

2016 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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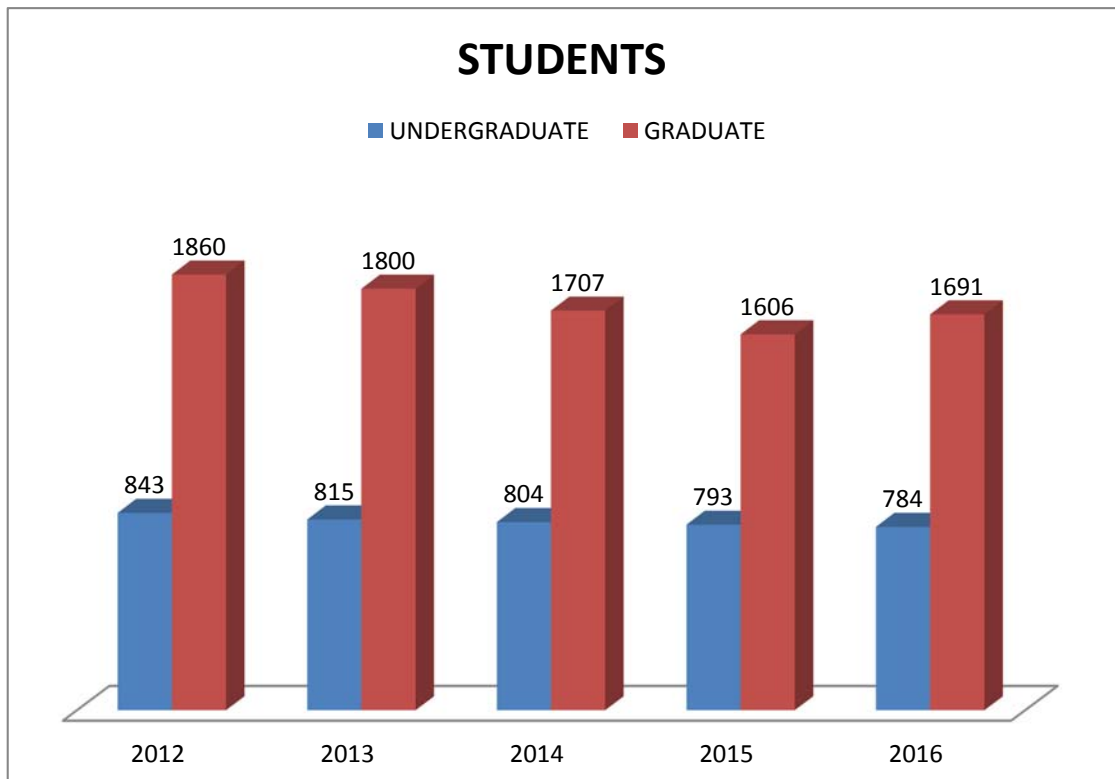
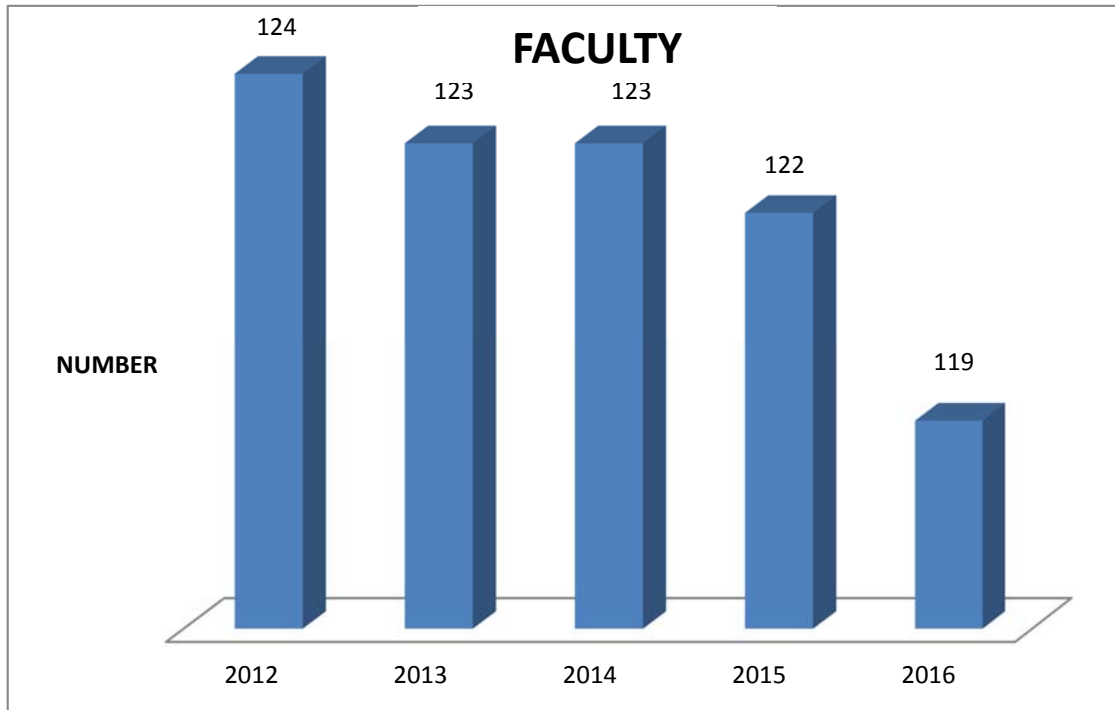
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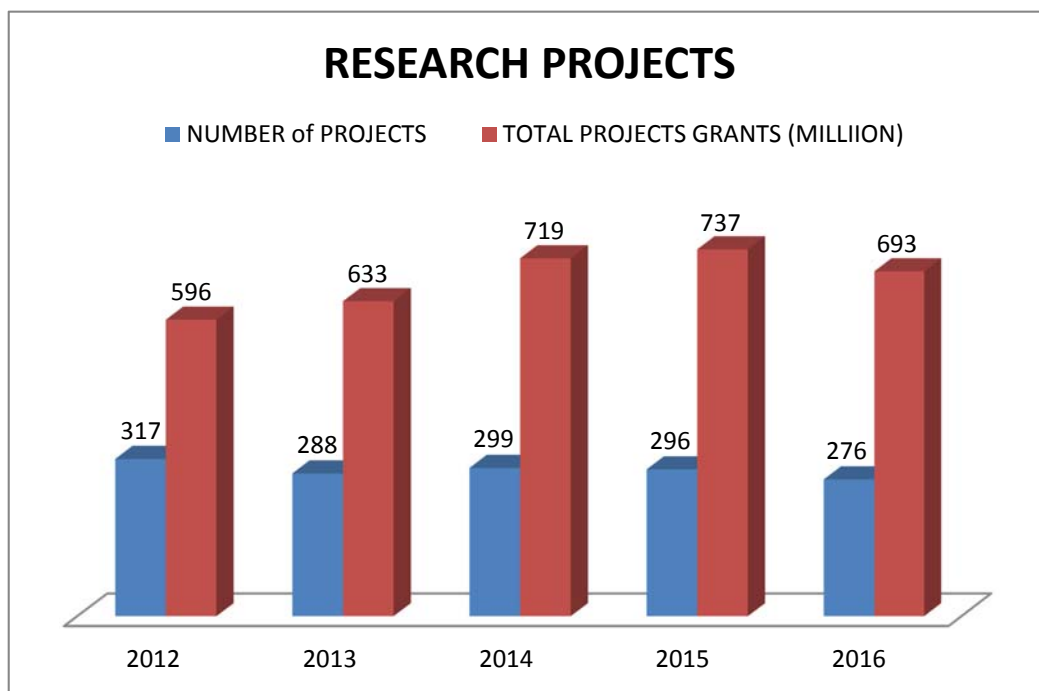
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SCI 期刊論文篇數

