deposition (PECVD) of metal and dielectric films. From 2001 to 2003, he was with the RSoft Design Group, New York, where his research interests were on the modeling of simulation techniques and the developing of photonic computer-aided-design tools for optical devices. In 2003, he joined the faculty of the Graduate Institute of Photonics and Optoelectronics and Department of Electrical Engineering, National Taiwan University. He is currently also with the Graduate Institute of Communications in the same university. Prof. Chiou's research interests have been focusing on the design and modeling of electromagnetic structures, which includes optical and electromagnetic periodic structures, waveguide and integrated optics devices, EMI/EMC, 3D-IC, and the development and improvement of numerical techniques for the those topics.



Chien-Mo Li (李建模)

Prof. Li is currently an associate professor at the Electrical engineering department and GIEE of National Taiwan University(NTU). He belongs to the EDA group of GIEE. Dr. Li obtained his PhD degree at Stanford University in 2002. He obtained his MSEE degree from Stanford in 1997 and BSEE degree from NTU in 1993.

Prof. Li's research focuses on the test and diagnosis of VLSI circuits. He is currently one of the faculty members of the Lab of Dependable Systems

(LaDS), NTU.



Jui-che Tsai (蔡睿哲)

Dr. Jui-che Tsai received the B.S. degree in Electrical Engineering from National Taiwan University (NTU), Taiwan, in 1997. He entered the Graduate Institute of Electro-Optical Engineering (currently named GIPO) at NTU after completing his undergraduate study, and received the M.S. degree in Electro-Optical Engineering in 1999. He received the Ph.D. degree in Electrical Engineering from the University of California, Los Angeles (UCLA), in 2005.

From 1999 to 2001, he served in the military as a second lieutenant. Before joining the faculty of NTU, he was a Postdoctoral Researcher with the Department of Electrical Engineering and Computer Sciences and Berkeley Sensor and Actuator Center (BSAC), University of California, Berkeley. He is now a Professor of the Graduate Institute of Photonics and Optoelectronics (GIPO) and the Department of Electrical Engineering, National Taiwan University, Taiwan. His research interests include optical MEMS, MEMS technologies, optical fiber communication, and biophotonics.



Shih-Yuan Chen (陳士元)

Shih-Yuan Chen was born in Changhua, Taiwan, in May 1978. He received the B.S. degree in electrical engineering in 2000, and the M.S. and Ph.D. degrees in communication engineering in 2002 and 2005, respectively, all from the National Taiwan University, Taipei, Taiwan.

From 2005 to 2006, Dr. Chen had been a post doctorate research fellow with the Graduate Institute of Communication Engineering, National Taiwan University, working on 60-GHz switched-beam circularly-polarized antenna module. Since July 2006, he joined the faculty of the Department of Electrical Engineering and Graduate Institute of Communication Engineering, National Taiwan University, where he is currently a professor. From August 2008 to July 2009, Dr. Chen had visited the Department of Electrical and Computer Engineering at the Michigan State University, East Lansing, MI, USA. His current research interests include the design and analysis of microstrip antennas/arrays, reflectarrays, RF energy harvesting, metamaterial and composite right-/left-handed transmission lines, self-structuring microwave devices, and microwave imaging.

Dr. Chen received the NTU Excellent Teaching Awards in 2009, 2010, 2012, 2013, 2014, and 2015. He also received the 2012 International Symposium on Antennas and Propagation Young Scientist

Travel Grant, the 2013/2014 Top 10 Reviewers of IEEE Transactions on Antennas and Propagation, and the Ministry of Science and Technology Research Projects for Excellent Young Scholars in 2012, 2015, and 2017. He serves as an Associate Editor for IEEE Antennas and Wireless Propagation Letters and Editorial Board Member for International Journal of Antennas and Propagation. He was the Vice-Chair and is currently the Chairperson of IEEE AP-S Taipei Chapter, and is a member of the Education Committee of IEEE AP society. Dr. Chen is a Senior Member of the IEEE and is a member of Commission B of URSI.



Ming-Hua Mao (毛明華)

Dr. Ming-Hua Mao received the B.S.E.E. and M.S.E.E. degrees from National Taiwan University, Taipei, Taiwan, in 1990 and 1992, respectively. He received the Dr.-Ing. degree from Technical University of Berlin in 2000 and joined the faculty of the Department of Electrical Engineering, National Taiwan University.

His areas of interest are mainly on nano-photonics/electronics, including microdisk/microring optical cavities, quantum-dot lasers, nanowire devices, and their applications.



Jiun-Lang Huang (黃俊郎)

Jiun-Lang Huang (黃俊郎) received the B.S. degree in electrical engineering from National Taiwan University, Taiwan, in 1992, and the M.S. and Ph.D. degrees in electrical and computer engineering from the University of California at Santa Barbara in 1995 and 1999, respectively. From 2000 to 2001, he served as an assistant research engineer in the ECE department, UCSB. In 2001, he joined National Taiwan University and is currently a professor in the Graduate Institute of Electronics Engineering and the Department of Electrical Engineering. His main research interests include design-for-test (DfT) and

Built-In Self-Test (BIST) for mixed-signal systems, and VLSI system verification.



Guo-Dung Su (蘇國棟)

Dr. Guo-Dung J. Su received a BS degree from National Taiwan University in 1992 and his MS and PhD in electrical engineering from University of California, Los Angeles in 1998 and 2001, respectively. His doctoral research interest was related to MEMS scanners with flat mirror surfaces for active optical alignment and micromirror arrays for adaptive optics. His outstanding work has been reported by the magazine “WDM solutions” in the August 2001.

In 2001, he joined Umachines, Inc. as a staff researcher responsible for the development of MEMS optical cross-connect switches. The developed product has passed the rigorous Telcordia GR-1221 tests, which only three companies in the world by the time (the other two are JDSU and DiCon) can provide such high reliability product. In 2003, his research works receive the funding awards from U.S. Air Force and NASA for continuing advanced research works in the optical MEMS fields.



Hung-Yu Wei (魏宏宇)

Hung-Yu Wei is a Professor in Department of Electrical Engineering and Graduate Institute of Communications Engineering, National Taiwan University. He received the B.S. degree in electrical engineering from National Taiwan University in 1999. He received the M.S. and the Ph.D. degree in electrical engineering from Columbia University in 2001 and 2005 respectively. He was a summer intern at Telcordia Applied Research in 2000 and 2001. He was with NEC Labs America from 2003 to 2005. He joined Department of Electrical Engineering at the National Taiwan University in July 2005. His research interests include next-generation wireless broadband networks, mobility management in mobile Internet, IoT, vehicular networking, fog computing, cross-layer design and optimization in wireless multimedia communications, and game theoretical models for communications networks.

He received NTU Excellent Teaching Award (台大教學優良獎) in 2008 and 2018. He also received "Recruiting Outstanding Young Scholar Award" from the Foundation for the Advancement of Outstanding Scholarship (傑出人才發展基金會"積極爭取國外優秀青年學者獎助") in 2006, K. T. Li Young Researcher Award (李國鼎青年研究獎) from ACM Taipei/Taiwan Chapter and The Institute of Information and Computing Machinery in 2012, Ministry of Science and Technology Research Project for Excellent Young Scholars (科技部優秀年輕學者計畫) in 2014, Excellent Young Engineer Award from the Chinese Institute of Electrical Engineering (中國電機工程學會優秀青年電機工程師獎) in 2014, and Wu Ta You Memorial Award from MOST(吳大猷先生紀念獎) in 2015. He was a consulting member of Acts and Regulation Committee of National Communications Commission (國家通訊傳播委員會法規諮詢委員) during 2008~2009. He served as a division director in NTU Computer and Information Networking Center during 2016-2017. He has been actively participating in NGMN, IEEE 802.16, 3GPP, IEEE P1934 standardization, and was a voting member of the IEEE 802.16 working group. He serves as Vice Chair of IEEE P1934 Working Group to standardize fog computing and networking architecture. He also serves as an Associate Editor for IEEE IoT journal. He is an IEEE certified Wireless Communications Professional. He was the Chair of IEEE VTS Taipei Chapter during 2016~2017.



Ping-Cheng Yeh (葉丙成)

Ping-Cheng Yeh received his B.S. degree in Mathematics and M.S degree in Electrical Engineering from the National Taiwan University, in 1996 and 1998, respectively. In 2005, he received his Ph.D. degree in Electrical Engineering and Computer Science from the University of Michigan, Ann Arbor. He joined the Department of Electrical Engineering and the Graduate Institute of Communication Engineering at the National Taiwan University in August 2005. His research interests include molecular communications, wireless multimedia transmissions, physical layer security, cooperative communications, cross-layer design in wireless networks, and online education platform design. Dr. Yeh has received various awards in the past, including EECS Outstanding GSI Award (2002), University of Michigan Outstanding GSI Award (2003), NTU Excellence in Teaching Award (2008, 2009), and NTU Distinguished Teaching Award (2010). He is currently the Associate Director of Center for Teaching and Learning Development at the National Taiwan University.



Hsi-Tseng Chou (周錫增)

Prof. Hsi-Tseng Chou (周錫增) received the B.S. degree in electrical engineering from National Taiwan University in 1988, and the M.S. and Ph. D. degrees in also electrical engineering from the Ohio State University (OSU) in 1993 and 1996, respectively. After completing his military obligation, Prof. Chou joined ElectroScience Laboratory (ESL) in OSU as a graduate research associate during 1991-1996 and as a post-doctoral researcher during 1996-1998. He is currently a distinguished professor in the Department of Electrical Engineering, National Taiwan University, Taiwan.

Prof. Chou research interests focus on the high-gain and smart antenna technologies, and covers a wide range of technologies to realize them including antenna electromagnetic theories, numerical simulation techniques and measurement techniques of antenna characterization. His team is one of the key research teams in the world to develop the asymptotic high frequency techniques in both real and complex spaces, and has develop numerous Uniform Geometrical Theory of Diffraction (UTD) solutions based ray and beam techniques to interpret the radiation mechanisms of electrically large antennas. These techniques have been implemented in the antenna design codes, and have been demonstrated to be highly efficient in the design of high-gain antennas including reflector, reflectarray and phased array of antennas.

Prof. Chou works very closely with antenna industries to develop the antenna technologies of great potentials in industrial applications. He has been consultants to nine antenna related companies in Taiwan. He has dedicated much effort to cultivate Taiwan's new antenna industries from startup including satellite DTV reception antennas, point-to-point microwave link antennas and outdoor mobile base station antennas industries, where the collaborating companies have now become the major worldwide suppliers. His work has led to form a "High-Gain and Smart Antenna Industrial Technologies Consortium" in Taiwan, in which an industrial cluster of high-gain antennas in especially the applications of satellite and mobile communication antennas has been formed. During his 20 years of academic career, he has collaborated with more than 36 antenna related companies and 12 research organizations in Taiwan, where most of them are very active companies in the worldwide markets.

Prof. Chou is an IEEE Fellow and IET Fellow, and an elected member of URSI International Radio Science for his contributions to the development of high-gain antennas. He has published more than 143 international journal articles, 325 international conference papers, two EM book chapters and one book. He has also filed more than 40 antenna patents. His works in education and technical researches have been well recognized by the domestic and international technical societies by receiving numerous awards. In education, he received the IEEE technical field award—Undergraduate Teaching Award in 2014, and has received the Outstanding Branch Counselor Awards from IEEE headquarter, R-10 and Taipei section in 2008, 2007 and 2008, respectively. He was also appointed as a Distinguished Lecturer by the Taiwan Electromagnetic Industry-Academia Consortium in 2013 to present technical lectures in the universities and industries. His service as the chair of IEEE AP-S Taipei chapter has made the chapter receiving the Best Chapter Award in 2012.

In the research, his works to promote industry-academia collaboration and cultivate the antenna industries in Taiwan has made him receiving the Outstanding Industry-Academia Collaboration Award (2004) from the Ministry of Education (MoE), and University's Contribution to the Industrial Economics Award (2008) and National Award for Industry Innovation—Industry-Academia Contribution Award (2017) from Ministry of Economic Affairs (MoEA), Taiwan, respectively. His distinguished work in the high-gain antennas has made him receiving the National

Award for Industry Innovation—Key Technology Elite Award in 2011 from MoEA, and Science/Technology Management Award in 2014 from the Chinese Society for Management of Technology, Taiwan. Among others, he received a Best Paper Award of Journal Publication, Best Poster Paper Award and Best Paper Award in 1998, 2014 and 2015 from OSU-ESL, PIERS and IEEE MAPE, respectively. He received the Young Scientist Research Paper Award from Academia Sinica Taiwan in 2002. He has won 7 medals (2 Golds, 3 Silvers and 2 Bronzes) for the patent competitions in Taipei International Invention Show and Technomart during 2012-2015. He was elected as the Distinguished Professor from Chinese Institute of Engineers (CIE), Chinese Institute of Electrical Engineering (CIEE) and Hsu Yo-Hsian Educational Foundation (2 times), in 2004, 2009 and (2005, 2008), respectively. He was elected as the Y-Z Chair Professor 3 times from Hsu Yo-Hsian Educational Foundation in 2006, 2007 and 2011, respectively. He was elected as the Nation's Top 10 Rising Star in 2006 by the Central New Agency of Taiwan, the Nation's Top Ten Young Person in 2004 from Junior Chamber International, Taiwan, and received the National Young Person Medal in 2005 from China Youth Corps, Taiwan.

Summary of Honor and Awards: A. Government Organizations:

- (1) 「National Award for Industry Innovation-Key Tech. Elite Award」 (2011) from Ministry of Economic Affairs,
- (2) 「National Award for Industry Innovation- Distinguished Industry-Academia Contribution Award」 (2017) from Ministry of Economic Affairs,
- (3) 「Award of University's Contribution to Industrial Economics」 (2008) from Ministry of Economic Affairs.
- (4) 「Distinguished Academic-Industrial Cooperation Award」 (2003) from Ministry of Education
- (5) Product resulted from the inter-university and industries collaboration was elected as one of the year's 11 most distinguished products in Hsin-Chu National Science Park of Taiwan (The most largest and important science park of Taiwan). (2002)
- (6) 「Young Scientist Research Paper Award」 (2002) from Academia Sinica Taiwan

B. Non-profit Organizations: (1) IEEE Technical Field Award—Undergraduate Teaching Award (2014) (2) 「Science/Technology Management Award」 (2014) from the Chinese Society for Management Of Technology, Taiwan (3) IEEE Antenna and Propagation Society, 「Best Chapter of 2012 Award」 (2012, Award to Prof. Chou as the Chair) (4) 「Distinguished Electrical Engineering Professor Award」 (2009) from Chinese Institute of Electrical Engineers. (5) 「IEEE Outstanding Branch Counselor Award」 (2008) from IEEE headquarter. (6) 「Outstanding Student Branch Award」 (2008) from IEEE Taipei Section. (7) 「Outstanding Branch Counselor Award」 (2007) from IEEE Region-10 (8) 「Yuan-Ze Chair Professor Award」 (2006, 2007,2011) from Hsu Yo-Hsian Educational Foundation (operated under supervision of NSC). (9) Elected as one of the 「Nation's Top 10 Rising Stars」 for 2006 by The Central News Agency of Taiwan. (10) 「National Young Person Medal」 (2005) from China Youth Corps of Taiwan (11) 「Distinguished Professor Award」 (2005, 2008) from Hsu Yo-Hsian Educational Foundation (which is operated under supervision of NSC). (12) 「Award of the Ten Outstanding Young Persons of Taiwan」 (2004) from Junior Chamber International, Taiwan (13) 「Distinguished Engineering Professor Award」 (2004) from Chinese Institute of Engineers. (14) 「Distinguished Academic-Industrial Cooperation Award」 (2004, 2014) from Chinese Institute of Engineers

(Awarded to Yuan-Ze University due to successful cooperation conducted by Prof. Chou in the satellite antenna designs as the highlights). (15) 「Distinguished Young Electrical Engineer Award」 (2003) from Chinese Institute of Electrical Engineering. (16) 「Best paper award」 (1999) from the OSU-ESL, USA. (17) 「Young Scientist Award」 (1999) from URSI International Radio Science. (18) 「Distinguished Service Award」 (2004) from Yuan-Ze University, Taiwan, 7 times in the distinguished category during 2004-2014. (19) 「Distinguished Research Award」 (2003,2006, Graduated afterward) from Yuan-Ze University, Taiwan

(20) 「Best Poster Paper Award」 from PIERS, GuangZhou, 2014 (Paper: H-T Chou and S-C Tuan, "Scattering Analysis of Reflectarray Antennas Illuminated by a Point Source for Near-Field Focus Applications")

(21) 「Best Paper Award」 from 2015 IEEE MAPE (The 6th IEEE International Symposium on Microwave, Antenna, Propagation, and EMC Technologies (MAPE 2015), Shanghai, China, 2015 (Paper: A Novel Moving Average Method of Vehicle Detection in the FMCW Radar Using Antennas with Different Beamwidths at K-band)

(22) "Second Place" in 2015 IWEM (~International Workshop on Electro-magnetics: Applications and Student Innovation Competition) Student Innovation Competition, Instructor of the team.