西元	2012	2013	2014	2015	2016	總計
論文篇數	393	359	331	294	233	1,610
教師人數	124	123	123	122	119	611
平均篇數	3.17	2.92	2.69	2.41	1.96	2.63

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

IEEE/IET Journal Papers

Year	2012	2013	2014	2015	2016	Total
Total of IEEE/IEE Papers	199	176	138	153	154	820
No. of Full-Time Faculty Members	124	123	123	122	119	611
Average IEEE/IEE Papers per Faculty Member	1.6	1.43	1.12	1.25	1.29	1.34

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

The Faculty

Dean of College of Electrical Engineering and Computer Science



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.

Chairman of the Department of Electrical Engineering



Chih-Wen Liu (劉志文)

Chih-Wen Liu (劉志文) 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」), Distinguished Research Award from National Science Council in 2008(國科會「傑出研究獎」), 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』), and 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]). He is a Fellow of the IEEE(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)



Gong-Ru Lin (林恭如) 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 Electro-Optical Engineering and Department of Electrical Engineering, National Taiwan University. Prof. Lin is the member of Optical Society of America (OSA), the International Society for Optical Engineering (SPIE), 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. In particular, he has also served in SPIE as Award Committee (since 2003), Secretary of Taiwan Chapter (since 2004), and Vice Chair of Taiwan Chapter (since 2006). He is also the treasurer (since 2004), Vice Chair (since 2006), and Chair (since 2008) of IEEE/LEOS Taipei Chapter.

Honors, Awards and Recognitions:

Prof. Lin has (co)authored more than 150 papers in SCI-ranked journals and over 200 papers in international conferences. Prof. Lin was invited as the steering committee of CLEO-PR and APMP, 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 also served as the associate editor and editorial board member of "Journal of Nanomaterials", "Current Nanoscience", and the "Recent Patents on Engineering", he is also the referee of several journals published by the IEEE/LEOS, OSA, and Elsevier Science. He received three times the researching 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. He is a Fellow of SPIE (FSPIE) since 2008, a Fellow of IET (FIET) since 2009, a Fellow of IOP (FInstP) since 2010, and a Fellow of

OSA since 2014. Prof. Lin received the Distinguished Research Award from National Science Council (國科會傑出獎) in 2011 and the Distinguished Professor of Electrical Engineering Award (中國電機工程學會-傑出電機工程教授獎) from the Chinese Institute of Electrical Engineering in 2013.

Chairman of Graduate Institute of Communication Engineering

Tzong-Lin Wu (吳宗霖)



Tzong-Lin Wu (吳宗霖) 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 was appointed as the Director of the GICE and Communication Research Center in NTU in 2012.

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 and 2014, 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 is now the Associate Editor of IEEE Transactions on EMC and IEEE Transactions on CPMT, and the Editor-in-Chief of International Journal of Electrical Engineering (IJEE). Dr. Wu is IEEE Fellow.

Director of Graduate Institute of Electronic Engineering



An-Yeu (Andy) Wu (吳安宇)

An-Yeu (Andy) Wu (吳安宇) (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 is now serving as a Senior Editorial Board member of IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS), and an Associate Editor for JOURNAL of SIGNAL PROCESSING SYSTEMS (JSPS). He had served as Associate Editor for many 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 A-SSCC, 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 serving as a Board of Governor (BoG) Member of IEEE Circuits and Systems Society (CASS).

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.

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.

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.

Director of Graduate Institute of Biomedical Electronics and Bioinformatics



Chuang, Eric Y. (莊曜宇)

Chuang, Eric Y. (莊曜宇) 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 Academic Editor of PLoS ONE, 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.



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 (李琳山) 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 (李嗣涔)

Si-Chen Lee (李嗣涔) 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 (胡振國) 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, in 1952. He received the B.S. degree from the National Cheng-Kung University, Tainan, Taiwan, in 1975, the M.S. degree from the National Taiwan University, Taipei, in 1977, and the Ph.D. degree from Rensselaer Polytechnic Institute, Troy, New York, U.S.A., in 1984, 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.



Tah-Hsiung Chu (瞿大雄)

Tah-Hsiung Chu (瞿大雄) was born in Taiwan, Republic of China, on July 30, 1953. He received the B.S. degree from the National Taiwan University, Taipei, Taiwan in 1976, and the M.S. and Ph. D. degrees from the University of Pennsylvania, Philadelphia, PA, USA, in 1980 and 1983, respectively, all in electrical engineering.

From 1983 to 1986 he was a Member of Technical Staff with the Microwave Technology Center, RCA David Sarnoff Research Center, Princeton, NJ, USA. Since 1986 he has been on the faculty of the Department of Electrical Engineering, National Taiwan University, where he is currently a Professor of electrical engineering. His research interests include microwave-imaging systems and techniques, microwave circuits and subsystems, microwave measurements, and calibration techniques.



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.



James B. Kuo (郭正邦)

James B. Kuo (郭正邦) received a BSEE degree from National Taiwan University in 1977, an MSEE degree from Ohio State University in 1978, and a PhDEE degree from Stanford University in 1985. Before the PhDEE program, he worked in Penril Data Communications and Racal Vadic(1978-1981) as a research engineer working on integrating telecommunication modem chips using CMOS technology. After the PhD program (1985-1987), he worked as an engineering research associate in IC Lab of Stanford University, working on BiCMOS devices. In 1987 he joined National Taiwan University as an associate professor and since 1990 he has been a professor. Between 2000 and 2002 he has been a chair professor at the University of Waterloo, Canada, on leave from NTUEE. His research expertise is in the field of low-voltage CMOS VLSI circuits and SPICE compact modeling of deep-submicron bulk and SOI CMOS and BiCMOS VLSI devices. He served as an associate editor for the IEEE Circuits and Devices Magazine and the VP membership for the IEEE Electron Devices Society. He has been awarded an IEEE fellow award in 1999 for contributions to modeling CMOS VLSI devices. He has won the NSC Outstanding Research Award three times in 1996, 2000 and 2002. In 2007, he has been awarded the prestigious NTU Life Distinguished Professor.

He is also an IEEE distinguished lecturer. He has published 300 technical papers. He holds 16 invention patents including 7 US patents on low-voltage CMOS VLSI circuits. As a highly recognized expert, he authored nine books including Low-Voltage SOI CMOS VLSI Devices and Circuits (John Wiley: New York 2001), Low-Voltage CMOS VLSI Circuits (John Wiley: New York, 1999) and CMOS VLSI Engineering: Silicon-On-Insulator (SOI)---Kluwer: Boston, 1998. As a technical leader, he has graduated 80 MS and PhD students specialized in CMOS circuit designs and device modeling, currently working in leading US and Taiwan's microelectronics companies. companies.

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 (傅立成) 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. 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, and was elevated to IFAC Fellow in 2016.



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)

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 Yang (楊志忠)



Chih-Chung Yang (楊志忠) 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 290 SCI journal papers and made more than 700 presentations at prestigious international conferences, including over 120 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 (賴飛熊) 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 foudners 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 policy 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 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 (闕志達)

Tzi-Dar Chiueh (闕志達) 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.



Sao-Jie Chen (陳少傑)

Sao-Jie Chen (陳少傑) received the B.S. and M.S. degrees in electrical engineering from the National Taiwan University, Taipei, Taiwan, ROC, in 1977 and 1982 respectively, and the Ph.D. degree in electrical engineering from the Southern Methodist University, Dallas, USA, in 1988.

Since 1982, he has been a member of the faculty in the Department of Electrical Engineering, National Taiwan University, where he is currently an adjunct professor. During the fall of 1999, he was a visiting professor in the Department of Computer Science and Engineering, University of California, San Diego, USA. During the fall of 2003, he held an academic visitor position in the Department of System Level Design, IBM Thomas J. Watson Research Center, Yorktown Heights, New York, USA. He obtained the “Outstanding Electrical Engineering Professor Award” by the Chinese Institute of Electrical Engineering in December 2003 to recognize his excellent contributions to EE education. During the Fall Semesters of 2004 to 2009 and Spring Semesters of 2012 to 2014, he has been a visiting professor in the Department of Electrical and Computer Engineering, University of Wisconsin, Madison, USA. He has served as an International Adjunct Professor in the Department of

Electrical and Computer Engineering, University of Illinois, Urbana-Champaign, during the Spring Semesters of 2010 and 2011 and a visiting professor during the Springs of 2015 and 2016. His current research interests include: System-on-Chip (SoC) hardware/software co-design, Network-on-Chip (NoC) design, and RF IC design.

Dr. Chen is a member of the Chinese Institute of Engineers, the Chinese Institute of Electrical Engineering, the Institute of Taiwanese IC Design, and a senior member of the IEEE Circuits and Systems.



Chin-Laung Lei (雷欽隆)

Chin-Laung Lei (雷欽隆) 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 the 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. During 2009-2014, he also served as the Deputy Executive Officer of the Networked Communication Program of NSC.

Dr. Tsai has been active in Telecommunication deregulations since Taiwan started the telecomm market liberalization. For many years, he was a member of Telecommunications Advisory Board (TAB) of Ministry of Transportation and Communications (MOTC), Taiwan, R.O.C. In 2000, he served as the co-chair of the 3G Study Group for DGT, the telecommunication regulator in Taiwan. During 2004-2017, he was an independent director of Chunghwa Telecom(CHT). He also served as the Deputy Executive Secretary of STAG(Science and Technology Advisory Group) of the Executive Yuan in 2004-2006. Now he is 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.



Huei Wang (王暉)

Huei Wang (王暉) (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)

Ching-Fuh Lin (林清富) 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 now the the Director of Innovative Photonics Advanced Research Center (i-PARC), and a joint professor in the Graduate Institute of Photonics and Optoelectronics, Graduate Institute of Electronics Engineering, and Department of Electrical Engineering at National Taiwan University. His research interests include organic-inorganic composite thin-film solar cells and optoelectronic devices, single-crystal Si thin-film solar cells, Si-based photonics, and physics in broadband semiconductor lasers and optical amplifiers.

He is currently a Fellow of IEEE, a Fellow of SPIE, Member of Asia-Pacific Academy of Materials, and a member of OSA. He has published over 170 journal papers and more than 490 conference papers and hold over 70 patents. He is also the sole author of two books, “Optical Components for Communications: Principles and Applications”, published by Kluwer Academic Publishers (USA 2004), and “光學與光電導論” (Optics and Photonics: Fundamentals and Applications), published by 五南圖書出版股份有限公司(Taiwan, 2012) and co-authors/edits a book, “Organic, Inorganic and Hybrid Solar Cells – from Principles to Practices”, published by John Wiley & Sons, Inc. and IEEE Press, 2012. He had obtained the Distinguished Research Award and several Class A Research Awards from National Science Council 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 as the Chair of IEEE LEOS Chapter Taipei Section, the Board member of the 17th IEEE Taipei Section, the Evaluation Committee member of Higher Education Evaluating & Accreditation Council of Taiwan, the Council member of the 10th Optical Engineering Society of ROC, and the Convener in the area of Electronics and Information for the Conventional Industry Technology Development Project in the Bureau of Industry, Ministry of Economics, ROC. He has also served as Project Instructors of the National Programs in the nano-science and nano-technology and the renewable energy (solar energy).



Shen-Iuan Liu (劉深淵)

Shen-Iuan Liu (劉深淵) (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 his Ph.D. degree in Electrical Engineering from the 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 applied different ideas, theories and methods to explore various electromagnetic phenomena and possible applications. In recent years, he studied 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 (2017).

Details of these topics and other interesting explorations are available 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.



Chee-Wee Liu (劉致為)

Chee-Wee Liu (劉致為) is currently a 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 also a senior researcher and Deputy General Director 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 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 200+ international SCI journal papers, 294+ conference papers, 35 Taiwan patents, 2 China patents and 24 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, and International Conference on Silicon Epitaxy and Heterostructures.