C. Medal for the Patents (1) Silver Medal for the Patent "Multi-layer, Planar Pole-type Antenna Array Structure (2011/04/7, Taiwan)" in 2012 Taipei International Invention Show and Technomart.

(2) Silver Medal for the Patent "Dual Band Reflectarray Antenna (2012/05, Taiwan)" in 2012 Taipei International Invention Show and Technomart.

(3) Silver Medal for the Patent "Near-Field Focus Reflector Antenna Structure", in 2013 Taipei International Invention Show and Technomart.

(4) Bronze Medal for the Patent "Broadband Dual-Dipole Antenna Structure", in 2013 Taipei International Invention Show and Technomart.

(5) Gold Medal for the Patent "Adaptive Phased Switching Antenna System", in 2014 Taipei International Invention Show and Technomart.

(6) Bronze Medal for the Patent "Dual-Beam Phased Array Antenna", in 2014 Taipei International Invention Show and Technomart.

(7) Gold Medal for the Patent "Multi-Band and Multi-Satellite DTV Reflector Antenna and its Multi-Feed Components", in 2015 Taipei International Invention Show and Technomart.



Hung-Yun Hsieh (謝宏昀)

Hung-Yun Hsieh received the B.S. and M.S. degrees in Electrical Engineering from National Taiwan University, Taipei, Taiwan, ROC, and the Ph.D. degree in Electrical and Computer Engineering from Georgia Institute of Technology, Atlanta, Georgia, USA. He joined the Department of Electrical Engineering and the Graduate Institute of Communication Engineering at National Taiwan University in 2004. His research interests are in the areas of wireless communications and mobile computing, with focuses on machine-to-machine communications, next-generation communication systems, and mobile ad hoc networks.



Hsin-Shu Chen (陳信樹)

Hsin-Shu Chen (陳信樹) received B.S. degree in electrical engineering from National Taiwan University, Taiwan, R.O.C. in 1989, and M.S. degree from University of California at Los Angeles in 1992. He received his Ph.D. degree from University of Illinois at Urbana-Champaign in 2001. He was a full-time teaching assistant with the Department of Electrical Engineering at National Taiwan University from 1989 to 1990. From 1992 to 1993 he was with LinCom Corporation in Los Angeles, California, where he was involved in satellite communication system design and firmware design for spread spectrum cordless phone. From 1994 to 1996 he was a graduate research assistant in the Coordinated Science Laboratory of the Department of Electrical and Computer Engineering in the University of Illinois at Urbana-Champaign, concentrating on the design of analog-to-digital converters. From 1996 to 2002 he was with Intersil Corporation in Melbourne, Florida, as a data converter design engineer. From 2002 to 2003 he was with Maxim Integrated Products Inc. Melbourne Design Center as a mixed-signal circuit designer. Since 2003, he has been with the Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, R.O.C. and now he is a professor. His current research interests include energy-efficient data conversion technique, low-jitter clock generation, and energy-harvesting power converter design. Dr. Hsin-Shu Chen is a member of IEEE and served as an Associate Editor of IEEE Transactions on Circuits and Systems-II: Express Briefs from 2007 to 2009. He currently serves as an Editorial Board Member of Journal AICSP and a TPC member of RFIT.



Chung-Yang Huang (黃鐘揚)

Professor Chung-Yang (Ric) Huang received his B.S. degree from Department of Electrical Engineering, National Taiwan University (NTUEE), in 1992. He obtained his PhD from Department of Electrical and Computer Engineering, University of California at Santa Barbara, in 2000. Before joining NTUEE as an assistant professor in 2004, he was with Cadence Design Systems, where he served as a senior R&D manager and was in charge of the core engine development of their functional verification tools.



I-Chun Cheng (陳奕君)

I-Chun Cheng was born in Taipei, Taiwan. She received the B.S. and M.S. degrees in mechanical engineering at National Taiwan University in 1996 and 1998, respectively, and the Ph.D. degree in electrical engineering from Princeton University in 2004. Following her degree, she became a postdoctoral research associate at Princeton University. She joined the faculty of National Taiwan University in 2007, where she is currently a Professor of Department of Electrical Engineering and Graduate Institute of Photonics and Optoelectronics. She has primarily worked in the field of metal oxide semiconductor thin-film device technology, photoelectrochemical solar cells and flexible large-area electronics.

Dr. Cheng is a member of the Institute of Electrical and Electronics Engineers (IEEE), the Materials Research Society (MRS) and the Society of Information Display (SID). She received the Project for Excellent Junior Research Investigators (優秀年輕學者計畫) and Dr. Ta-You Wu Memorial

Award (吳大猷先生紀念獎) from the Ministry of Science and Technology in 2012 and 2016, respectively.



Yuh-Renn Wu (吳育任)

Prof. Yuh-Renn Wu received the Bachelor degree in Physics from National Taiwan University in 1998. He received his Master degree in Graduate Institute of Communication Engineering, National Taiwan University in 2000. He received the Ph.D. in Electrical Engineering and Computer science, University of Michigan, Ann Arbor in 2006. He joined the Graduate Institute of Photonics and Optoelectronic and Department of Electrical Engineering in National Taiwan University as an assistant professor in 2007. He was promoted as a full professor in 2016. Prof. Yuh-Renn Wu's research area is focusing on the analysis and characterization of optical and semiconductor devices. His focus area is developing the numerical simulation tools for device modeling, including GaN HFETs, Nitride based LEDs, Solar cells, thermoelectric material, and organic light emitting diodes. He has developed multi-dimensional Poisson, drift-diffusion, Schrodinger, and thermal equation solver. He also developed Monte Carlo Ray tracing techniques and FD-TD based optical wave solver to model the light extraction, Solar cell or photo-diode related studies. Prof. Yuh-Renn Wu was awarded Ta-You Wu Memorial Award by Ministry of Science and Technology.

吳育任教授於 1998 年畢業於台大物理系，其後於 2000 年取得台大電信所電波組之碩士學位，服役期滿後，在原分所就任短期研究助理，並於 2002 年赴密西根大學就攻讀博士學位，2006 年取得博士學位後繼續擔任博士後研究，逾 2007 年回台灣大學電資學院光電工程研究所擔任助理教授。

吳教授研究的領域為奈米光電元件之數值分析設計，其中包含發光二極體和太陽能電池之研究，高功率微波電晶體之設計，和鐵電性材料之應用設計。其實驗室著重在元件物理之研究，並發展各種適當之數值分析軟體，來分析光電子元件之特性。



Chih-Ting Lin (林致廷)

Chih-Ting Lin received the B.S. degree in civil engineering and M.S. degree in applied mechanics from the National Taiwan University, in 1996 and 1998, respectively. He also received the M.S. and Ph.D. degree in electrical engineering and computer science from the University of Michigan, Ann Arbor, in 2003 and 2006, respectively.

In 2006, he joined Graduate Institute of Electronics Engineering and the Department of Electrical Engineering, National Taiwan University, where he is currently an associate professor. His researches mainly focus at heterogeneous integrations and applications for More-than-Moore CMOS technologies. For instance, his current research interests include biosensors, inkjet-printable organic sensors, CMOS sensor-system-on-chip, and solid-liquid interface technologies.

Dr. Lin received Dr. Wu Ta-you Award (Young Investigator Award) from Ministry of Science and Technology (MOST), Taiwan (2015); And Best Paper Award from Association of Chemical Sensors in Taiwan (2014 and 2015).



Jian-Jiun Ding (丁建均)

Jian-Jiun Ding was born in 1973 in Taiwan. He received the B.S. degree in 1995, the M.S. degree in 1997, and the Ph.D. degree in 2001, all in electrical engineering from the National Taiwan University (NTU), Taipei, Taiwan. During 2001 to 2005, he was a postdoctoral researcher in the Department of Electrical Engineering of NTU.

He is currently an associate professor with the Graduate Institute of Communication Engineering and the Department of Electrical Engineering, NTU. His current research areas include time-frequency analysis, fractional Fourier transforms, linear canonical transforms, image processing, orthogonal polynomials, fast algorithms, quaternion algebra, pattern recognition, filter design, etc.



Iris Hui-Ru Jiang (江蕙如)

Iris Hui-Ru Jiang received the B.S. and Ph.D. degrees in electronics engineering from National Chiao Tung University, Hsinchu, Taiwan. She has been with National Chiao Tung University, Hsinchu, Taiwan, from 2005 to 2017. She is currently a Professor with the Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan. She has been a Visiting Scholar with IBM Austin Research Laboratory, Austin, TX, USA, from 2013 to 2014. Her current research interests include physical design optimization, interaction between logic design and physical synthesis, timing analysis and optimization, design for manufacturability, and data analytics-based design automation.

Dr. Jiang was a recipient of the Best Paper Award Nomination from Design Automation Conference (DAC) 2016 and International Symposium on Physical Design (ISPD) 2013, the Best in-track Paper Award from International Conference on Computer Aided Design (ICCAD) 2014, the 2011 Outstanding Young Electrical Engineer Award and 2018 Outstanding Electrical Engineering Professor Award from Chinese Institute of Electrical Engineering. She and her students were the recipient of the First Place Award at the CAD Contest at ICCAD in 2012, two Third Place Awards at the TAU Timing Analysis Contests in 2013 and 2014, four First Place Awards at the TAU Timing Analysis Contest in 2015, 2017, 2018, and 2019.

She is currently the Chair of IEEE CEDA Design Automation Technical Committee, and has organized CAD contest at ICCAD from 2012 to 2014 and CADathlon@ICCAD, since 2016. She is currently an Associate Editor of the IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems and has served on technical program committees of major EDA conferences, including DAC, ICCAD, ISPD, etc. She is a member of the Phi Tau Phi Scholastic Honor Society.



Snow H. Tseng (曾雪峰)

Snow H. Tseng received a B.S. degree in physics from National Taiwan University, Taipei, Taiwan, in 1994, M.S. degree in physics from University of Chicago, Chicago, IL, in 1997, and Ph.D. degree in electrical engineering at Northwestern University, Evanston, IL in 2005. In 2004, he was awarded the Outstanding Poster Presentation Award of the Gordon Research Conference of Lasers in Medicine and Biology; next year, he was awarded the Best Student Paper Award of the American Society of Lasers in Medicine and Surgery. To expand his horizon, he interned at various institutes, including: Northrop Grumman (aerospace and defense technology company), Sony headquarter in Tokyo (Interaction Laboratory), and Lawrence-Livermore National Laboratory, USA. He became an assistant professor at the Graduate Institute of Photonics and Optoelectronics of National Taiwan University in February 2006, and later promoted to associate professor in 2010. His research interests include optical interactions with biological tissues and electromagnetic wave propagation in random media. In addition to research, he is devoted to inspiring young students.



Chia-Hsiang Yang (楊家驥)

Chia-Hsiang Yang (楊家驥) received his B.S. and M.S. degrees from the National Taiwan University, Taiwan, in 2002 and 2004, respectively, all in Electrical Engineering. He received his Ph.D. degree from the Department of Electrical Engineering of the University of California, Los Angeles in 2010. He then joined the faculty of the Electronics Engineering Department at the National Chiao Tung University, Taiwan. In 2015, he moved to the National Taiwan University, where he is currently a Professor. His research interests include energy-efficient integrated circuits and architectures for biomedical and communication signal processing.

Dr. Yang was a winner of the DAC/ISSCC Student Design Contest in 2010. He received the 2010-2011 Distinguished Ph.D. Dissertation in Circuits & Embedded Systems Award from the Department of Electrical Engineering, University of California, Los Angeles. In 2013, he was a co-recipient of the ISSCC Distinguished-Technical-Paper Award and Demonstration Session Certification of Recognition. He is also the advisor for several student awards, including the 2017 ISSCC Silkroad Award. He served on the IEEE Asian Solid-State Circuit Conference (A-SSCC) Technical Program Committee (TPC) and was the TPC Vice-Chair for 2017 A-SSCC. He has also served as a Guest Editor of the IEEE Journal of Solid-State Circuits (JSSC) and is also serving as an Associate Editor of the IEEE Signal Processing Letters (SPL).



Kun-You Lin (林坤佑)

Kun-You Lin (S'00, M'04) was born in Taipei, Taiwan, R.O.C., in 1975. He received the B.S. degree in communication engineering from the National Chiao Tung University, Hsinchu, Taiwan, R.O.C., in 1998, and the Ph.D. degree in communication engineering from National Taiwan University, Taipei, Taiwan, R.O.C., in 2003. He was a Postdoctoral Research Fellow at the Graduate Institute of Communication Engineering, National Taiwan University, from August 2003 to March 2005.

From May 2005 to July 2006, he was an advanced engineer with Sunplus Technology Co., Ltd., Hsin-Chu, Taiwan. Since July 2006, he joined the faculty of the Department of Electrical Engineering and Graduate Institute of Communication Engineering of National Taiwan University, Taipei, Taiwan, where he is an associate professor. His research interests include the design and analysis of microwave/RF circuits.

Dr. Lin is a member of the Phi Tau Phi Scholastic Honor Society.



Ding-Wei Huang (黃定洵)

Ding-Wei Huang (黃定洵) received the B.S. degree from the Department of Electrical Engineering, National Taiwan University, Taipei, in 1993 and the Ph.D. degree from the Graduate Institute of Photonics and Optoelectronics, National Taiwan University, in 1999. Then, he joined the Opto-Electronics and Systems Laboratories, Industrial Technology Research Institute at the Hsinchu Science Park, Taiwan, as an Engineer in developing components and modules for optical communication systems. In 2005, he joined the Graduate Institute of Photonics and Optoelectronics, National Taiwan University, as an

Assistant Professor during 2005-2012, and an Associate Professor since 2012. His research interests include DWDM optical communication systems, fiber Bragg gratings, integrated optics, semiconductor optoelectronic devices, optoelectronic packaging, nonlinear optics, and ultra-fast lasers. Currently, he is working on silicon photonic devices, optical switches, integrated optical devices and systems, bio-photonics, and in the field of the photovoltaic technology.



Hsin-Chia Lu (盧信嘉)

Hsin-chia Lu (盧信嘉) received his Ph.D degree from National Taiwan University, Taipei, Taiwan in electrical engineering in 1999. He was a Postdoctoral Research Fellow at the Graduate Institute of Communication Engineering, National Taiwan University from 1999 to 2004. He has been with the Graduate Institute of Electronics Engineering, National Taiwan University since 2004. He was a Visiting Researcher at the Electrical Engineering Department, University of California at Los Angeles, from August 2013 to January 2014. His research interests include RF/MMW

system-in-package design, LTCC (low temperature cofired ceramic) and IPD (integrated passive device) circuit design and synthesis, metamaterial, microwave measurement techniques, and LTCC embedded antenna/array..