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 mm workshop. He is an editor of IEEE Transactions on Material and Device Reliability.



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), 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. He is currently the Topical Editor of Optics Letters, 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 (李百祺) 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 the Department of Electrical Engineering at National Taiwan University, where he is currently Associate Dean of College of Electrical Engineering and Computer Science, and Distinguished Professor of Department of Electrical Engineering and Institute of Biomedical Electronics and Bioinformatics. He is also the TBF Chair in Biotechnology. 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 2009-2011. His current research interests include biomedical ultrasound and medical devices. Dr. Li is IEEE Fellow, IAMBE Fellow, AIUM Fellow and SPIE Fellow. He 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 and Y. Z. Hsu Science Award.



Homer H. Chen (陳宏銘)

Homer H. Chen (陳宏銘) 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. Currently, he serves on the IEEE Signal Processing Society Fourier Award Committee and the Fellow Reference Committee.



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, a member in the Committee for International Affairs of the Radiological Society of the Republic of China, and an adjunct professor in the Department of Radiology at Tri-Service General Hospital and National Defense Medical Center.



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 IEEE CEDA Vice President of Conferences. Currently, he is Deputy Vice President for Academic Affairs (副教務長), NTU, Director of the Center for Teaching and Learning Development, NTU, and Distinguished Professor of the Department of Electrical Engineering and the Graduate Institute of Electronics Engineering, NTU, Taipei, Taiwan. He was 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 over 270 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. 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. 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 58 papers, the #3 all-time DAC prolific author), one of the Longest Publication Streaks (15 years from 1999 to 2013; now 19 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 15 other top-3 contest awards during the past decade. He is a recipient of eight Best Paper Awards (2017 ACM/IEEE DAC, 2010 and 1995 IEEE ICCD, etc.), the 2007 IEEE/ACM ICCAD Professor Margarida Jacome Memorial Award, and two Best-in-Track Papers at the 2017 IEEE/ACM 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 2010, 2012, and 2013 IBM Faculty Awards, the 2009 Distinguished EE Professor from the CIEE, the 2004 MXIC Young Chair Professorship and the 2015 MXIC Chair Professorship from the MXIC Corp, the inaugural Research Achievement Award from National Taiwan University in 2004, distinguished teaching award in 2013 (highest honor for top 1% teachers)/excellent teaching awards (eight times in 2004, 2006, 2007, 2008, 2009, 2010, and 2011; ranked #1 in the department for students' teaching surveys in 2004, 2005, 2009, 2013) from National Taiwan University, 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, 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, and general/program chairs of ICCAD, 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 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 (2011-2013 為特聘教授; 2013 起為終身特聘教授)兼副教務長和教學發展中心主任。曾擔任臺灣大學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) 和超過 270 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)，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 54 年歷史上前三大多產論文作者 [張教授從事此領域研究僅 24 年]；DAC 論文發表連續長度前二名，目前 19 年)、ACM/IEEE EDA 競賽六次冠軍(全球第一)、八次最佳論文獎 (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。張教授為首位來自亞洲機構的 IEEE CEDA (Council on EDA) 執行委員(2012 迄今)暨副總裁，曾任其技術活動副總裁(2014-2015)，現為其會議副總裁(2016-2017)和獎勵委員 (2015 迄今)。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)，為亞洲首位由 CEDA 推薦通過的會士 (2013)。EE Times Citation (by Colin Johnson on 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 (by Colin Johnson on 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."



Wanjiun Liao (廖婉君)

Wanjiun Liao (廖婉君) received the BS and MS degrees in Computer Science from National Chiao Tung University, Taiwan, in 1990 and 1992, respectively, and the Ph.D. degree in Electrical Engineering from the University of Southern California, Los Angeles, California, USA, in 1997. She is a Distinguished Professor of Electrical Engineering, National Taiwan University (NTU), Taipei, Taiwan, where she was the Department Chair. She is an Adjunct Research Fellow of Research Center for Information Technology Innovation, Academia Sinica, Taiwan. She is the Director General of Engineering and Technologies Department in the Ministry of Science and Technology (MOST), Taiwan. Her research interests are focused on the design and analysis of wireless and multimedia networking, green communications, on-line social network analysis, and cloud networking.

Prof. Liao was an Associate Editor of IEEE Transactions on Wireless Communications and IEEE Transactions on Multimedia, and is on the Steering Committee of IEEE Transactions on Mobile Computing. She served on the organizing committee of many international conferences, including Symposium (Co)Chairs of IEEE GLOBECOM and ICC, and TPC (Co)Chairs of IEEE VTC 2010 Spring and IEEE PIMRC 2015. She was an IEEE Communications Society (ComSoc) Distinguished Lecturer (2011-2012), an IEEE Fellow Committee member (2013-2015), and the IEEE ComSoc Director for Asia Pacific Region (2014-2015). She is on the IEEE Award Board Award Review Committee, IEEE ComSoc Fellow Evaluation Committee, and IEEE ComSoc Strategic Planning Committee.

Prof. Liao received many research awards and recognition from different government and professional organizations. 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 is a Fellow of the IEEE.



Farn Wang (王凡)

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 Natinal 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 transfered 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 (鐘嘉德) 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.

Huang, Sheng-Lung (黃升龍)



Huang, Sheng-Lung (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) and he was a Guest Editor for Taiwan Photonics Society Quarterly in 2008. Presently, he is a Senior Member of IEEE and a

member of OSA.

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.



Chii-Wann Lin (林啟萬)

Chii-Wann Lin (林啟萬) 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 (馮世邁) (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 is currently an Associate Editor for the IEEE Transactions on Circuits and Systems I. He has previously served as an Associate Editor for Transactions on Circuits and Systems II: Analog and Digital Signal Processing (Jan. 2002 -- Dec. 2003) and IEEE Signal Processing Letters (March 2002 – Feb. 2005). His interests include multirate signal processing, filter banks and their application to communications. 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)

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 中國電機工程師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).



Tian-Wei Huang (黃天偉)

Tian-Wei Huang (黃天偉) 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)

Ren C. Luo (羅仁權) (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 Ingeuneur 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 Eugene 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 IROS2010); 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 (IECON1996 and IECON2007), 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.



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) 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, DAC, 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.



Tsung-Nan 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) 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 (黃寶儀) 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 (吳志毅) 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 (黃建璋) 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 nanoprobes 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.

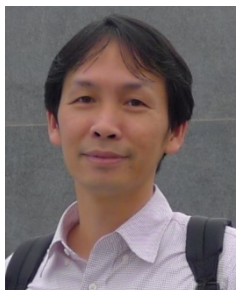


Jiun-Haw Lee (李君浩)

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 (林宗賢) (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 (李致毅) (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, in 1989, 1993, and 1997, respectively, all in electrical engineering.

From 1997 to 2000, he 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. His research interests include power electronic converters, renewable energy, power system harmonics and compensation, and intelligent control.



Hsinyu Lee (李心予)

Hsinyu Lee (李心予) 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.



Hsuan-Jung Su (蘇炫榮)

Hsuan-Jung Su (蘇炫榮) 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.



Yi-Jan Emery Chen (陳怡然)

Yi-Jan Emery Chen (陳怡然) (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 (簡韶逸) 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 (毛紹綱) 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 and 2013. 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 R. Jiang (江介宏)

Jie-Hong R. Jiang (江介宏) 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 (邱奕鵬)

Yih-Peng Chiou (邱奕鵬) 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)

Chien-Mo Li (李建模) 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)

Jui-che Tsai (蔡睿哲) 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 (陳士元)

Shih-Yuan (陳士元) 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 2005-2006, Dr. Chen has been a post doctorate research fellow with the Graduate Institute of Communication Engineering, National Taiwan University, working on the 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-July 2009, Dr. Chen has 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, wireless sensor networks, RF energy harvesting, metamaterial and composite right-/left-handed transmission lines, and self-structuring microwave devices.

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 is currently the Vice-Chair of IEEE AP-S Taipei Chapter and 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)

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/photonic-crystal microcavities, 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 an associate 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)

Guo-Dung Su (蘇國棟) 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 (魏宏宇) 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. 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 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 the Secretary of IEEE P1934 Working Group. He also serves as an Associate Editor for IEEE IoT journal. He is an IEEE certified Wireless Communications Professional. He is currently the Chair of IEEE VTS Taipei Chapter.



Ping-Cheng Yeh (葉丙成)

Ping-Cheng Yeh (葉丙成) 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)

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. From 1998 to 2015, he was a faculty member in the departments of electrical engineering and communication engineering, Yuan Ze University, Taiwan. He joined National Taiwan University in 2015, and is currently a 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) based ray and beam techniques to interpret the antenna radiation mechanisms. 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.

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 base station antennas industries. 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. 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 132 international journal articles, 303 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 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 and University's Contribution to the Industrial Economics Award from the Ministry of Education (MoE) and Ministry of Economic Affairs (MoEA), Taiwan in 2004 and 2008, 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 (謝宏昀) 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)

Chung-Yang Huang (黃鐘揚) 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 (陳奕君) 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)

Yuh-Renn Wu (吳育任) 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. After two years military service, he joined the Ph.D. program in Electrical Engineering and Computer science, University of Michigan, Ann Arbor in 2002 and obtained his Ph. D. degree at 2006. After being a short period of research fellow position in Michigan, he joined the Graduate Institute of Electro-Optical Engineering as an assistant professor in 2007.

Prof. Yuh-Renn Wu's research area is focusing on the analysis and characterization of optical and semiconductor devices. During his study in the University of Michigan, Ann Arbor, He joined the Solid State Electronic Laboratory in Electrical Engineering and Computer Science department and worked in the analysis and modeling of high power electronic devices. He developed multi-dimensional Poisson, drift-diffusion and Schrodinger equation solver. He also developed Monte Carlo techniques in analysis of carrier transport and heat dissipation in high power GaN HFET devices. He also worked on the research of ferroelectric multi-functional devices and on developing the full bands k.p simulation programs for analysis of nitride quantum dot and quantum well band structures. His current research topics are

White light LED analysis and design. 2.Study of quantum well, quantum well, and quantum dot low deminsional systems. 3.High power nitride HFETs. 4. Ferroelectric material for high k and memory applications.

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分析設計，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 (林致廷) 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).



Snow H. Tseng (曾雪峰)

Snow H. Tseng (曾雪峰) 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..



Kun-You Lin (林坤佑)

Kun-You Lin (林坤佑) 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. He joined the faculty of the

Department of Electrical Engineering and Graduate Institute of Communication Engineering of National Taiwan University, Taipei, Taiwan, R.O.C., as an assistant professor in July 2006. 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 (黃定洧)

Ding-Wei Huang (黃定洧) 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.

Jian-Jiun Ding (丁建均)



Jian-Jiun Ding (丁建均) 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.

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)



Kuen-Yu Tsai (蔡坤諭) 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 Laboratory (NDFSL) and Particle Beam Precision Patterning and Imaging Laboratory (PBPPIL), 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, TSMC-NTU Research Center since its establishment in 2013, and 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.



Wei-Cheng Tian (田維誠)

Wei-Cheng Tian (田維誠) was born in Taipei, Taiwan. He received the B.S. degree in electrical engineering from the National Taiwan University, Taipei, Taiwan, in 1995, and the M.S. and Ph.D. degrees in electrical engineering and computer sciences from The University of Michigan, Ann Arbor, MI, USA, in 2000 and 2003, respectively. He is currently an Assistant Professor of the Graduate Institute of Electronics Engineering, Graduate Institute of Biomedical Electronics and Bioinformatics, and the Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan.

During 2003-2009, Dr. Tian worked for GE Global Research at Niskayuna, NY, USA and served as a lead engineer/project leader/principal investigator. His research efforts include development of various Micro/Nano system and technologies for bio/chemical detection & life science applications. Dr. Tian has not only successfully led and delivered biomedical, industrial, and security programs in Micro/Nano system and technologies within GE, but he lead and won

several government grants, including the DARPA program in Micro Gas Chromatography and the DTRA program in the area of integrated sample preparation for high throughput DNA sequencing. Dr. Tian has been serving as committees in various conferences or consortiums and he currently serves on the program committee of AVS conference-MEMS/ BioMEMS topic group (2006-present). Dr. Tian published and presented 20+ peer-reviewed articles in the major MEMS/NEMS & micro/nanofluidics journals and conferences, owns 20+ issued patents, with 10+ patents pending. He is the author of one book chapter and edited a book “Microfluidics for Biological Applications”.



Yi-Chang Lu (盧奕璋)

Yi-Chang Lu (盧奕璋) 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)

Kung-Bin Sung (宋孔彬) 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 (鄭振牟) 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 (于天立) 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.



Chou, Chun-Ting (周俊廷)

Chou, Chun-Ting (周俊廷) 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.



Chia-Hsiang Yang (楊家驤)

Chia-Hsiang Yang (楊家驤) 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 an Associate 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.



Po-Ling Kuo (郭柏齡)

Po-Ling Kuo (郭柏齡) 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.