Kuen-Yu Tsai (蔡坤諭)

Dr. Kuen-Yu Tsai was born in Taipei, Taiwan, in 1973. He received his B.Sc. degree in 1995 and his M.Sc. degree in 1997, both in mechanical engineering, from National Taiwan University. From 1995 to 1997, he was a Research Assistant of National Science Council (the predecessor of Ministry of Science and Technology), Taiwan, working on projects led by Prof. Jia-Yush Yen regarding ultra-precision wafer positioning problems in photolithography

systems and an interferometer-limited resolution of 5 nm was achieved. From 1998 to 2002, he was a Ph.D. student in Department of Aeronautics and Astronautics, and a Research Assistant of Information Systems Laboratory in Department of Electrical Engineering, both at Stanford University. He received his Ph.D. degree in aeronautics and astronautics, with a minor in electrical engineering. He worked on DARPA and NSF projects aiming at applying multivariable control, simulation, optimization, and signal processing techniques to semiconductor manufacturing problems, a multidisciplinary research direction pioneered and led by Prof. Thomas Kailath (IEEE Medal of Honor, 2007) in the 1990s and early 2000s which turned out to be highly successful and influential to both the academia and the industry worldwide. He developed innovative control and signal processing algorithms targeting at the nanoimprint-based next-generation lithography systems, and obtained one US patent granted and the other pending. He closed his dissertation work under the guidance of Prof. Stephen P. Boyd (IEEE Control Systems Award, 2013).

From 2002 to 2005, Dr. Tsai was a Senior Process Engineer in lithography of Intel Corporation. At Intel he worked on performance monitoring and improvement of 193-nm microlithography scanners at Fab-D1C in Hillsboro, Oregon, and Fab-11X in Rio Rancho, New Mexico, for Intel's P1262 90-nm process technology with then-just-introduced 300-mm wafer facilities. He also conducted research projects under the supervision of Dr. Alan R. Stivers in the Advanced Mask Technology group of Components Research in Santa Clara, California, on defect inspection specifications and inspection tool development for EUV lithography then targeted for the ITRS 32 nm half-pitch node (aka "16/14 nm node") and beyond.

Since 2005, Dr. Tsai has joined the faculty of National Taiwan University, starting as an Assistant Professor in Department of Electrical Engineering. He has founded and served as the directors of Nanoscale Design and Fabrication Systems Lab (NDFSL), Particle Beam Precision Patterning and Imaging Lab (PBPPIL), and High-Performance Servo Systems Lab (HPSSL) where he conducts cutting-edge, industry-application-oriented research with his graduate students and research associates. He has been affiliated with Graduate Institute of Electronics Engineering and System-on-Chip Center of NTU since 2008, and TSMC-NTU Research Center of NTU since its establishment in 2013, and in collaboration with Mechanical and Mechatronics Systems Research Laboratories of ITRI since 2016. He is an active researcher in nanolithography and design for manufacturability for nanoscale integrated circuits. He is one of the key initiators, advocates, and educators of the Taiwanese research efforts on EUV lithography, multiple-electron-beam-direct-write lithography, helium and neon ion beam imaging and nanopatterning, and design for manufacturability in integrated-circuit applications.

Dr. Tsai is a member of AVS, IEEE, SPIE, and the Phi Tau Phi Scholastic Honor Society.



Yi-Chang Lu (盧奕璋)

Yi-Chang Lu received the B.S. degree in electrical engineering from National Taiwan University, Taipei, Taiwan, in 1993, the M.S. degree in electrical engineering, the M.S. degree in engineering-economic systems, and the Ph.D. degree in electrical engineering from Stanford University, Stanford, CA, in 1997, 1999, and 2005, respectively.

From 1993 to 1995, he was an Engineering Officer with the Naval Surveillance and Communication Command Department, Suao, Taiwan. In 2005, he was a Postdoctoral Research Fellow with Stanford University. Since 2006, he has been with the Graduate Institute of Electronics Engineering and the Department of Electrical Engineering, National Taiwan

University, where he is currently an Associate Professor. His research interests include digital circuits and systems, digital signal processing, and high performance computing.

Dr. Lu is a senior member of IEEE and a member of ACM.



Kung-Bin Sung (宋孔彬)

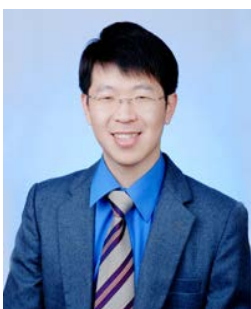
Dr. Kung-Bin Sung was born and grew up in Taipei, Taiwan. He received a Bachelor's degree in Electrical Engineering from National Taiwan University in 1996. After finishing two years of mandatory military service, he entered The University of Texas at Austin in 1998, majoring in Biomedical Engineering. He received his M.S. and Ph.D. degrees in 1999 and 2003, respectively. His main research project as a Ph.D. student was developing a fiber-optic confocal microscope to obtain images of epithelial cells in vivo for the diagnosis of early cancer and precancerous lesions. He joined Intel Corporation as a research scientist in 2003 and collaborated with researchers at the Fred Hutchinson Cancer Research Center in the United States on research projects related to surface-enhanced Raman spectroscopy. Since July of 2006 he has been an assistant professor at National Taiwan University. He is currently affiliated with the Department of Electrical Engineering, the Graduate Institute of Biomedical Electronics and Bioinformatics, and the Molecular Imaging Center in National Taiwan University. His current research focuses on the development and application of optical spectroscopy and microscopy techniques for the diagnosis of early cancer and precancerous lesions.



Chen-Mou Cheng (鄭振牟)

Chen-Mou Cheng received his BS and MS in Electrical Engineering from National Taiwan University in 1996 and 1998, respectively, and his PhD in Computer Science from Harvard University in 2007. He joined the Department of Electrical Engineering of National Taiwan University in 2007, where he is currently an Assistant Professor.

His main research area is in cryptographic hardware and embedded systems (CHES), as well as electronic system-level (ESL) design. Currently, his main research activities focus on the design and analysis of efficient algorithms to solve several important problems arising from cryptology, as well as the development and implementation of these algorithms on massively parallel computers. These problems include solving systems of polynomial equations over finite fields, integer factorization, elliptic-curve discrete logarithm, and lattice reduction.



Tian-Li Yu (于天立)

Tian-Li Yu was born in Taipei, Taiwan on June 12, 1975. He graduated from the National Taiwan University in Taipei, Taiwan with a bachelor degree in Electrical Engineering in 1997. He arrived the University of Illinois at Urbana-Champaign to pursue graduate study in Computer Science in 2000 and became a member in the Illinois Genetic Algorithms Laboratory in 2001. He received his master and Ph. D. degree from the University of Illinois at

Urbana-Champaign in Computer Science in 2003 and 2006, respectively. Starting from 2007, Yu engaged in academic work as an assistant professor in the National Taiwan University.



Chun-Ting Chou (周俊廷)

周俊廷教授於 1995 年畢業於台灣大學電機工程學系，並於 1997 年取得台大電機研究所通信組之碩士學位，服役期滿後，於 1999 年赴密西根大學安娜堡分校攻讀博士學位。2004 年取得博士學位後，隨即加入飛利浦北美研究實驗室的無線通信網路部門，擔任資深研究員。在此期間，周教授致力於無線通信網路的研究與設計，並積極參與諸多國際標準的制定與整合，其中 WiMedia UWB 的媒體接取層協定，即出自周教授及其所屬實驗室，該協定已被包括英代爾在內之主要電腦及通訊設備製造商採用，並已成為第一個超寬頻的 ISO 國際標準。2007 年十一月，周教授決定返台，進入台灣大學電信所與電機系擔任教職。

周教授的研究興趣主要在無線通信網路的通訊協定設計，包括超寬頻個人無線網路、認知型可程式化無線通訊、合作式無線傳輸以及 60GHz 無線網路。周教授著眼於學術與實用並重的研究，其研究不但被包括 IEEE 802.11e、IEEE 802.15.5、WiMedia UWB 及 Ecma TC32-TG20 等國際標準所採用，並已發表於諸多著名國際期刊及會議。

Professor Chou has been working in the area of wireless communication and networking with emphasis on medium access control (MAC) protocols, dynamic spectrum access (DSA) and large-scale Internet-of-Thing (IoT) networks. He is also interested in new applications and services in wireless networks and has developed various prototypes for smart lighting control, offline-to-online advertisement platform and energy-saving smart campus after he joins National Taiwan University.

His work in wireless communication and networking has been published in different journals and international conferences including IEEE/ACM Transactions on Networking, IEEE Transactions on Mobile Computing, IEEE Transactions on Wireless Communications, IEEE Journal on Selected Areas in Communications, IEEE INFOCOM, IEEE Globecom, IEEE VTC, etc. He was also the recipient of the FAOS Young Excellent Oversea Scholar Award in 2008, and the recipient of National Taiwan University Excellent Teacher Award in 2010, 2011, and 2012. Professor Chou has also filed 5 patents for his work in wireless technologies and applications.

Before joining National Taiwan University in 2008, Professor Chou was a senior member research staff in Philips Research North America and has designed various medium access control (MAC) protocols including WiMedia Ultra Wide Band (UWB)/ECMA 368, IEEE 802.11, IEEE 802.15.5 mesh network, and ECMA 387 (60 GHz), IEEE 802.22 and ECMA 392 Standard (TV white space) wireless standards. He has filed 16 patents in the area of UWB, 60 GHz, and DSA during his work in Philips Research.



Po-Ling Kuo (郭柏齡)

Po-Ling Kuo has received his M.D. and M.S. with concentration in electrical engineering from National Taiwan University at 1994 and 1998, respectively. He has finished his residency at the National Taiwan University Hospital, and practiced as an attending physician specialized in rehabilitation for three years. He thereafter went to the U.S. and got his Ph.D. in engineering sciences at Harvard University at 2008. His expertise includes micro-nano tissue engineering, analysis of mechanics and self-organization in biological systems at micro scales, and rehabilitation medicine. His current field of research focuses on the influence of microenvironment on tissue development, pathogenesis, aging, and repairing. He is interested in the mechanics between cell, extracellular matrix, and adjacent cells, in particular its role in the morphogenesis and differentiation of cell and tissues.



Chao-Hsin Wu (吳肇欣)

Chao-Hsin Wu received the B.S. degree in Electrical Engineering and M.S. degree in Graduate Institute of Photonics and Optoelectronics from National Taiwan University, Taipei, Taiwan, in 2002 and 2004, respectively. He used to work as a full-time teaching assistant in charge of Automatic Control Lab in the Department of Electrical Engineering in National Taiwan University from 2005 to 2006. He then joined the High-Speed Integrated Circuit group in University of Illinois at Urbana-Champaign in 2006 and received the Ph.D. degree in 2010. After finishing the Ph.D. degree, he continued working as a postdoctoral research fellow before he joined the faculty member in National Taiwan University.

In Illinois, he pioneered the development of novel III-V high-speed microelectronics and optoelectronics devices, including InGaN/GaN heterojunction bipolar transistors, InGaP/GaAs power amplifiers, and microcavity lasers. His research mainly focuses on the three-terminal light-emitting transistors (LETs) and transistor lasers (TLs).. He has demonstrated the world-record optical spontaneous modulation bandwidth of 7 GHz (corresponding to a recombination lifetime of 23 ps), which is a breakthrough in semiconductor device technology history for the past 47 years.

His current research at National Taiwan University includes high speed VCSELs for optical interconnects, GaN-on-Si power and rf electronics, 2D material field-effect transistors, Si photonics, transistor lasers for optical logic gates, GaN LED for visible light communications. He has published more than 40 journal papers and 60 conference papers.

Dr. Wu is also a member of SPIE and OSA. He received the Nick and Katherine Holonyak, Jr. Award in 2010 from UIUC. He was entitled Irving T. Ho Outstanding Young Scholar and received the Academic Contribution Award from EECS College of National Taiwan University in 2017.



Ho-Lin Chen (陳和麟)

Ho-Lin Chen is an associate professor in the Department of Electrical Engineering at National Taiwan University. He received a B.S. in Electrical Engineering and Mathematics from National Taiwan University in 2000, and a Ph.D. in Computer Science from Stanford University in 2007. He was a postdoctoral researcher in Center for the Mathematics of Information at California Institute of Technology from 2007 to 2011. He was an assistant professor in National Taiwan University from 2011 to 2016. His research interests are algorithms with applications to molecular computation and algorithmic game theory..



Yu-Chiang Frank Wang (王鈺強)

Yu-Chiang Frank Wang received his B.S. degree in Electrical Engineering from National Taiwan University in 2001. He received his M.S. and Ph.D. degrees in Electrical and Computer Engineering from Carnegie Mellon University in 2004 and 2009, respectively. In 2009, Dr. Wang joined the Research Center for Information Technology Innovation (CITI), Academia Sinica as an Assistant Research Fellow, where he lead the Multimedia and Machine Learning (MML) Lab with research focuses on computer vision and machine learning. He was later promoted as the Associate Research Fellow in 2013, and also served as the Deputy Director of CITI from 2015 to 2017.

In 2017, Dr. Wang joins the Graduate Institute of Communication Engineering and Department of Electrical Engineering at National Taiwan Univeristy as an Associate Professor. With continuing research focuses on computer vision and machine learning, Dr. Wang's recent research topics include deep learning for transfer learning, domain adaptation, face recognition, semantic segmentation, and multi-label classification. Dr. Wang serves as organizing committee members and area chairs of multiple international conferences such as CVPR, ICCV, ECCV, and ACCV. Several of his papers are nominated nominated for the best paper awards, including IEEE ICIP, ICME, AVSS and MVA. Dr. Wang is twice selected as the Outstanding Young Researcher by the Ministry of Science and Technology of Taiwan (2013-2015 and 2017-2019).



Borching Su (蘇柏青)

Borching Su was born in Tainan, Taiwan in 1978. He received the B.S. and M.S. degrees in electrical engineering and communication engineering, both from National Taiwan University (NTU), Taipei, Taiwan, in 1999 and 2001, respectively, and the Ph.D. degree in Electrical Engineering from the California Institute of Technology (Caltech), Pasadena, CA, USA, in 2008. He joined NextWave Broadband, Inc., San Diego, CA, USA in 2008 where he participated in physical-layer system design of the company's WiMax mobile chipset products.

In August 2009, Dr. Su joined National Taiwan University and is currently an assistant professor. His current research interests include signal processing for communication systems, particularly blind channel estimation.

Dr. Su received Charles H. Wilts prize from Caltech for his Ph.D. thesis on blind channel estimation.



Jiun-Yun Li (李峻實)

Jiun-Yun Li received his B.S. and M.S. degrees in electrical engineering and photonics and optoelectronics in 1998 and 2000, respectively, both from National Taiwan University, Taipei, Taiwan. He moved on to the U.S. to receive another M.S. degree from University of Maryland, College Park in 2007 and Ph.D. degree from Princeton University in 2013, both in electrical engineering.

Prof. Li joined the Department of Electrical Engineering and the Graduate Institute of Electronics Engineering at National Taiwan University as an assistant professor in 2013 and he is now an associate professor. His research interests include group IV semiconductor epitaxial growth (e.g. SiGe, GeSn) and atomic layer epitaxial; Si-based quantum electronics and device application (e.g. mesoscopic electron transport properties of two-dimensional electron gases and quantum dots for quantum computing), and nano-sized transistors and post-CMOS devices (such as tunneling diodes and transistors).



Nien-Tsu Huang (黃念祖)

黃念祖助理教授於 2003 年及 2005 年取得台灣大學機械工程系學士和應用力學所碩士學位，畢業後前往美國密西根大學(University of Michigan, Ann Arbor)取得機械工程學博士學位。黃教授於 2013 年 8 月返台，目前擔任台大電機系和生醫電資所合聘教師。黃教授取得博士學位後，於密西根大學及附屬墨茲兒童醫院擔任博士後研究員進行小兒敗血症和器官移植免疫系統的研究。他的研究成果包含設計微小化生醫晶片和搭配之光學系統以達到快速檢測和少量化樣本需求，上述成果獲得美國國衛院

(National Institutes of Health)、國科會 (National Science Foundation) 等數項研究計畫補助。同時間他也多次參與知名國際微機電和生醫晶片會議並發表超過 15 篇生醫微奈米系統期刊和國際會議論文。他亦擔任專書”光微奈米致動器科技”(Optical Nano and Micro Actuator Technology) 章節作者，並擁有數項微流體系統專利待核定中。

Nien-Tsu Huang received his B.S. in Mechanical Engineering and the M.S. in Applied Mechanics from National Taiwan University, Taipei, Taiwan, in 2003 and 2005. He received the Ph. D. degree in Mechanical Engineering at the University of Michigan, Ann Arbor, in 2012. Following a post-doctoral training in the Mechanical Engineering and C.S. Mott Children's Hospital at the University of Michigan, he joined the Graduated Institute of Biomedical Electronics and Bioinformatics and the Department of Electrical Engineering at National Taiwan University in 2013. During his post doctoral training, he developed integrated microfluidic devices and customized optical system for investigating immune system of pediatric sepsis patients. These research results had been published in several prestigious journal and conference paper. Besides, he also got various research grants from National Institutes of Health (NIH) and National Science Foundation (NSF) for developing integrated optofluidic platforms projects.



I-Hsiang Wang (王奕翔)

I-Hsiang Wang received his Ph.D. in Electrical Engineering and Computer Sciences from University of California at Berkeley, USA, in 2011. From 2011 to 2013, he was a postdoctoral research associate in the School of Computer and Communication Sciences (IC) at École Polytechnique Fédérale de Lausanne (EPFL), Switzerland. In Fall 2013, he joined National Taiwan University, where he is now an assistant professor. Prof. Wang's expertise lies in information theory, statistical learning, and networked information and data processing. He received the Berkeley Vodafone Fellowship in 2006 and 2007. He was a finalist of the Best Student Paper Award of IEEE International Symposium on Information Theory, 2011. He won the 2017 IEEE Information Theory Society Taipei Chapter and IEEE Communications Society Taipei/Tainan Chapters Best Paper Award for Young Scholars, and the 2016 National Taiwan University Distinguished Teaching Award (top 1%). He served on the technical program committees of flagship conferences in information theory, including IEEE International Symposium on Information Theory (ISIT) and IEEE Information Theory Workshop (ITW).

Prof. Wang's recent research agenda is to leverage information theory and statistical methods to investigate large-scale data extraction and high dimensional unsupervised learning problems, including hypergraph community structure analysis.



Katherine A. Kim (金藝璘)

Prof. Katherine A. Kim received the B.S. degree in Electrical and Computer Engineering (ECE) from the Franklin W. Olin College of Engineering in 2007. She received the M.S. and Ph.D. degree in ECE from the University of Illinois, Urbana-Champaign, IL, USA, in 2011 and 2014, respectively. In 2014-2018, she was an Associate Professor, School of Electrical and Computer Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan, South Korea. Since 2019, she is an Associate Professor, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan.

Prof. Kim received the National Science Foundation's East Asia and Pacific Summer Institutes Fellowship (EAPSI) in 2010 and Graduate Research Fellowship (GRF) in 2011. In 2014, she received the Outstanding Teaching Award from UNIST for her flipped-learning course on controls. For the IEEE Power Electronics Society (PELS), she served as the Student Membership Chair for 2013-2014 and a Member-At-Large for 2016-2018. She is an Associate Editor for the IEEE Transactions on Power Electronics and the IEEE PELS Women in Engineering Chair for 2018-2019.



Wing-Kit Choi (蔡永傑)

Born in Hong Kong, Dr. Choi received his B.Eng. degree from University of London in 1994 and his Ph.D. degree from University of Cambridge in 1998, both in Electronic and Electrical Engineering. His Ph.D. research (Photonics) at Cambridge was related to high speed liquid crystal electro-optic effects & devices for use in telecommunication systems. After his Ph.D., Dr. Choi joined Unipac Optoelectronics (now AUO), Taiwan as a Senior Research and

Development Engineer for about two years. After Unipac, he joined CREOL, University of Central Florida (UCF), US as a Research Scientist. At UCF, he worked with Prof. ST Wu on a number of projects related to TFT-LCDs and Optical Communications and had several original Invention Disclosures / Patents during that period. In 2004, Dr. Choi returned to Taiwan and joined GIPO/EE, National Taiwan University (NTU) as an Assistant Professor. His research works in recent years include Transflective TFT-LCDs and fast response liquid crystal technologies for display and non-display applications.

Dr. Choi was a recipient of the Hong Kong Croucher Foundation Scholarship for his Ph.D. studies at Cambridge University.



Tsung-Te Liu (劉宗德)

Tsung-Te Liu received the B.S. and M.S. degrees from National Taiwan University, Taiwan, in 2002 and 2004, respectively, and the Ph.D. degree from the University of California, Berkeley, in 2012, all in electrical engineering.

From 2004 to 2005, he was with MediaTek Inc., Taiwan, where he was involved in circuit and system design for wireless communications. From 2005 to 2012, he was a member of the Berkeley Wireless Research Center (BWRC) at the University of California, Berkeley. From 2012 to 2014, he was with

Interuniversity Microelectronics Centre (IMEC), Belgium, where he conducted research on circuit development for advanced CMOS technology. In 2014, he joined the faculty of National Taiwan University, Taiwan, where he is currently an Assistant Professor of the Graduate Institute of Electronics Engineering and the Department of Electrical Engineering. He is the recipient of several design and teaching awards. His research interests involve energy-efficient circuit and system designs.



Hung-Yi Lee (李宏毅)

李宏毅 (Hung-yi Lee) received the M.S. and Ph.D. degrees from National Taiwan University (NTU), Taipei, Taiwan, in 2010 and 2012, respectively. From September 2012 to August 2013, he was a postdoctoral fellow in Research Center for Information Technology Innovation, Academia Sinica. From September 2013 to July 2014, he was a visiting scientist at the Spoken Language Systems Group of MIT Computer Science and Artificial Intelligence Laboratory (CSAIL). He is currently an assistant professor of

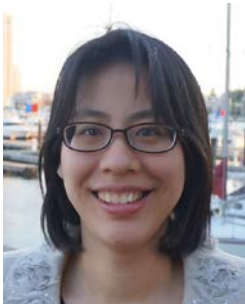
the Department of Electrical Engineering of National Taiwan University, with a joint appointment at the Department of Computer Science & Information Engineering of the university. His research focused on speech technology and machine learning.



Ching-Jan Chen (陳景然)

Ching-Jan Chen received the B.S. and Ph.D. degrees in electrical engineering from National Taiwan University, Taipei, Taiwan, in 2006 and 2011, respectively. During 2010 to 2011, he was a visiting scholar at Center of Power Electronic Systems (CPES) of Virginia Tech., Blacksburg, USA. From 2011 to 2015, he was a senior engineer in IC research and development department with Richtek Technology Corporation, Hsinchu, Taiwan. His work focused on new control scheme development and IC design of voltage regulator controller for CPU power. In 2015, he became an Assistant Professor with the Department of Electrical Engineering, National Taiwan University, Taiwan.

His research interests include power electronics, dc-dc power converter modeling and control, and power IC design. He is a Senior Member of the IEEE Power Electronics Society.



An-Chi Wei (魏安祺)

An-Chi Wei received her Ph.D. degree in Biomedical Engineering from Johns Hopkins University in 2013. She continued her postdoctoral training in Cardiology at the Johns Hopkins University. She joined Institute of Bioelectronics and Bioinformatics and Department of Electrical Engineering at National Taiwan University in 2016.

Her main areas of research interest are using integrative computational and experimental methods to study mitochondrial biology, bioenergetics and metabolism. She is studying the role of mitochondrial calcium regulation in energy production, cell death and buffering by quantitative experiments and developing biophysical based computational model.



Hsiang-Chieh Lee (李翔傑)

李翔傑助理教授於2004年及2006年取得台灣大學土木工程系學士和光電工程所碩士學位，畢業後前往美國麻省理工學院(Massachusetts Institute of Technology, MIT)攻讀電機與資訊工程學博士學位。在攻讀博士學位期間，主要探討光電技術在生物醫學領域的應用。其研究成果包含，利用光學同調斷層顯微術(Optical Coherence Microscopy)，與哈佛醫學院(Harvard Medical School)和貝斯以色列狄更尼斯醫學中心(Beth Israel Deaconess Medical Center)病理實驗室合作進行高速且即時的病理組織光學影像研究。此外，亦利用內視鏡式光學同調斷層掃描術(Endoscopic Optical Coherence Tomography)與哈佛醫學院和波士頓榮民醫療體系(Veterans Affairs Boston Healthcare System,)先進內視鏡影像中心合作，進行人體消化道疾病早期診斷以及內視鏡治療後的預後評估之整合性研究。

李翔傑助理教授於2017年二月取得博士學位後返台加入台灣大學光電工程研究所，其研究領域包含(1)結合光學同調斷層掃描術以及光學同調斷層血管攝影術於癌前病變的早前診斷(2)微小型光學成像系統的研究與開發以及(3)非侵入式光學成像技術。



Pei-Yuan Wu (吳沛遠)

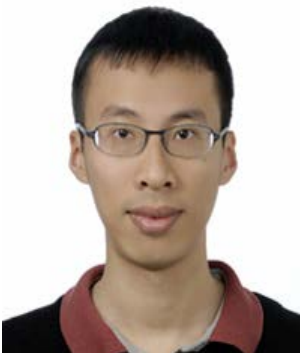
Pei-Yuan Wu is an assistant professor at National Taiwan University since 2017. He was born in Taipei, Taiwan, R.O.C., in 1987. He received the B.S.E. degree in electrical engineering from National Taiwan University in 2009, and the M.A. and Ph.D. degrees in electrical engineering from Princeton University in 2012 and 2015, respectively. He joined Taiwan Semiconductor Manufacturing Company from 2015 to 2017. He was a recipient of the Gordon Y.S. Wu Fellowship in 2010, Outstanding Teaching Assistant Award at Princeton University in 2012. His research interest lies in artificial intelligence, signal processing, estimation and prediction, and cyber-physical system modeling.



Tzu-Hsuan Chang (張子璿)

Tzu-Hsuan Chang (張子璿) 助理教授於 2004 年及 2006 年畢業於台灣大學電機系及電機所 CS 組，並於 2008 年前往美國德州農工大學(Texas A&M University) 就讀一年之後，轉往威斯康辛大學麥迪遜分校 (University of Wisconsin-Madison)，並於 2015 年取得博士學位，之後繼續在麥迪遜擔任博士後研究員，帶領進行多項美國能源部，國防部，美國空軍，以及農業部的合作研究計劃。張教授發表了多篇頂尖期刊的研究成果，受邀多個國際研討會，其中有共同研究成果獲選為當年度 Nature 子期刊前 1% 被引用的文章。

張教授的研究領域涵蓋了二維材料、薄膜奈米電子、可撓性以及可穿戴的高速高功率薄膜電子以及光學電子原件、前端性異晶相電子原件的開發、永續性綠能電子的研究。其中題目包含成功展示 AlGaAs/Si 2 階異晶相高效太陽能電池，高效能可生物分解電子產品、高功率可撓性 HEMTs、可穿戴式放大器、單光子 X-ray 光感原件、薄膜腔共振光感原件、此外張教授成功開發出用二維材料引導奈米分子的自組排列，大幅提升了奈米分子結構的自主生成的各項效能，成果已獲得多項國際專利，以及專利申請中。



Cheng-Wei Chen (陳政維)

Cheng-Wei Chen received the B.S. degree in electrical and control engineering from the National Chiao Tung University, Hsinchu, Taiwan, in 2009, the M.S. degree in electrical engineering from the National Taiwan University, Taipei, Taiwan, in 2011, and the Ph.D. degree in mechanical engineering from the University of California, Los Angeles, CA, USA, in 2018.

He is currently an assistant professor of the department of electrical engineering, National Taiwan University, Taipei, Taiwan. His research interests include control and mechatronics, microsurgical robotics, model predictive control, computer vision, and signal processing.



Chun-Lin Liu (劉俊麟)

Chun-Lin Liu received the B.S. and M.S. degrees in electrical engineering and communication engineering from National Taiwan University, Taipei, Taiwan, in 2010 and 2012, respectively, and the Ph.D. degree in electrical engineering from the California Institute of Technology (Caltech), Pasadena, CA, USA, in 2018. In August 2018, he joined the Department of Electrical Engineering and the Graduate Institute of Communication Engineering, National Taiwan University, as an Assistant Professor.

His research interests are in sparse array signal processing, digital signal processing, and statistical signal processing. He received the Best Student Paper Award at the 41st IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2016, Shanghai, China, the 9th IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM), 2016, Rio de Janeiro, Brazil, and ICASSP 2018, Calgary, Alberta, Canada. He also received the Student Paper Award at the 50th Asilomar Conference on Signals, Systems, and Computers, 2016, Pacific Grove, CA, USA. He was a recipient of the Ben P. C. Chou Doctoral Prize for outstanding doctoral dissertations in the broad area of information science and technology at Caltech in 2018.

Project Abstracts

Yao-Wen Chang (張耀文)

Please see <http://cc.ee.ntu.edu.tw/~ywchang> for his project list

Y.-W. Chang

Yao-Wen Chang (張耀文)

, N.T.\$ 000, 2016/08/00-2019/07/00

Gong-Ru Lin (林恭如)

Adaptive group-IV semiconductor based linear and nonlinear photonic waveguide elements for versatile pulse data processing

適應多格式調變脈碼光源的四族半導體線性與非線性光波導信號處理元件

Gong-Ru Lin (林恭如), sponsored by 科技部 (Ministry of Science and Technology (Taiwan))

MOST 106-2221-E-002-152-MY3, N.T.\$ 5,820,000, 2017/08/01-2019/07/31.

Toward high-power blue FPLD/RCLED/uC-LED based visible lighting communications

邁向高功率藍光雷射/共振腔與微腔發光二極體可見光照明通信傳輸

Gong-Ru Lin (林恭如), sponsored by 科技部 (Ministry of Science and Technology (Taiwan))

MOST 107-2221-E-002-158-MY3, N.T.\$ 4,334,000, 2018/08/01-2021/07/31.

Fusion of MMW 5G wireless and fiber wired networks with dual-mode laser diodes

以雙模雷射二極體光源內載 5G 毫米波載波融合光纖有線與毫米波無線網路

Gong-Ru Lin (林恭如), sponsored by 科技部 (Ministry of Science and Technology (Taiwan))

MOST 107-2221-E-002-159-MY3, N.T.\$ 3,927,000, 2018/08/01-2021/07/31.

Toward New-Era 1.6Tbps Si-Photonics Transceiver Platform(1/4)

邁向新世代 1.6 兆位元矽光子平台光收發模組之研究(1/4)

Gong-Ru Lin (林恭如), sponsored by 科技部 (Ministry of Science and Technology (Taiwan))

MOST 107-2218-E-992-304-, N.T.\$ 5,538,989, 2018/08/01-2019/07/31.