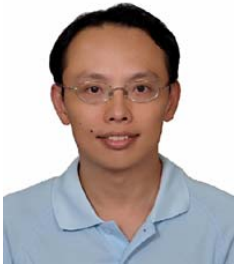


Chao-Hsin Wu (吳肇欣)

Chao-Hsin Wu (吳肇欣) 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. He has received the Nick and Katherine Holonyak, Jr. Graduate Research Award for the excellent achievement in semiconductor optoelectronics and high speed microelectronics area in 2010.

Ho-Lin Chen (陳和麟)



Ho-Lin Chen (陳和麟) 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..



Choi, Wing-Kit (蔡永傑)

Choi, Wing-Kit (蔡永傑) 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. At Unipac, he was responsible for the development of advanced liquid crystal display technologies for TFT-LCDs. 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, fast response time of liquid crystals and liquid crystal/polymer composites for display and non-display applications.



Borching Su (蘇柏青)

Borching Su (蘇柏青) 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.

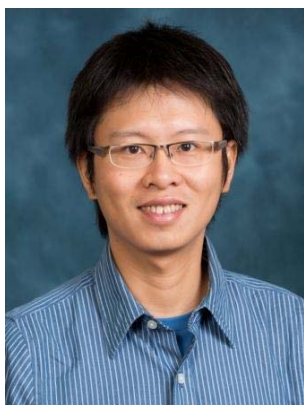


Jiun-Yun Li (李峻賢)

Jiun-Yun Li (李峻賢) 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. Then 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.

Dr. Li is currently with the Department of Electrical Engineering and the Graduate Institute of Electronics Engineering at National Taiwan University as an assistant professor. Prior to this faculty appointment, he served in the Coast Guard Administration for two-year military service in Taiwan (2000 ~ 2002). He then worked as a research associate in Academia Sinica, Taipei, Taiwan (2002 ~ 2003) and focused on Si-based optoelectronic devices. Before his research tenure, he also landed in STMicroelectronics as a field application engineer (2003 ~ 2004) for xDSL applications to sort out the difference between the industry and academy.

Prof. Li's research interests include group IV semiconductor epitaxial growth (e.g. SiGe, SiGeSn, graphene, and silicene) and atomic layer epitaxial; Si-based quantum electronics and device application (e.g. mesoscopic electron transport properties of two-dimensional electron gases and quantum computing); nano-sized transistors and post-CMOS devices (such as tunneling diodes and transistors); and energy harvesting devices and bio-electronics. Dr. Su received Charles H. Wilts prize from Caltech for his Ph.D. thesis on blind channel estimation.



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 (王奕翔) 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.



Tsung-Te Liu (劉宗德)

Tsung-Te Liu (劉宗德) received the B.S. and M.S. degrees from the 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 the 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)

Hung-Yi Lee (李宏毅) 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 (陳景然) 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 was focus on new control scheme development and IC design of voltage regulator controller for CPU power. In February 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.



An-Chi Wei (魏安祺)

An-Chi Wei (魏安祺) 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.

Project Abstracts

Gong-Ru Lin (林恭如)

以共振腔長調控自反饋雙模半導體雷射整合光載毫米波全雙工傳輸光纖網路(3/3)

Gong-Ru Lin (林恭如), sponsored by

103-2221-E-002-042 -MY3, N.T.\$ 1,547,000, 2016/08/01-2017/07/31

下世代新穎光纖網路系統整合 5G 無線通訊關鍵技術之相關研究-子計畫五：整合光纖有線與毫米波 5G 無線通訊網路載波之寬頻無色光源研究(2/3)

Gong-Ru Lin (林恭如), sponsored by

104-2221-E-002-117-MY3, N.T.\$ 1,421,000, 2016/08/01-2017/07/31

多通道多模態面射型雷射及檢光器之高速 400Gbps 光收發模組關鍵性技術研究(2/3)

Gong-Ru Lin (林恭如), sponsored by

105-2218-E-005-003-, N.T.\$ 2,481,560, 2016/08/01-2017/07/31

Tzong-Lin Wu (吳宗霖)

高速無線通訊系統之多模多頻段射頻前端技術(3/4)

Tzong-Lin Wu (吳宗霖), sponsored by 科技部

104-2218-E-002-005-, N.T.\$ 000, 2015/11/01-2016/10/31

用於第五代行動通訊系統級封裝之下世代電磁相容頻率選擇封裝技術－總計畫及子計畫一：新式電磁相容超微小元件頻率選擇屏蔽面之研究與設計

Tzong-Lin Wu (吳宗霖), sponsored by 科技部

104-2221-E-002-053-, N.T.\$ 000, 2015/08/01-2016/07/31

三維晶片中具雜訊抑制及電磁相容功能之微型化被動元件(2/3)

Tzong-Lin Wu (吳宗霖), sponsored by 科技部

103-2221-E-002-049-MY3, N.T.\$ 000, 2015/08/01-2016/07/31

Signaling quality improvement on RF interface

Tzong-Lin Wu (吳宗霖), sponsored by 台積電

, N.T.\$ 000, 2015/04/16-2016/04/15

高速傳輸系統之通道分析與設計研究

Tzong-Lin Wu (吳宗霖), sponsored by 聯詠

, N.T.\$ 000, 2014/07/01-2016/06/30

An-Yeu (Andy) Wu (吳安宇)

針對 OpenFlow 網路之高節能和安全性整合設計平台技術研究與開發(3/3)

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

105-2218-E-002 -014, N.T.\$ 6,000,000, 2016/08/01-2017/10/31

智慧型綠能物聯網系統關鍵技術開發

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

105-2218-E-002 -024, N.T.\$ 5,184,000, 2016/08/01-2017/10/31

高階量測儀器基礎技術研發中心(3/3)

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

105-2218-E-002-005, N.T.\$ 10,800,000, 2016/01/00-2016/12/00

針對 OpenFlow 網路之高節能和高安全性整合設計平台技術研究與開發(2/3)

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

104-3115-E-002-005, N.T.\$ 6,012,000, 2015/08/01-2016/07/31

前瞻下世代行動通訊終端關鍵技術研究(2/3)

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

104-2622-8-002-002, N.T.\$ 75,970,000, 2015/07/00-2016/09/00

永續智慧型節能系統晶片平台技術研究與開發－總計畫暨子計畫四可靠性綠運算電路與系統 (2/2)

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

104-2220-E- 002-003, N.T.\$ 4,163,000, 2015/05/01-2016/04/30

Eric Y. Chuang (莊曜宇)