An-Yeu (Andy) Wu (吳安宇)

多模式情感運算應用之感應器與系統設計(2/2)

An-Yeu (Andy) Wu (吳安宇), sponsored by 科技部

107-2622-8-002-009-TA, N.T.\$ 3,127,000, 2018/08/01-2019/07/31

提昇在 IEEE 電路與系統理事會之領導力與影響力規劃(2/2)

An-Yeu (Andy) Wu (吳安宇), sponsored by 科技部

107-2911-I-002-514, N.T.\$ 240,744, 2018/01/01-2018/12/31

適用於無線照護系統之壓縮感知技術與電路實現

An-Yeu (Andy) Wu (吳安宇), sponsored by 科技部

106-2221-E-002 -204 -MY3, N.T.\$ 4,638,000, 2017/08/01-2020/07/31

多模式情感運算應用之感應器與系統設計(1/2)

An-Yeu (Andy) Wu (吳安宇), sponsored by 科技部

106-2622-8-002 -013 -TA, N.T.\$ 3,675,000, 2017/08/01-2018/07/31

適用於智慧型霧運算架構之多模式情感運算學習電路與系統

An-Yeu (Andy) Wu (吳安宇), sponsored by 科技部

106-2221-E-002 -205 -MY3, N.T.\$ 3,720,000, 2017/08/01-2020/07/31

明基友達集團臺大產學合作研究中心基金-主動式觸控筆之接收機研究計畫(瑞鼎)

An-Yeu (Andy) Wu (吳安宇), sponsored by 瑞鼎科技股份有限公司

100E310521, N.T.\$ 313,164, 2017/04/01-2018/03/31

(原相科技)多模式情感運算學習電路與系統

An-Yeu (Andy) Wu (吳安宇), sponsored by 原相科技股份有限公司

06HT945006, N.T.\$ 2,608,695, 2017/04/01-2019/03/31

Soo-Chang Pei (貝蘇章)

Adaptive Time-Frequency Analysis and Linear Canonical Transform

適應性時頻分析與線性完整轉換

Soo-Chang Pei (貝蘇章), sponsored by 科技部 (Ministry of Science and Technology)

107-2221-E-002 -119 -, N.T.\$ 989,000, 2018/08/00-2019/09/00

智慧型影像色彩與品質改善

臺大核心研究群計畫--智慧型影像色彩與品質改善

Soo-Chang Pei (貝蘇章), sponsored by 教育部 (Ministry of Education)

107L891806, N.T.\$ 529,000, 2018/06/00-2018/12/00

Graph Theory and Graph Signal Processing

圖學與圖形訊號處理

Soo-Chang Pei (貝蘇章), sponsored by 科技部 (Ministry of Science and Technology)

106-2221-E-002 -040 -MY2, N.T.\$ 2,035,000, 2017/08/01-2019/07/31

Augmented Collective Beings

人機共生之感知關鍵技術

Soo-Chang Pei (貝蘇章), sponsored by 科技部 (Ministry of Science and Technology)

106-2633-E-002 -001 -, N.T.\$ 000, 2016/01/01-2019/12/31

Linear Canonical Transform: Theory, Algorithm and Signal Processing

線性完整轉換的理論, 演算法及訊號處理

Soo-Chang Pei (貝蘇章), sponsored by 科技部 (Ministry of Science and Technology)

MOST 104-2221-E-002 -096 -MY3, N.T.\$ 000, 2015/08/01-2018/07/31

Lin-shan Lee (李琳山)

Spoken Language Processing under New Technology Environment (II)

新科技環境下之口語處理技術(II)

Lin-shan Lee (李琳山), sponsored by 科技部 (Ministry of Science and Technology)

107-2221-E-002 -146 -MY3, N.T.\$ 4,137,000, 2018/08/01-2021/07/31

Spoken Content Retrieval and Understanding with Deep Learning

使用深層學習之語音數位內容搜尋與瞭解

Lin-shan Lee (李琳山), sponsored by 科技部 (Ministry of Science and Technology)
106-2221-E-002-200-MY3, N.T.\$ 3,862,000, 2017/08/01-2020/07/31

Spoken Language Processing under New Technology Environment
新科技環境下之口語處理技術

Lin-shan Lee (李琳山), sponsored by 科技部 (Ministry of Science and Technology)
104-2221-E-002 -048 -MY3, N.T.\$ 4,151,000, 2015/08/01-2018/07/31

Si-Chen Lee (李嗣涔)

Research of Semiconductor Technology Beyond 3nm
超3奈米前瞻半導體技術研究(1/5)

Si-Chen Lee (李嗣涔), sponsored by 科技部 (MOST)
107-2622-8-002-018, N.T.\$ 100,000,000, 2018/08/01-2019/07/31

Pathfinding for 7–5nm Semiconductor Technology Nodes
7–5 nm 半導體技術節點研究(5/5)

Si-Chen Lee (李嗣涔), sponsored by 科技部 (MOST)
106-2622-8-002-001, N.T.\$ 98,000,000, 2017/08/01-2018/07/31

Yuan-Yih Hsu (許源浴)

Design of rotor side current and power controllers for a doubly-fed induction generator

Yuan-Yih Hsu (許源浴) (Ministry of Science and Technology)
MOST 106-2221-E-002-147-MY3, N.T.\$ 2,124,000, 2017/08/00-2020/07/00

Hung-Chun Chang (張宏鈞)

Frequency-Domain and Time-Domain Numerical Electromagnetic Studies of Plasmonic Structures: Various Waveguides, Nano-Antennas and Related Scattering Structures
電漿子結構之頻域與時域數值電磁研究：各式波導、奈米天線與相關散射結構

Hung-Chun Chang (張宏鈞), sponsored by 行政院科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002-138-MY2, N.T.\$ 001, 2016/08/01-2018/07/31

Jenn-Gwo Hwu (胡振國)

Gate Tunneling Induced Deep Depletion Characteristic and Device Coupling Applications of MOS Structure (3/3)

閘極穿隧引起金氧半結構之深空乏特性及元件耦合應用(3/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002-180-MY3, N.T.\$ 1,717,000, 2018/08/01-2019/07/31

Process Development and Memory Application of MOS Structures with Tip Si Substrate (2/3)

具尖形矽基金氧半結構志城開發及記憶體元件應用(2/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)
MOST 106-2221-E-002-196-MY3, N.T.\$ 1,374,000, 2018/08/01-2020/07/31

Gate Tunneling Induced Deep Depletion Characteristic and Device Coupling Applications of MOS Structure (2/3)

開極穿隧引起金氧半結構之深空乏特性及元件耦合應用(2/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002-180-MY3, N.T.\$ 1,577,000, 2017/08/01-2019/07/31

Process Development and Memory Application of MOS Structures with Tip Si Substrate (1/3)

具尖形矽基金氧半結構製程開發及記憶體元件應用(1/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)
MOST-106-2221-E-002-196-MY3, N.T.\$ 1,431,000, 2017/08/01-2020/07/31

Gate Tunneling Induced Deep Depletion Characteristic and Device Coupling Applications of MOS Structure (1/3)

開極穿隧引起金氧半結構之深空乏特性及元件耦合應用(1/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002-180-MY3, N.T.\$ 1,422,000, 2016/08/01-2019/07/31

Ruey-Beei Wu (吳瑞北)

UAV-IoT and its long-range wireless geo-location tracking applications

無人機物聯網及長距無線定位追蹤應用

Ruey-Beei Wu (吳瑞北), sponsored by 教育部 (MoE)
107L893001, N.T.\$ 448,000, 2018/06/00-2019/05/00

Analysis of High Electromechanical Coupling Constants Acoustic Wave Resonator and Reconfigurable Filter Design Using Coupling Capacitors for Next Generation Mobile Platform

應用於次世代行動平台之高機電耦合係數聲波共振器分析與電容耦合可重構濾波器設計

Ruey-Beei Wu (吳瑞北), sponsored by 科技部 (MOST)
MOST 106-2221-E-002-013-MY3, N.T.\$ 2,598,000, 2017/08/00-2020/07/00

Key Modules Development by WLP for SerDes and ADAS Applications

晶圓級構裝關鍵組件開發於 SerDes 及 ADAS 之應用

Ruey-Beei Wu (吳瑞北), sponsored by 聯發科 (MediaTek)
, N.T.\$ 2,090,000, 2017/01/00-2018/12/00

SIPI/EMI Solution for High-Speed Signaling Design and Noise Suppression

高速訊號設計及雜訊抑制解決方案研究

Ruey-Beei Wu (吳瑞北), sponsored by 瑞昱 (RealTek)
, N.T.\$ 1,500,000, 2017/01/00-2018/12/00

Research on Long-Endurance UAV

長滯空無人機研究

Ruey-Beei Wu (吳瑞北), sponsored by PSJ Int.
, N.T.\$ 42,525,000, 2017/01/00-2019/12/00

Reconfigurable Circuits and SI/PI Design in Advanced Wafer Level Packaging Technology for Next Generation Mobile Platform

先進晶圓級構裝技術於次世代行動平台中的可重構電路與信號/電源完整度設計

Ruey-Beei Wu (吳瑞北), sponsored by 科技部 (Ministry of Science and Technology)
MOST 104-2221-E-002 -055 -MY3, N.T.\$ 3,167,000, 2015/08/01-2018/07/31

Shyh-Kang Jeng (鄭士康)

AI-Aided Design for Optimization of the Sound Source Localization Capability of Binaural Robots with Simplified Head and Torso

使簡化外形機器人雙耳空間聲源定向能力最佳化的人工智慧輔助設計

Shyh-Kang Jeng (鄭士康), sponsored by 科技部 (Ministry of Science and Technology)
MOST 107-2221-E-002-082 -, N.T.\$ 643,000, 2018/08/01-2019/07/31

AI-Aided Design for Optimization of the Sound Source Localization Capability of Binaural Robots with Simplified Head and Torso

使簡化外形機器人雙耳空間聲源定向能力最佳化的人工智慧輔助設計

Shyh-Kang Jeng (鄭士康), sponsored by 科技部 (Ministry of Science and Technology)
MOST 107-2221-E-002-082, N.T.\$ 643, 2018/08/00-2019/07/00

Biologically-Inspired Sound Source Localization and Acoustic Anomaly Detection for a Mobile Robot in a Reverberant Environment

回音環境下行動機器人的仿生聲源定位及異常聲音偵測

Shyh-Kang Jeng (鄭士康), sponsored by 科技部 (Ministry of Science and Technology)
106-2633-E-002-002-, N.T.\$ 596,000, 2017/08/01-2018/07/31

Yean-Woei Kiang (江衍偉)

Numerical study on optical properties of porous metal nanoparticles

多孔金屬奈米粒子光學特性之數值研究

Yean-Woei Kiang (江衍偉), sponsored by 科技部 (Ministry of Science and Technology)
MOST 107-2221-E-002-152, N.T.\$ 640,000, 2018/08/00-2019/07/00

Numerical simulation on the emission effect of AlGaIn quantum wells using the density matrix formulation

以密度矩陣法模擬氮化鋁鎵量子井之發光效應

Yean-Woei Kiang (江衍偉), sponsored by 科技部 (Ministry of Science and Technology)
MOST 106-2221-E-002-162, N.T.\$ 649,000, 2017/08/00-2018/07/00

Sheng-De Wang (王勝德)

IC wire modeling and prediction

IC 鐳線軌跡建模與預測演算法設計與實作

Sheng-De Wang (王勝德), sponsored by 財團法人資訊工業策進會
, N.T.\$ 000, 2018/10/00-2019/05/00

WISE-PaaS Industry IoT Training/Teaching Courseware Design

打造工業物聯網 WISE-PaaS 教材設計

Sheng-De Wang (王勝德), sponsored by 財團法人研華文教基金會
, N.T.\$ 600,000, 2018/01/00-2018/12/00

Machine Learning as a Service - API extention

機器學習即服務」系統功能擴增及應用程式界面(API)設計與開發

Sheng-De Wang (王勝德), sponsored by 財團法人資訊工業策進會
, N.T.\$ 860,000, 2017/10/00-2018/03/00

Edge Cloud Frameworks and Data Processing Techniques for IoT Intelligent Applications

整合物聯網與雲端運算之生產力 4.0 關鍵技術與智慧服務--子計畫三：支援生產力 4.0 與物聯網應用的前端雲架構與資料處理技術

Sheng-De Wang (王勝德), sponsored by 科技部 (MOST)
105-2221-E-002 -122 -MY3, N.T.\$ 2,537,000, 2016/08/00-2019/07/00

Li-Chen Fu (傅立成)

AI Robots that Care Human Physical and Mental States

能守護人類生、心理之 AI 機器人(1/4)

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology)
MOST 107-2634-F-002 -018 -, N.T.\$ 000, 2018/01/00-2018/12/00

Innovative Mobile Living Technology for Dementia Care

失智症照護之創新行動生活科技(3/3)

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology, R.O.C.)
MOST 106-2627-E-002-001-, N.T.\$ 6,300,000, 2017/08/01-2018/07/31

A System that Recognizes and Records Activities of Daily Living (ADL) and Behaviors of Elders in Senior Centers(2/3)(3/3)

年長者於照護中心之日常生活活動、行為辨識與紀錄系統

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology, R.O.C.)
MOST 105-2221-E-002-094-MY2, N.T.\$ 3,070,000, 2016/08/01-2018/06/31

Design and Control of a Novel hybrid 3D Scan System

新型雷射共焦暨原子力複合掃描顯微系統之設計、控制與實現

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology, R.O.C.)
MOST 105-2221-E-002 -134 -MY3, N.T.\$ 005, 2016/08/01-2019/07/31

Elderly Cancer-survivor HEalth Enhancing and Recovery System(Elderly CHEERS)

老年癌症存活者之優質生活及健康促進系統-老年癌症存活者之優質生活及健康促進系統
(1/3)

Li-Chen Fu (傅立成), sponsored by 國科會 (National Science Council)
NSC101-2627-E-002-002-, N.T.\$ 5,475,000, 2012/08/01-2313/07/31

Hsu-chun Yen (顏嗣鈞)

Algorithm Design for Problems Concerning Orthogonal Polygons and Polyhedra

正交多邊形與多面體相關問題之演算法設計

Hsu-chun Yen (顏嗣鈞), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002 -036 -MY3, N.T.\$ 2,647,000, 2017/08/01-2020/07/31

Mao-Chao Lin (林茂昭)

Study on Short Error-Correcting Codes (2/3)

短錯誤更正碼的研究 (2/3)

Mao-Chao Lin (林茂昭), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002-027-MY3, N.T.\$ 928,000, 2018/08/01-2019/07/31

Study on Short Error-Correcting Codes (1/3)

短錯誤更正碼的研究(1/3)

Mao-Chao Lin (林茂昭), sponsored by 科技部 (Ministry of Science and Technology)

MOST-106-2221-E-002-027-MY3, N.T.\$ 1,007,000, 2017/08/01-2018/07/31

Sy-Yen Kuo (郭斯彥)

Key Technologies and Intelligent Services for Productivity 4.0 Based on Internet of Things and Cloud Computing

整合物聯網與雲端運算之生產力 4.0 關鍵技術與智慧服務-總計畫暨子計畫一：具靈活性與可信度之物聯網雲端服務平台及其在生產力 4.0 之應用

Sy-Yen Kuo (郭斯彥), sponsored by 科技部(整合型研究計畫) (Ministry of Science and Technology)

105-2221-E-002-120-MY3, N.T.\$ 3,054,000, 2016/08/01-2019/07/31

Core Technologies for Software Defined Systems with IoT Applications

軟體定義系統之關鍵技術研究及其在物聯網的應用-總計畫暨子計畫一：基於軟體定義之節能資料管理機制應用於多租戶物聯網資料中心

Sy-Yen Kuo (郭斯彥), sponsored by 科技部(整合型研究計畫) (Ministry of Science and Technology)

105-2221-E-002-119-MY3, N.T.\$ 5,011,000, 2016/08/01-2019/07/31

Reliable compromise-resilient mechanisms for managing the data integrity and privacy of heterogeneous IoT devices

針對異質物聯網所設計的具可靠性與破壞容忍性的資料隱私與完整度保護機制

Sy-Yen Kuo (郭斯彥), sponsored by 科技部(台日國際合作計畫) (Ministry of Science and Technology)

105-2923-E-002 -014 -MY3, N.T.\$ 4,050,000, 2016/01/00-2018/12/00

Chih-Chung (C. C.) Yang (楊志忠)

Growth and Mechanism Study of Wide-Bandgap Semiconductor Nanostructures(2/2)

寬能隙半導體奈米結構的生長與其機制研究(2/2)

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 美國空軍研究處 (AOARD)

17IOA087, N.T.\$ 2,319,375, 2018/10/01-2019/09/30

High-conductivity and High-mobility Doped AlGaIn for Electronics and Optoelectronics Applications

電子與光電應用的高導電率與高遷移率摻雜氮化鋁鎵

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2923-M-002-005-MY3, N.T.\$ 7,500,000, 2018/08/01-2021/07/31

Growth and Mechanism Study of Wide-Bandgap Semiconductor Nanostructures(1/2)

寬能隙半導體奈米結構的生長與其機制研究(1/2)

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 美國空軍研究處 (AOARD)

17IOA087, N.T.\$ 2,259,000, 2017/10/01-2018/09/30

Novel Surface Plasmon Materials and Nanostructures and Their Device Applications

新穎表面電漿子材料與奈米結構及其元件應用

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002-163-MY3, N.T.\$ 5,100,000, 2017/08/01-2020/07/31

Thin p-type Light-emitting Diode for Reducing Efficiency Droop Effect and Enhancing Modulation Bandwidth(2/2)

產學合作計畫－低效率滑落效應與高調制頻寬之薄 p-型層發光二極體(2/2)

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 科技部 (Ministry of Science and Technology)

MOST 105-2622-E-002-012-CC2, N.T.\$ 2,101,000, 2016/11/01-2018/01/31

Light-emitting Devices Based on GaN Nanorod Growth

基於氮化鎵奈米柱生長的發光元件

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 科技部 (Ministry of Science and Technology)

MOST 105-2221-E-002-159-MY3, N.T.\$ 5,142,000, 2016/08/01-2019/07/31

Shi-Chung Chang (張時中)

Dynamic preference extraction, inference and applications

動態偏好萃取、推理與應用

Shi-Chung Chang (張時中), sponsored by 科技部 (MOST)

MOST 107-2221-E-002-184, N.T.\$ 928,000, 2018/08/01-2019/07/31

HDP Tool Auto Map (Machine Learning)

Shi-Chung Chang (張時中), 委託技術服務 by 台灣積體電路製造股份有限公司

AT107-0AEL03-001, N.T.\$ 200,000, 2018/04/01-2019/03/31

Enabling Technologies and Operation Models for Shared Access in Factory Environment
智慧工廠環境頻譜分享接取之促成技術與運作模式研究－智慧工廠環境頻譜分享接取之促成技術與運作模式研究

Shi-Chung Chang (張時中), sponsored by 科技部 (MOST)
MOST 106-2218-E-002-029, N.T.\$ 2,703,000, 2017/08/01-2018/07/31

Personal Preference Extraction and Inference based on Questions and Answers
利用詢答資訊萃取並推論個人偏好

Shi-Chung Chang (張時中), sponsored by 科技部 (MOST)
MOST 106-2221-E-002-129, N.T.\$ 789,000, 2017/08/01-2018/07/31

Massive Access Design for Factories of the Future

未來工廠之無線通訊網路研究－總計畫及子計畫一：未來工廠之大規模接取設計

Shi-Chung Chang (張時中), sponsored by 科技部 (MOST)
MOST 106-2221-E-002-030, N.T.\$ 1,638,000, 2017/08/01-2018/07/31

H2020 Converged Wireless Access for Reliable 5G MTC for Factories of the Future

H2020 應用於未來工廠之 5G 機器通訊技術

Shi-Chung Chang (張時中), sponsored by 科技部 (MOST)
MOST 106-2923-E-002-015-MY3, N.T.\$ 6,000,000, 2017/07/01-2020/02/28

Tzi-Dar Chiueh (闕志達)

5G Machine-Type Communication Technology for Factories of the Future

應用於未來工廠之 5G 機器通訊技術

Tzi-Dar Chiueh (闕志達), sponsored by 科技部 (MOST)
MOST 106-2923-E-002-015-MY3, N.T.\$ 7,509,000, 2018/07/01-2019/06/30

Development of Neural Network Architecture and Circuits for Cognitive Computing

適用於感知運算的神經網路硬體架構與電路之發展

Tzi-Dar Chiueh (闕志達), sponsored by 科技部 (MOST)
MOST 106-2221-E-002-238, N.T.\$ 830,000, 2017/08/01-2018/07/31

Chin-Laung Lei (雷欽隆)

Privacy Management and Fraud Protection Mechanisms for Cloud-based

雲端化群眾外包平台的網路隱私管理及惡意使用者的偵測與預防

Chin-Laung Lei (雷欽隆), sponsored by 行政院國家科學委員會 (National Science Council)
MOST 104-2221-E-002-099-MY3, N.T.\$ 2,474,000, 2015/08/00-2018/07/00

Privacy Preserving Protocols and Security Mechanisms for Big Data Processing and Its

巨量資料處理之隱私儲存協定與安全機制研發及其在電信服務之應用

Chin-Laung Lei (雷欽隆), sponsored by 行政院國家科學委員會 (National Science Council)
NSC 102 - 2221 - E - 002 - 138 - MY3, N.T.\$ 2,411,000, 2013/08/01-2016/07/31

Ching-Fuh Lin (林清富)

Si/Perovskite and Si/Organic Hybrid Solar Cells(1/3)

矽/鈣鈦礦與矽/有機材料混合型太陽能電池(1/3)

Ching-Fuh Lin (林清富), sponsored by 科技部

MOST 107-2221-E-002 -172 -MY3, N.T.\$ 001, 2018/08/01-2019/07/31

High Efficient Fluorescent Materials without Using Rare-earth Elements and Their Applications in Lighting and Display(1/3)

高效率無稀土螢光材料及其應用於照明與顯示之技術(1/3)

Ching-Fuh Lin (林清富), sponsored by 科技部

MOST 107-2221-E-002 -155 -MY3, N.T.\$ 001, 2018/08/01-2019/07/31

Si-based Infrared Detection Technology

矽基紅外光偵測技術

Ching-Fuh Lin (林清富), sponsored by 教育部

107L2033-15, N.T.\$ 120, 2018/07/01-2018/12/31

Tricorder via IOT for healthcare

物聯網健康照護三度儀

Ching-Fuh Lin (林清富), sponsored by 教育部

NTU-107L900501, N.T.\$ 008, 2018/01/01-2018/12/31

Applications of flood disaster monitoring and early warning technology in a river basin

流域防災監測預警技術落實應用—流域防災監測預警技術落實應用

Ching-Fuh Lin (林清富), sponsored by 科技部

MOST 107-3011-F-002-004, N.T.\$ 003, 2018/01/01-2018/12/31

Applications of ZnO in the Light Emitting Devices (3/3)

氧化鋅在照明發光元件之應用(3/3)

Ching-Fuh Lin (林清富), sponsored by 科技部

MOST 104-2221-E-002 -139 -MY3, N.T.\$ 001, 2017/08/01-2018/07/31

Extremely Light-Weight and Portable Apparatus for Gas Detection Based on Nano- to Micro-Technologies (3/3)

奈微米技術之可攜式氣體偵測器(3/3)

Ching-Fuh Lin (林清富), sponsored by 科技部

MOST 106-2119-M-002-008, N.T.\$ 007, 2017/08/01-2018/07/31

Silicon-based high-resolution low-cost miniature spectrometer

矽基高解析度低成本隨身光譜儀

Ching-Fuh Lin (林清富), sponsored by 教育部

106R891802, N.T.\$ 800, 2017/07/01-2017/12/31

Si-based detection technology

矽基光偵測技術

Ching-Fuh Lin (林清富), sponsored by 教育部

106R203339, N.T.\$ 220, 2017/07/01-2017/12/31

Applications of flood disaster monitoring and early warning technology in a river basin

流域防災監測預警技術落實應用—流域防災監測預警技術落實應用

Ching-Fuh Lin (林清富), sponsored by 科技部
MOST 106-3011-F-002-003, N.T.\$ 007, 2017/01/01-2017/12/31

Long-Endurance UAV.
長滯空無人機研究計畫
Ching-Fuh Lin (林清富), sponsored by PSJ INTERNATIONAL.LTD.
06HT911001, N.T.\$ 000, 2017/01/01-2018/12/31

Yung-Yaw Chen (陳永耀)

Deep Learning in Image-based Positioning and Augmented Reality Guidance for Autonomous Minimally Invasive Surgery

深度學習應用於自動化微創手術影像定位及擴增實境影像導引系統

Yung-Yaw Chen (陳永耀), sponsored by 科技部 (MOST)
MOST 107-2221-E-002 -178 -MY3, N.T.\$ 3,958,000, 2018/08/00-2021/07/00

Warning System Design for Safe Clearance of Vessels and Tumors in

智慧型微創手術內視鏡機器人系統研發—總計畫兼子計畫三：微創手術血管與腫瘤安全距離警示系統研發

Yung-Yaw Chen (陳永耀), sponsored by 科技部 (MOST)
MOST 104-2221-E-002 -195 -MY3, N.T.\$ 7,117,000, 2015/08/00-2018/07/00

Cheewee Liu (劉致為)

(旗艦計畫)下世代技術節點的材料.製程.元件及電路熱模擬之關鍵技術-總計畫暨子計畫一：
高遷移率材料.製程.多層疊元件及熱電路模型(1/2)

Cheewee Liu (劉致為), sponsored by 科技部
107-2218-E-002-044, N.T.\$ 12,538, 2018/05/01-2019/04/30

Chi-Kuang Sun (孫啟光)

THz acoustics for evaluation of fundamental phonon interactions

兆赫聲學:聲子交互作用研究(2/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)
MOST 106-2112-M-002-004-MY3, N.T.\$ 3,730,000, 2018/08/01-2019/07/31

Advanced harmonic generation microscopy for treatment assessment of cutaneous pigmentary disorder

發展先進倍頻顯微術以用於皮膚色素疾患之治療評估(2/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)
MOST 106-2221-E-002-156-MY3, N.T.\$ 2,450,000, 2018/08/01-2019/07/31

Deep brain nonlinear imaging platform with femtosecond fiber-optic based light source
以飛秒光纖光源建構大腦深層顯微影像平台(1/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)
MOST 107-2221-E-002-157-MY3, N.T.\$ 1,553,000, 2018/08/01-2019/07/31

Research and Development of The Optics and Photonics Program

光電工程學門研究發展及推動規劃小組計畫(1/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2217-E-002-003-MY3, N.T.\$ 1,872,495, 2018/01/01-2018/12/31

Volumetric deep-tissue imaging of connectomes in intact whole mouse brains by developing advanced nonlinear microscopy

國立臺灣大學高等教育深耕計畫-最具競爭力團隊計畫-【建構先進非線性光學顯微術以從事小鼠全腦腦連結體影像】

Chi-Kuang Sun (孫啟光), sponsored by 教育部 (Ministry of Education)

107L880404, N.T.\$ 700,000, 2018/01/01-2018/12/31

THz acoustics for evaluation of fundamental phonon interactions

兆赫聲學:聲子交互作用研究(1/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2112-M-002-004-MY3, N.T.\$ 3,712,000, 2017/08/01-2018/07/31

Advanced harmonic generation microscopy for treatment assessment of cutaneous pigmentary disorder

發展先進倍頻顯微術以用於皮膚色素疾患之治療評估(1/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002-156-MY3, N.T.\$ 2,755,000, 2017/08/01-2018/07/31

Pai-Chi Li (李百祺)

「創新醫療器材計畫」規劃推動小組計畫(2/4)

Pai-Chi Li (李百祺), sponsored by 科技部

107-2218-E-002-012-, N.T.\$ 3,081,065, 2018/05/01-2019/04/30

高解析度超音波掃描系統之測試物件開發(1/2)

Pai-Chi Li (李百祺), sponsored by 科技部

107-2911-I-002-548, N.T.\$ 240,000, 2018/03/01-2019/02/28

發展微流道三維細胞培養系統以進行運用金奈米液滴之光熱治療研究(2/3)

Pai-Chi Li (李百祺), sponsored by 國衛院

NHRI-EX107-10624EI, N.T.\$ 2,450,000, 2018/01/01-2018/12/31

醫學工程學門研究發展及推動規劃小組計畫(3/3)

Pai-Chi Li (李百祺), sponsored by 科技部

107-2217-E-002-001-, N.T.\$ 1,938,000, 2018/01/01-2018/12/31

斷層掃描式剪力波影像技術開發與系統實現(3/3)

Pai-Chi Li (李百祺), sponsored by 科技部

106-2221-E-002-001-, N.T.\$ 2,952,000, 2017/08/01-2018/07/31

「創新醫療器材計畫」規劃推動小組計畫(1/4)

Pai-Chi Li (李百祺), sponsored by 科技部

106-3114-E-002-001-, N.T.\$ 2,862,000, 2017/05/01-2018/04/30

光學式彈性成像技術開發與三維細胞研究應用

Pai-Chi Li (李百祺), sponsored by 科技部

105-2221-E-002091-MY3, N.T.\$ 6,908,000, 2016/08/01-2019/07/31

Homer H. Chen (陳宏銘)

整合異質性資料之智能推薦架構—整合異質性資料之智能推薦架構(2/3)

Homer H. Chen (陳宏銘), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2218-E-002-061-, N.T.\$ 6,200,000, 2018/06/01-2019/05/31

對具細胞解析度之三維光學斷層影像做深度學習(1/4)

Homer H. Chen (陳宏銘), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2634-F-002-017-, N.T.\$ 16,340,000, 2018/01/01-2018/12/31

互動及情境式音樂推薦

Homer H. Chen (陳宏銘), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002-041-MY3, N.T.\$ 3,444,000, 2017/08/01-2020/07/31

整合相位差偵測及影像銳利度偵測之影像對焦

Homer H. Chen (陳宏銘), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002-201-MY3, N.T.\$ 3,112,000, 2017/08/01-2020/07/31

整合異質性資料之智能推薦架構—整合異質性資料之智能推薦架構(1/3)

Homer H. Chen (陳宏銘), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-3114-E-002-007-, N.T.\$ 5,000,000, 2017/06/01-2018/08/31

Hsiao-Wen Chung (鍾孝文)

Quantitative magnetic resonance relaxation mapping with advanced acceleration techniques

以進階加速技術進行定量磁共振弛緩圖譜

Hsiao-Wen Chung (鍾孝文), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2221-E-002-038-MY3, N.T.\$ 4,160,000, 2018/08/01-2021/07/31

Free breathing black-blood cine MRI of the abdominal aorta using accelerated fast spin-echo

自由呼吸式腹部主動脈動態磁共振造影：使用加速式黑血快速自旋迴訊

Hsiao-Wen Chung (鍾孝文), sponsored by 科技部 (Ministry of Science and Technology)

MOST 105-2221-E-002-142-MY3, N.T.\$ 4,291,000, 2016/08/01-2019/07/31

Data sharing Propeller diffusion MR imaging with multiple b-values

數據分享式螺旋槳多 b 值擴散磁共振造影

Hsiao-Wen Chung (鍾孝文), sponsored by 科技部 (Ministry of Science and Technology)

MOST104-2221-E-002-209-MY3, N.T.\$ 4,303,000, 2015/08/01-2018/07/31

Sheng-Lung Huang (黃升龍)

對具細胞解析度之三維光學斷層影像做深度學習(1/4)

Sheng-Lung Huang (黃升龍), sponsored by 科技部

MOST 107-2634-F-002-017-, N.T.\$ 16,340,000, 2018/01/01-2018/12/31

以超高解析度之活體斷層掃描儀研究角膜組織之再生醫學-角膜輪部之細胞成像?辨識分析
(總計畫暨子計畫四)(2/3)

Sheng-Lung Huang (黃升龍), sponsored by 科技部

106-2627-M-002-020-, N.T.\$ 2,416,000, 2017/08/01-2018/03/31

連續可調波長晶體光纖雷射之研發計畫

Sheng-Lung Huang (黃升龍), sponsored by 安盟生技

, N.T.\$ 3,704,853, 2017/05/01-2018/04/30

光學同調斷層掃描術-由細胞形貌至散射頻譜分析研究計畫

Sheng-Lung Huang (黃升龍), sponsored by 安盟生技

, N.T.\$ 5,033,333, 2017/03/16-2018/12/31

See-May Phoong (馮世邁)

Blind Joint Estimation of Symbol Timing and Carrier Frequency Offsets in OFDM Systems

正交分頻多工系統之符元時序和載波頻率偏移之盲蔽聯合估測

See-May Phoong (馮世邁), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002-033, N.T.\$ 709,000, 2017/08/01-2018/07/31

Chung- Chih Wu (吳忠幟)

Development of advanced and functionality transparent conductors and optoelectronic applications

前瞻功能性透明導體之研發與光電元件應用研究

Chung- Chih Wu (吳忠幟), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2221-E-002 -160 -MY3, N.T.\$ 5,226,000, 2018/08/00-2021/07/00

Development of high-performance and functionality transparent OLEDs

高性能及功能性透明有機發光元件之研究

Chung- Chih Wu (吳忠幟), sponsored by 科技部 (Ministry of Science and Technology)