臺灣特有雉科－藍腹鵲基因體定序計畫

Eric Y. Chuang (莊曜宇), sponsored by 臺北市立動物園

105 保研 13, N.T.\$ 600,000, 2016/03/00-2016/12/00

華人乳癌基因資料庫及個人化雲端諮詢平台

Eric Y. Chuang (莊曜宇), sponsored by 財團法人永齡健康基金會

, N.T.\$ 20,000,000, 2015/06/00-2017/05/00

研究 SEMA6A 在肺癌所扮演的角色及探討其基因多型性在台灣地區非吸菸女性肺癌的重要性

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

103-2314-B-002-034-MY3, N.T.\$ 4,290,000, 2014/08/00-2017/07/00

利用整合性基因群分析與舊藥新用策略尋找各乳癌亞型之最佳治療藥物

Eric Y. Chuang (莊曜宇), sponsored by 財團法人國家衛生研究院

NHRI-EX104-10419BI, N.T.\$ 4,672,000, 2014/01/00-2017/12/00

Soo-Chang Pei (貝蘇章)

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

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

Color Transfer Techniques And Its Application

色彩轉換技術及其應用

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

MOST 103-2221-E-002-120-MY3, N.T.\$ 000, 2014/08/01-2017/07/31

Lin-Shan Lee (李琳山)

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

New Directions in Speech Information Retrieval

語音資訊搜尋之新方向

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

103-2221-E-002 -136 -MY3, N.T.\$ 3,071,000, 2014/08/01-2017/07/31

Si-Chen Lee (李嗣涔)

Pathfinding for 7–5nm Semiconductor Technology Nodes

7–5 nm 半導體技術節點研究(3/5)

Si-Chen Lee (李嗣涔), sponsored by 科技部 (MOST)

104-2622-8-002-003, N.T.\$ 99,989,000, 2015/08/01-2016/07/31

Yuan-Yih Hsu (許源浴)

Reactive power and power factor control of Doubly fed induction generator

Yuan-Yih Hsu (許源浴) (Ministry of Science and Technology)

MOST 103-2221-E-002-162-MY3, N.T.\$ 1,830,000, 2014/08/00-2017/07/00

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

Frequency-Domain and Time-Domain Numerical Electromagnetic Studies of Guided-Wave and Resonant Filtering Plasmonic Structures

導波與共振濾波電漿子結構之頻域與時域數值電磁研究

Hung-Chun Chang (張宏鈞), sponsored by 行政院科技部 (Ministry of Science and Technology)

MOST 103-2221-E-002-048-MY2, N.T.\$ 003, 2014/08/01-2016/07/31

Jenn-Gwo Hwu (胡振國)

Energy Saving Transistor and Memory Technology - Main Project & Subproject 1: Energy Saving MOS Structures for Volatile Memory (3/3)

節能電晶體與記憶體技術-總計畫暨子計畫一：節能型金氧半結構揮發性記憶體(3/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)

MOST 103-2221-E-002-252-MY3, N.T.\$ 2,573,000, 2016/08/01-2017/07/31

Gate Tunneling Induced Deep Depletion Characteristic and Device (1/3)

閘極穿隧引起金氧半結構之深空乏特性及元件耦合應用(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

Analysis and Device Application of the Non-uniform Electrical Characteristics in Ultra-thin Gate Oxides (3/3)

超薄閘極氧化層不均勻特性分析及元件應用(3/3)

Jenn-Gwo Hwu (胡振國), sponsored by 國科會 (National Science Council)

NSC 102-2221-E-002-183-MY3, N.T.\$ 1,527,000, 2015/08/01-2016/07/31

Energy Saving Transistor and Memory Technology - Main Project & Subproject 1: Energy Saving MOS Structures for Volatile Memory (2/3)

節能電晶體與記憶體技術-總計畫暨子計畫一：節能型金氧半結構揮發性記憶體(2/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)

MOST 103-2221-E-002-252-MY3, N.T.\$ 2,576,000, 2015/08/01-2017/07/31

Analysis and Device Application of the Non-uniform Electrical Characteristics in Ultra-thin Gate Oxides (2/3)

超薄閘極氧化層不均勻特性分析及元件應用(2/3)

Jenn-Gwo Hwu (胡振國), sponsored by 國科會 (National Science Council)

NSC 102-2221-E-002-183-MY3, N.T.\$ 1,527,000, 2014/08/01-2016/07/31

Energy Saving Transistor and Memory Technology - Main Project & Subproject 1: Energy Saving MOS Structures for Volatile Memory (1/3)

節能電晶體與記憶體技術-總計畫暨子計畫一：節能型金氧半結構揮發性記憶體(1/3)

Jenn-Gwo Hwu (胡振國), sponsored by 科技部 (Ministry of Science and Technology)

MOST 103-2221-E-002-252-MY3, N.T.\$ 2,513,000, 2014/08/01-2017/07/31

Analysis and Device Application of the Non-uniform Electrical Characteristics in Ultra-thin Gate Oxides (1/3)

超薄閘極氧化層不均匀特性分析及元件應用(1/3)

Jenn-Gwo Hwu (胡振國), sponsored by 國科會 (National Science Council)

NSC102-2221-E-002-183-MY3, N.T.\$ 1,407,000, 2013/08/01-2016/07/31

Ju-Hong Lee (李枝宏)

Research on System Structure and Design of Subband Digital Filter Banks for Multimedia Audio and Image Signal Processing

應用於影音多媒體訊號處理之副頻帶數位濾波器組系統架構與設計之研究(2/3)

Ju-Hong Lee (李枝宏), sponsored by 科技部 (Ministry of Science and Technology)

103-2221-E-002-123-MY3, N.T.\$ 2,347,000, 2014/08/01~2017/07/31

Tah-Hsiung Chu (瞿大雄)

Using 1-port network analyzer to measure N-port circuit S-matrix and its applications

使用 1-埠網路分析儀量測 n-埠網路 S-矩陣及其應用

Tah-Hsiung Chu (瞿大雄), sponsored by 科技部 (Ministry of Science and Technology)

MOST 104-2221-E-002 -054 -MY3, N.T.\$ 2,943,000, 2015/08/00-2018/07/00

Hen-Wai Tsao (曹恆偉)

Circuit and Signal Processing Techniques of Tx/Rx for Low-Power AP in Smart Badge Systems(2014/8-2017/11)

應用於智慧型標籤之小型基站收發機技術研究

Hen-Wai Tsao(曹恆偉), sponsored by 科技部

103-2221-E-002 -274 -MY3,NTD 2,691,000

多通道中長距離 400Gbps 傳輸模組與關鍵技術研究(1/3)

Hen-Wai Tsao(曹恆偉), sponsored by 科技部

104-2218-E-011-014,NTD 725,000(共同部分)

多通道中長距離 400Gbps 傳輸模組與關鍵技術研究(2/3)