MOST 105-2221-E-002 -162 -MY3, N.T.\$ 6,109,000, 2016/08/00-2019/07/00

Investigations on next-generation OLED technologies

新世代有機發光元件先進基盤技術研究

Chung- Chih Wu (吳忠幟), sponsored by 科技部 (Ministry of Science and Technology)

MOST 104-2221-E-002 -152 -MY3, N.T.\$ 6,799,000, 2015/08/00-2018/07/00

Tzong-Lin Wu (吳宗霖)

下世代高速無線傳輸模組技術(2/3)

Tzong-Lin Wu (吳宗霖), sponsored by 科技部
107-2218-E-002-028-, N.T.\$ 000, 2018/10/01-2019/09/30

應用於毫米波高速訊號系統中異質介質波導管之分析、設計與雜訊抑制

Tzong-Lin Wu (吳宗霖), sponsored by 科技部
107-2221-E-002-075-MY3, N.T.\$ 000, 2018/08/01-2021/07/31

Development of RF/mmWave Front-end Technology for Fifth-Generation Communication System

Tzong-Lin Wu (吳宗霖), sponsored by 華碩電腦
, N.T.\$ 000, 2018/07/01-2020/06/30

適用於視覺應用之高能效及高速的軟體及電路技術(IC 設計)

Tzong-Lin Wu (吳宗霖), sponsored by 科技部
107-2622-8-002-011-TA, N.T.\$ 000, 2018/01/01-2018/12/31

高隔離度多通道塑膠波導管電性模型

Tzong-Lin Wu (吳宗霖), sponsored by 工研院
, N.T.\$ 000, 2018/01/01-2018/12/31

下世代高速無線傳輸模組技術(1/3)

Tzong-Lin Wu (吳宗霖), sponsored by 科技部
106-2218-E-002-037-, N.T.\$ 000, 2017/10/01-2018/09/30

高速傳輸通道中接地導體雜訊電流引發電磁干擾之分析及抑制設計

Tzong-Lin Wu (吳宗霖), sponsored by 科技部
106-2221-E-002-012-MY3, N.T.\$ 000, 2017/08/01-2020/07/31

適用於視覺應用之高能效及高速的軟體及電路技術(IC 設計)

Tzong-Lin Wu (吳宗霖), sponsored by 鈺創科技
, N.T.\$ 000, 2017/08/01-2018/07/31

次世代高速數位差動傳輸介面電磁干擾與訊號完整度之分析與解決方案

Tzong-Lin Wu (吳宗霖), sponsored by 科技部
105-2221-E-002-032-MY2, N.T.\$ 000, 2016/08/01-2018/07/31

Eric Y. Chuang (莊曜宇)

Metagenomics sequencing analysis to identify potential biomarkers in synchronous multiple primary cancers with esophageal squamous cell carcinoma

食道癌合併多重癌症特徵及多面向生物標誌之探討-利用總體基因組定序分析菌相探討食道癌合併多重癌症的菌相特徵與有潛力的生物標記(1/3)

Eric Y. Chuang (莊曜宇), sponsored by 科技部 (Ministry of Science and Technology)
107-2314-B-002-162-, N.T.\$ 1,200,000, 2018/08/00-2019/07/00

探討 Semaphorin 6A 引發之免疫效果及其在肺癌免疫療法上之應用

Eric Y. Chuang (莊曜宇), sponsored by 科技部

106-2314-B-002-081-MY3, N.T.\$ 4,695,000, 2017/08/01-2020/07/31

Tsung-Hsien Lin (林宗賢)

Multi-channel EEG Signal Recording Chip Design for Seizure Prediction

以封閉式迴路系統生物晶片預測癲癇發作及應用深腦刺激術治療癲癇症 病人—應用於癲癇發作預測之多通道腦電圖信號擷取晶片設計(2/3)

Tsung-Hsien Lin (林宗賢), sponsored by 科技部 (MOST)

MOST 107-2314-B-002-004 -, N.T.\$ 1,620,000, 2018/08/00-2019/07/00

Design of an Envelope-Tracking Power Amplifier and Supply Modulator

應用於封包追蹤之功率放大器及電源調變器設計

Tsung-Hsien Lin (林宗賢), sponsored by 科技部 (MOST)

MOST 107-2221-E-002 -163 -MY3, N.T.\$ 2,941,000, 2018/08/00-2021/07/00

Yaow-Ming Chen (陳耀銘)

Model-Based Design for Digital Power Converters

數位式電源轉換器之模型化設計研究

Yaow-Ming Chen (陳耀銘), sponsored by 科技部

105-2221-E-002-168-MY3, N.T.\$ 954,000, 2018/08/01-2019/07/31

高效率直流無刷馬達驅動電路與 IC 化研製

Yaow-Ming Chen (陳耀銘), sponsored by 台全電機

, N.T.\$ 300,000, 2018/07/01-2018/06/30

Active and Reactive Power Control for Grid-Tied Bidirectional Inverter

離島型微電網技術開發與交流-雙向市電併聯型換流器之實虛功控制研究

Yaow-Ming Chen (陳耀銘), sponsored by 科技部

MOST 106-2218-E-002-019-MY3, N.T.\$ 933,000, 2018/06/01-2019/05/31

Continue to Serve as the IEEE Transactions on Power Electronics Associate Editor

持續擔任 IEEE Transactions on Power Electronics Associate Editor 職務

Yaow-Ming Chen (陳耀銘), sponsored by 科技部

MOST 107-2911-I-002-521, N.T.\$ 415,760, 2018/01/01-2018/12/31

高占比再生能離島微電網技術發展與應用

Yaow-Ming Chen (陳耀銘), sponsored by 核能研究所

, N.T.\$ 848,000, 2018/01/01-2018/12/31

Single-Stage Bridgeless 65W AC-DC Adapter

單級無橋式 65W AC-DC 轉換器

Yaow-Ming Chen (陳耀銘), sponsored by 光寶科技

, N.T.\$ 869,565, 2017/07/01-2018/09/30

Feng-Li Lian (連豐力)

Cooperative Sensing-Perception and Deep Learning for Advanced Self-Driving Intelligent Vehicles

先進自主駕駛智慧車行駛環境之協同式感測感知與深度學習

Feng-Li Lian (連豐力), sponsored by 行政院科技部 (MOST)

MOST 105-2221-E-002 -135 -MY3, N.T.\$ 2,703,000, 2016/08/00-2019/07/00

Impact to honey bee colony collapse caused by pesticide

農藥對蜜蜂族群崩潰之衝擊－適用於蜜蜂追跡與識別之諧波雷達系統性能改善研究(子計畫四)

Feng-Li Lian (連豐力), sponsored by 行政院科技部 (MOST)

MOST 104-2627-M-002-016-, N.T.\$ 4,500,000, 2015/08/00-2018/07/00

Yi-Cheng Lin (林怡成)

Implementation of Millimeter-wave Diversity Antennas and Channel Measurement System for 5G Mobile Communications

應用於 5G 行動通訊之毫米波分集天線研製與通道量測系統建製

Yi-Cheng Lin (林怡成), sponsored by 科技部 (MOST)

MOST 106-2221-E-002-022, N.T.\$ 709,000, 2017/07/00-2018/06/00

Jie-Hong Roland Jiang (江介宏)

BIOPSY: Biochemical Programming System

生化編程系統

Jie-Hong Roland Jiang (江介宏), sponsored by 科技部

106-2923-E-002-002-MY3, N.T.\$ 3,993,000, 2017/01/01-2019/12/31

Advanced Logic Synthesis Techniques for Next-Generation Electronic Design Automation

下世代前瞻電子設計自動化技術－子計畫二：下世代前瞻邏輯合成技術研究

Jie-Hong Roland Jiang (江介宏), sponsored by 科技部 (Ministry of Science and Technology)

MOST 105-2221-E-002-196-MY3, N.T.\$ 3,211,000, 2016/08/01-2019/07/31

Reliability, Security, and Trust for Systems as Services: Scalable Solutions for Efficient Analysis and Management

系統即服務之可靠度、安全性與信賴度：可擴展分析與管理方法

Jie-Hong Roland Jiang (江介宏), sponsored by 科技部

105-2923-E-002-016-MY3, N.T.\$ 3,286,000, 2016/08/01-2019/07/31

Synthesis and Verification for Emerging Systems

新興系統之合成與驗證

Jie-Hong Roland Jiang (江介宏), sponsored by 科技部 (Ministry of Science and Technology)

MOST 104-2628-E-002 -013 -MY3, N.T.\$ 3,286,000, 2015/08/01-2018/07/31

Jui-che Tsai (蔡睿哲)

Solar-light-based visible light communication system constructed with tunable 3D-printed optical components

使用 3D 列印製作可調光學元件並建構以太陽光為光源的可見光通訊系統

Jui-che Tsai (蔡睿哲), sponsored by 科技部

MOST 107-2221-E-002-115-MY2, N.T.\$ 2,256,000, 2018/08/01-2020/07/31

Tunable Paraboloid-Like Micromirrors and Their Applications in Off-Axis Optical Systems

可調變之微型類拋物面反射鏡及其在離軸光學系統之應用

Jui-che Tsai (蔡睿哲), sponsored by 科技部

MOST 105-2221-E-002-099-MY2, N.T.\$ 2,120,000, 2016/08/01-2018/10/31

Shih-Yuan Chen (陳士元)

Development and analysis of a novel 3D near-field microwave imaging technique

新式三維近場微波成像技術之開發與分析

Shih-Yuan Chen (陳士元), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2628-E-002-001-MY2, N.T.\$ 000, 2017/08/00-2019/07/00

Ming-Hua Mao (毛明華)

Heterogeneous integration of active photonic microcavity devices II

主動式微共振腔光電元件之異質整合 II

Ming-Hua Mao (毛明華), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2221-E-002-144, N.T.\$ 1,557,000, 2018/08/00-2019/07/00

Heterogeneous integration of active photonic microcavity devices

主動式微共振腔光電元件之異質整合

Ming-Hua Mao (毛明華), sponsored by 科技部 (Ministry of Science and Technology)

MOST 106-2221-E-002-202, N.T.\$ 1,592,000, 2017/08/00-2018/07/00

Jiun-Lang Huang (黃俊郎)

Deterministic Parallel Test Pattern Generation Techniques for Next Generation Technology

針對下世代製程發展具決定性之平行化測試圖樣產生技術

Jiun-Lang Huang (黃俊郎), sponsored by 科技部 (MOST)

MOST 105-2221-E-002 -214 -MY3, N.T.\$ 2,744,000, 2016/08/00-2019/07/00

Hung-Yun Hsieh (謝宏昫)

Data-Centric Communication Technologies for Internet of Things

以資料為中心的物聯網通訊技術研究

Hung-Yun Hsieh (謝宏昫), sponsored by 科技部 (Ministry of Science and Technology)
MOST-107-2221-E-002-113, N.T.\$ 000, 2018/08/01-2019/07/31

Design and Evaluation of MAC Protocols for Industrial Internet of Things in Factories of the Future

未來工廠之無線通訊網路研究—子計畫四：未來工廠物聯網之媒體接取控制層技術研究
Hung-Yun Hsieh (謝宏昫), sponsored by 科技部 (Ministry of Science and Technology)
MOST-106-2221-E-002-029, N.T.\$ 000, 2017/08/01-2018/07/01

H2020 Converged Wireless Access for Reliable 5G MTC for Factories of the Future

H2020 應用於未來工廠之 5G 機器通訊技術

Hung-Yun Hsieh (謝宏昫), sponsored by 科技部 (Ministry of Science and Technology)
MOST-106-2923-E-002-015-MY3, N.T.\$ 000, 2016/07/01-2020/02/29

I-Chun Cheng (陳奕君)

Flexible Complementary Tin Oxide Thin-Film Transistor Based Circuit Technology

可撓性互補式錫氧化物薄膜電晶體電路研究

I-Chun Cheng (陳奕君), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002 -179 -MY3, N.T.\$ 000, 2016/08/01-2019/07/31

Flexible Tactile Sensor Surface by Monolithic Integration of Piezoelectric Sensor Array with Flexible Active-Matrix Oxide-TFTbased Amplifier Backplane

主動式陣列氧化物薄膜電晶體放大電路與壓電感測整合之可撓性觸覺感測面之研究

I-Chun Cheng (陳奕君), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002 -160 -MY3, N.T.\$ 000, 2016/08/01-2019/07/31

Chih-Ting Lin (林致廷)

低維度奈米結構於固液界面之表面位能檢測技術之研發與應用

Chih-Ting Lin (林致廷), sponsored by 科技部
105-2221-E-002-232-MY3, N.T.\$ 4,660,000, 2016/08/01-2019/07/31

噴墨式高介電質有機材料之開發及應用元件之研發

Chih-Ting Lin (林致廷), sponsored by 科技部
104-2628-E-002-014-MY3, N.T.\$ 3,896,000, 2015/08/01-2018/07/31

Iris Hui-Ru Jiang (江蕙如)

Signal routability optimization of power distribution network with machine learning techniques

Iris Hui-Ru Jiang (江蕙如) (TSMC)
, N.T.\$ 000, 2018/03/00-2019/02/00

Critical Pattern Analysis and Classification by using Machine Learning Techniques

Iris Hui-Ru Jiang (江蕙如) (TSMC)

, N.T.\$ 000, 2018/03/00-2019/02/00

Pattern Recognition Methods for Advanced Technology Nodes

Iris Hui-Ru Jiang (江蕙如) (Synopsys)

, N.T.\$ 000, 2017/10/00-2018/10/00

Layout Decomposition and Compliance for Printability Enhancement at Advanced Technology Nodes

提升先進製程微影解析度之多重圖案微影製程佈局拆解與修正最佳化(優秀年輕學者研究計畫)

Iris Hui-Ru Jiang (江蕙如), sponsored by 科技部 (MOST)

106-2628-E-002-019-MY3, N.T.\$ 000, 2017/08/00-2020/07/00

Chia-Hsiang Yang (楊家驥)

AI Processor Architecture and Chip Design for Surgical Auxiliary Image Processing (1/2)

AI Aug Surgery: 輔助外科手術之人工智慧電子系統—子計畫二：輔助外科 手術影像處理之人工智慧處理器架構與晶片設計(1/2)

Chia-Hsiang Yang (楊家驥), sponsored by 科技部 (Ministry of Science and Technology)

MOST 107-2218-E-002-035, N.T.\$ 2,940,000, 2018/05/01-2019/04/30

Energy-Efficient FPGA Architecture and Circuits for Cognitive Computing

適用於感知計算之低能耗可程式化邏輯陣列架構與電路設計

Chia-Hsiang Yang (楊家驥), sponsored by 科技部 (Ministry of Science and Technology)

MOST 105-2221-E-002-207-MY3, N.T.\$ 3,103,000, 2016/08/01-2019/07/31

Energy-Efficient DSP Processor for a Cochlear Prosthesis SoC

應用於人工電子耳蝸之系統晶片技術平台之低能耗數位訊號處理器設計

Chia-Hsiang Yang (楊家驥), sponsored by 科技部 (Ministry of Science and Technology)

MOST 105-2221-E-002-197-MY3, N.T.\$ 2,529,000, 2016/08/01-2019/07/31

Kun-You Lin (林坤佑)

Millimeter-wave CMOS Transceiver Integrated Circuit and System-in-Package Technology Development

毫米波 CMOS 發射與接收端積體電路與系統封裝(SiP)技術研發

Kun-You Lin (林坤佑), sponsored by 科技部

107-3011-E-002-001, N.T.\$ 3,800,000, 2018/08/01-2019/04/30

RF Front-end Circuit and Module Techniques for Next Generation Mobile Communication (3/3)

應用於下世代行動通訊之射頻前端電路與模組技術(3/3)

Kun-You Lin (林坤佑), sponsored by 科技部

106-2218-E-002-030, N.T.\$ 4,459,000, 2017/08/01-2018/10/31

Research on low-cost high-performance radar front-end system with dual-band and dual-mode operation

低成本高效能雙頻雙模雷達前端系統之研究

Kun-You Lin (林坤佑), sponsored by 科技部

106-2221-E-002-097, N.T.\$ 563,000, 2017/08/01-2018/10/31

Hsin-Chia Lu (盧信嘉)

mmW system in package and test plate form for UAV

應用人工智慧於遠距離 8K 虛擬實境影像即時傳輸之物聯網(IoT)技術開發 一子計畫四：
毫米波晶片系統封裝與無人載具測試平台(1/2)

Hsin-Chia Lu (盧信嘉), sponsored by 科技部 (MOST)

MOST 107-2218-E-002-042 -, N.T.\$ 2,142,000, 2018/05/00-2019/04/00

60GHz mmw circuit and TR module in LTCC

LTCC 60GHz 毫米波電路特性研究及收發模組基板

Hsin-Chia Lu (盧信嘉), sponsored by 佳邦科技 (InPAQ tech)

107-S-C13, N.T.\$ 1,000,000, 2018/01/00-2018/12/00

應用於下世代行動通訊之射頻前端電路與模組技術—應用於下世代行動通訊之射頻前端
電路與模組技術(3/3)

Hsin-Chia Lu (盧信嘉), sponsored by 科技部 (MOST)

106-2218-E-002-030, N.T.\$ 004, 2017/08/00-2018/07/00

毫米波 CMOS 發射與接收端積體電路與系統封裝(SiP)技術研發(4/5), (5/5)

Hsin-Chia Lu (盧信嘉), sponsored by 科技部 (MOST)

106-2218-E-002-031-, N.T.\$ 017, 2017/08/00-2018/07/00

毫米波視網膜

Hsin-Chia Lu (盧信嘉), sponsored by 科技部 (MOST)

106-2221-E-002-016, N.T.\$ 770, 2017/08/00-2018/07/00

Kuen-Yu Tsai (蔡坤諭)

Design of Digital Light Engines and Resolution Enhancement Techniques for Subwavelength Maskless Lithography (1/2)

應用於次波長無光罩微影之數位光學引擎與解析度增進技術設計(1/2)

Kuen-Yu Tsai (蔡坤諭), sponsored by 科技部; 科毅科技股份有限公司 (Ministry of Science and Technology; M & R Nano Technology Co., Ltd.)

107-2622-E-002 -012 -CC1, N.T.\$ 1,367,423, 2018/06/00-2019/05/00

Parameter-Response Machine Learning of Computational Lithography Systems

Kuen-Yu Tsai (蔡坤諭), sponsored by Synopsys, Inc.

, N.T.\$ 750,000, 2017/11/00-2018/10/00

Nanolithography Patterning Enhancement and Nonideal-Geometry Modeling Techniques for Horizontal and Vertical Gate-all-around CMOS Devices at the 10 nm Half-Pitch Node and Beyond

半間距 10 奈米及以下製程世代水平與垂直全繞開極式 CMOS 元件之奈米微影成像度增進及非理想幾何元件建模技術

Kuen-Yu Tsai (蔡坤諭), sponsored by 科技部 (Ministry of Science and Technology)
106-2628-E-002 -017 -MY3, N.T.\$ 3,600,000, 2017/08/00-2020/07/00

Pathfinding for 7–5nm Semiconductor Technology Nodes (5/5)

7-5nm 半導體技術節點研究(5/5)

Kuen-Yu Tsai (蔡坤諭), sponsored by 科技部; 台灣積體電路製造股份有限公司 (Ministry of Science and Technology; Taiwan Semiconductor Manufacturing Company Limited)
106-2622-8-002 -001, N.T.\$ 98,000,000, 2017/08/00-2018/07/00

Research and Development of Metrology Technologies and Systems for Illumination Optics Elements in Deep-Ultraviolet Lithography (2/2)

深紫外光微影照明系統鏡片量測技術與系統研發(2/2)

Kuen-Yu Tsai (蔡坤諭), sponsored by 科技部; 裕群光電科技股份有限公司 (Ministry of Science and Technology; Control Optics Taiwan., Inc.)
106-2622-E-002 -008 -CC1, N.T.\$ 1,982,100, 2017/06/00-2018/05/00

Proximity Effect Modeling and Application of Novel Non-Chemically Amplified Molecular Photoresists beyond the 22 nm Half-Pitch Node

半間距 22 奈米以下技術節點前瞻非化學放大式分子光阻之鄰近效應建模與運用

Kuen-Yu Tsai (蔡坤諭), sponsored by 科技部 (Ministry of Science and Technology)
104-2923-E-002-007-MY3, N.T.\$ 1,560,000, 2015/08/00-2018/07/00

Yi-Chang Lu (盧奕璋)

Deep Neural Network Design for 3D Geometry Data Shape Classification and Shape Completion

用於形狀分類與形狀補全三維幾何資料之深層神經網路設計

Yi-Chang Lu (盧奕璋), sponsored by 科技部
107-2221-E-002-123-MY2, N.T.\$ 1,630,000, 2018/08/01-2020/07/31

Hyperspectral Image Classification Using Support Tensor Machine and Deep Neural Network Approaches

使用支持張量機與深度神經網路方法進行高光譜影像分類

Yi-Chang Lu (盧奕璋), sponsored by 科技部
106-2221-E-002-055, N.T.\$ 805,000, 2017/08/01-2018/07/31

Po-Ling Kuo (郭柏齡)

Tissue fibrosis - in vitro model of interstitial fluid pressure and interstitium elasticity

剪力波斷層掃描影像儀:技術 創新與治療應用(重點主題 :C3)一子計畫二:組織纖維化 — 組織間質流體壓力與組織 彈性之體外模型

Po-Ling Kuo (郭柏齡), sponsored by 科技部
106- 2221-E-002-002, N.T.\$ 000, 2017/08/00-2018/07/00

Development of pcMSC cell sheet for severe wound treatment: Focusing on unmet medical needs of diabetes, decubitus, and severe burn

再生醫學科技發展計畫—全身 安全性異體移植策略之細胞治療產品開發:標靶醫療未滿足 慢性發炎相關疾病-糖尿病/褥 瘡/嚴重燒燙傷之傷口癒合與 多發性硬化症

Po-Ling Kuo (郭柏齡), sponsored by 科技部

106- 3114-B-038-001-, N.T.\$ 000, 2017/05/00-2018/04/00

Develop a 3D in vitro system for liver fibrosis using shear wave elasticity imaging

使用剪力波彈性影像之三維體外肝硬化系統之開發

Po-Ling Kuo (郭柏齡)

MOST 103-2320-B-002 -004 -MY3, N.T.\$ 3,957,000, 2014/08/00-2018/07/00

Ho-Lin Chen (陳和麟)

Extensions of Network Design Games

網路設計賽局之延伸

Ho-Lin Chen (陳和麟), sponsored by 科技部

104-2221-E-002-045-MY3, N.T.\$ 2,800,000, 2015/08/01-2018/07/31

Nien-Tsu Huang (黃念祖)

The development of a multifunctional microfluidic integrated nanoplasmonic sensing platform

整合奈米電漿子感測技術之多功能微流道系統開發與應用

Nien-Tsu Huang (黃念祖), sponsored by 科技部 (Ministry of Science and Technology)

106-2221-E-002 -058 -MY3, N.T.\$ 3,158,000, 2017/08/01-2020/07/31

An-Chi Wei (魏安祺)

Integrative platform of mitochondrial toxicity screening

粒線體毒性篩檢整合平台之研發

An-Chi Wei (魏安祺), sponsored by 科技部 (MOST)

107-2636-B-002-001-, N.T.\$ 000, 2018/02/00-2023/02/00

Modeling CaMKII regulation of mitochondria function

CaMKII 對於粒線體調控之研究及模型建立

An-Chi Wei (魏安祺), sponsored by 科技部 (MOST)

106-2218-E-002-015, N.T.\$ 000, 2017/04/01-2018/03/31

Hsiang-Chieh Lee (李翔傑)

A machined leaning based approach toward the early detection of oral neoplasia with a long-wavelength, multifunctional, and wide field catheter integrated optical coherence tomography technique

基於機器學習與結合長波長多功能導管式光學同調斷層掃描術於早期口腔癌診斷(1/5)

Hsiang-Chieh Lee (李翔傑), sponsored by 科技部 (MOST)
107-2636-E-002-003-, N.T.\$ 000, 2018/02/00-2019/01/00

Pei-Yuan Wu (吳沛遠)

Privacy Preserving Machine Learning (1/4)

隱私維護機器學習 (1/4)

Pei-Yuan Wu (吳沛遠), sponsored by 科技部 (Ministry of Science and Technology)
MOST 107-2634-F-002-008-, N.T.\$ 002, 2018/01/01-2018/12/31

Tzu-Hsuan Chang (張子璿)

Thermal management for the high performance flexible/wearable electronics

高效能可穿戴式電子元件的散熱處理

Tzu-Hsuan Chang (張子璿), sponsored by 台灣大學-高教深根計劃
108L891706, N.T.\$ 2,680,000, 2018/07/00-2020/12/00

Cheng-Wei Chen (陳政維)

Intelligent Image-Guided Microsurgical Robotic System

智慧型影像導引顯微手術機器人系統

Cheng-Wei Chen (陳政維), sponsored by 科技部 (Ministry of Science and Technology (Taiwan))
MOST 107-2636-E-002-008, N.T.\$ 000, 2018/08/01-2023/07/31

Faculty Publications

(Since 2016)

Yao-Wen Chang (張耀文)

Journal papers

Y.-W. Chang, "Please see <http://cc.ee.ntu.edu.tw/~ywchang/publications.html>", for his journal publication list, Jan. 2016

Book & Book chapters

Y.-W. Chang, "Please see <http://cc.ee.ntu.edu.tw/~ywchang/publications.html>", for his book publication list, Jan. 2016

Patent

Y.-W. Chang, Please see <http://cc.ee.ntu.edu.tw/~ywchang/publications.html>, for his patent list, Jan. 2016

Chih-Wen Liu (劉志文)

Journal papers

Y. J. Lee, C.H. Chiao, T. C. Lin, and C. W. Liu, "**A Synchrophasor-based Fault Location Method for Three-Terminal Hybrid Transmission Lines with One Off-Service Line Branch**", IEEE Transactions on Power Delivery, Vol. 33, pp.3249-3251, Dec. 2018

Y. J. Lee, T.C. Lin, and C.W. Liu, "**Multi-terminal Nonhomogeneous Transmission Line Fault Location Utilizing Synchronized Data**", IEEE Transaction on Power Delivery, (accepted), Dec. 2018

H.-Y. Su, F.-M. Kang, and C.-W. Liu, "**Transmission Grid Secondary Voltage Control Using PMU data**", IEEE Transactions on Smart Grid, Vol. 9, pp. 2908-2917, Jul. 2018

G.S. Lien, M.S. Wu, C.N. Chen, C.W. Liu, and F.M. Suk, "**Feasibility and safety of a novel magnetic-assisted capsule endoscope system in a preliminary examination for upper gastrointestinal tract**", Surgical Endoscopy, 32:1937-1944, Jan. 2018

P.-Y. Kong, C.-W. Liu, and J.-A. Jiang, "**Cost Efficient Placement of Communication Connections for Transmission Line Monitoring**", IEEE Transactions on Industrial Electronics, Vol. 64, pp. 4058-4067, May. 2017

H. Y. Su, and C. W. Liu, "**Estimating the Voltage Stability Margin Using PMU Measurements**", IEEE Transactions on Power Systems, Vol. 31, No. 4, pp. 3221- 3229, Jul. 2016

Gong-Ru Lin (林恭如)

Journal papers

C.-H. Hsieh, C.-H. Cheng, H.-Y. Wang, C.-Y. Tsai, Y.-C. Chi, and G.-R. Lin, “**Enhanced Nonlinear Refractive Index of C-Rich SiC Waveguides Via Annealing for PRZ-OOK Data Transmission**,” IEEE Journal of Selected Topics in Quantum Electronics, Vol. 24, No. 6, 8301210, Nov.-Dec. 2018.

S.-C. Syu, C.-H. Cheng, H.-Y. Wang, Y.-C. Chi, C.-I. Wu, and G.-R. Lin, “**Enriching C-C bonds in Nonoscale SiC_x waveguide for all-optical polarization decoding and logic gating**,” Scientific Reports, Vol. 8, No. 14859, pp. 1-14, Oct. 2018.

Z.-K. Weng, H.-Y. Kao, Y.-C. Chi, H.-Y. Wang, and G.-R. Lin, “**Quasi-Color-Free LD based Long-Reach 28-GHz MMWoF with 512-QAM OFDM**,” IEEE/OSA Journal of Lightwave Technology, Vol. 36, No. 19, pp. 4282-4297, Oct. 2018.

H.-Y. Lan, I.-C. Tseng, H.-Y. Kao, Y.-H. Lin, G.-R. Lin, and C.-H. Wu, “**752-MHz Modulation Bandwidth of High-Speed Blue Micro Light-Emitting Diodes**,” IEEE Journal of Quantum Electronics, Vol. 54, No. 5, pp. 3300106, Oct. 2018.

T.-C. Lin, Y.-T. Chen, Y.-F. Yin, Z.-X. You, H.-Y. Kao, C.-Y. Huang, Y.-H. Lin, C.-T. Tsai, G.-R. Lin, and J.-J. Huang, “**Large-Signal Modulation Performance of Light-Emitting Diodes With Photonic Crystals for Visible Light Communication**,” IEEE Transactions on Electron Devices, Vol. 65, No. 10, pp. 4375-4380, Oct. 2018.

C.-T. Tsai, L. C. Cheng, C.-T. Lin, Y.-C. Chi, and G.-R. Lin, “**Long-reach 60-GHz MMWoF link with free-running laser diodes beating**,” Scientific Reports, Vol. 8, No. 13711, pp. 1-14, Sep. 2018.

Y.-F. Huang, Y.-C. Chi, D.-W. Huang, and G.-R. Lin, “**Red/Green/Blue LD Mixed White-Light Communication at 6500K with Divergent Diffuser Optimization**,” Optics Express, Vol. 26, No. 18, pp. 23397-23410, Sep. 2018.

W.-C. Wang, H.-Y. Wang, and G.-R. Lin, “**Ultrahigh-speed violet laser diode based free-space optical communication beyond 25 Gbit/s**,” Scientific Reports, Vol. 8, No. 13142, pp. 1-7, Sep. 2018.

C.-Y. Peng, C.-T. Tsai, H.-Y. Wang, Y.-C. Wu, T.-T. Shih, J. J. Huang, H.-C. Kuo, W.-H. Cheng, G.-R. Lin, and C.-H. Wayne Wu, “**High-Temperature Insensitivity of 50-Gb/s 16-QAM-DMT Transmission by Using the Temperature-Compensated Vertical-Cavity Surface-Emitting Lasers**,” IEEE/OSA Journal of Lightwave Technology, Vol. 36, No. 16, pp. 3332-3343, Aug. 2018.

H.-Y. Kao, S.-F. Leong, Y.-C. Chi, H.-C. Kuo, C.-H. Wu, and G.-R. Lin, “**Single-Mode VCSEL for Pre-Emphasis PAM-4 transmission up to 64 Gbit/s over 100-300 m in OM4 MMF**,” Photonics Research, Vol. 6, No. 7, pp. 666-673, Jul. 2018.

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Y.-F. Huang, C.-T. Tsai, Y.-C. Chi, D.-W. Huang, and G.-R. Lin, “**Filtered Multicarrier OFDM Encoding on Blue Laser Diode for 14.8-Gbps Seawater Transmission,**” *IEEE/OSA Journal of Lightwave Technology*, Vol. 36, No. 9, pp. 1739-1745, May. 2018.

T.-C. Wu, Y.-C. Chi, H.-Y. Wang, C.-T. Tsai, J.-K. Chang, L.-Y. Chen, W.-H. Cheng, and G.-R. Lin, “**White-Lighting Communication with Lu₃Al₅O₁₂:Ce³⁺/CaAlSiN₃:Eu²⁺ Glass Covered 450-nm InGaN Laser Diode,**” *IEEE/OSA Journal of Lightwave Technology*, Vol. 36, No. 9, pp. 1634-1643, May. 2018.

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