Hen-Wai Tsao(曹恒偉), sponsored by 科技部

105-2218-E-011-006,NTD 828,147(共同部分)

多通道中長距離 400Gbps 傳輸模組與關鍵技術研究(3/3)

Hen-Wai Tsao(曹恒偉), sponsored by 科技部

106-2218-E-011-001,NTD 1,050,000(共同部分)

Ruey-Beei Wu (吳瑞北)

Integrity-aware Hybrid Layout Design for one to Multiple DDR3 and EMI Mitigation for PCB

一對多 DDR 混合走線佈局設計及電路板電磁干擾抑制

Ruey-Beei Wu (吳瑞北), sponsored by 瑞昱 (RealTek)

, N.T.\$ 750,000, 2015/12/01-2016/11/30

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

Signal and Power Integrity Analyses for Wafer Level Packaging in High-Speed Memory Applications

應用於高速記憶體之晶元級堆疊式封裝信號與電源完整度分析

Ruey-Beei Wu (吳瑞北), sponsored by 聯發科 (MediaTek)

, N.T.\$ 1,670,000, 2015/03/01-2016/12/31

Shyh-Kang Jeng (鄭士康)

Electromagnetic Analysis for Airplanes

飛機電磁分析

Shyh-Kang Jeng (鄭士康), sponsored by 漢翔航空工業股份有限公司 (Aerospace Industrial Development Corporation)

, N.T.\$ 3,600,000, 2016/05/00-2017/12/00

回音環境下行動機器人的仿生聲源定位及異常聲音偵測

Aug. 01 2017 ~ Jul. 31 2018

Yean-Woei Kiang (江衍偉)

Numerical study of surface plasmon coupling for reducing the efficiency droop in light-emitting diodes

藉表面電漿子耦合以減少發光二極體效率下降之數值研究

Yean-Woei Kiang (江衍偉), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002-118, N.T.\$ 759,000, 2016/08/01-2017/07/31

Numerical simulation on the radiation characteristics of oscillating dipoles in periodic nano-structures (II)

振盪偶極在週期性奈米結構中輻射特性之數值模擬(II)

Yean-Woei Kiang (江衍偉), sponsored by 科技部 (Ministry of Science and Technology)
MOST 104-2221-E-002-142, N.T.\$ 738,000, 2015/08/01-2016/07/31

Sheng-De Wang (王勝德)

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

Sensor data collection and processing

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

Sheng-De Wang (王勝德), sponsored by 科技部 (MOST)
105-3011-F-002 -005 -, N.T.\$ 1,971,213, 2016/04/00-2016/12/00

Software Issues and Programming frameworks for embedded systems based on the heterogeneous system architecture

基於異質系統架構的嵌入式系統之關鍵軟體技術與程式設計環境

Sheng-De Wang (王勝德), sponsored by 科技部 (MOST)
MOST104-2221-E-002-084, N.T.\$ 821,000, 2015/08/00-2016/07/00

Li-Chen Fu (傅立成)

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

Innovative Mobile Living Technology for Dementia Care

失智症照護之創新行動生活科技(2/3)

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology, R.O.C.)
MOST105-2627-E-002-003-, N.T.\$ 6,180,000, 2016/08/01-2017/07/31

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

Promote Visibility of Domestic Control Systems Society (CACS) in IEEE CSS)

以 IEEE Control Systems Society (CSS) BoG 委員身分提昇國內控制學界在 CSS 之能見度
(2/2)

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology, R.O.C.)

MOST 105-2911-I-002 -514 -, N.T.\$ 000, 2016/06/01-2016/12/31

Towards Personalized Context-aware Elder Caring Systems in Senior Centers

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 104-2221-E-002-202-, N.T.\$ 1,281,000, 2015/08/01-2016/07/31

Innovative Mobile Living Technology for Dementia Care

失智症照護之創新行動生活科技(1/3)

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology, R.O.C.)

MOST104-2627-E-002-006-, N.T.\$ 6,180,000, 2015/08/01-2016/07/31

Cooperative Dual-Probe for High Precision 3D Scan Atomic Force Microscopy

雙探針合作式高精確度 3D 影像掃描之原子力顯微鏡

Li-Chen Fu (傅立成), sponsored by 科技部 (Ministry of Science and Technology, R.O.C.)

MOST 103-2221-E-002-199-MY2, N.T.\$ 2,668,000, 2014/08/01-2016/07/31

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 and Analysis for Contact Representations of Planar Graphs

平面圖形接觸表示之演算法設計與分析

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

MOST 103-2221-E-002 -154 -MY3, N.T.\$ 2,784,000, 2014/08/01-2017/07/31

Hao-Hsiung Lin (林浩雄)

Pathfinding for 7–5nm Semiconductor Technology Nodes

7–5 nm 半導體技術節點研究

Hao-Hsiung Li n (林浩雄), sponsored by 科技部 (Ministry of Science and Technology)

103-2622-E-002-031, N.T.\$ 059, 2014/08/01-2016/01/31

Studies on mixed group-V quaternary semiconductors: GaAsPSb and InAsPSb

磷砷銻四元合金半導體材料的成長與元件應用

Hao-Hsiung Li n (林浩雄), sponsored by 科技部 (Ministry of Science and Technology)

102-2221-E-002-191-MY3, N.T.\$ 7,518,000, 2013/08/01-2016/07/31

HK-SiGe_ Ge channel interface kinetic studies with MBE system

MBE 成長之 High-K SiGe, Ge 通道介面研究

Hao-Hsiung Li n (林浩雄), sponsored by 台灣積體電路製造股份有限公司 (Taiwan Semiconductor Manufacturing Company)

, N.T.\$ 17,400,000, 2011/05/15-2016/05/14

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

Research on High Through IoT Technology

高穿越率物聯網技術研究

Sy-Yen Kuo (郭斯彥), sponsored by 高瞻科技公司

104-S-C28, N.T.\$ 800,000, 2015/02/00-2016/01/00

Key Technologies in High Performance Big Data Analysis System and Its Applications on Telecommunication Traffic Management

高效能巨量資料分析系統之關鍵技術研發及其在電信流量管理之應用-總計畫暨子計畫五：高效能巨量資料分析系統之關鍵技術研發及其在電信流量管理之應用

Sy-Yen Kuo (郭斯彥), sponsored by 國科會 (National Science Council)

102-2221-E-002-136-MY3, N.T.\$ 3,096,000, 2014/08/00-2016/07/00

Architecture and Applications of Distributed Quantum Networks

量子分散式網路架構之研究與應用

Sy-Yen Kuo (郭斯彥), sponsored by 國科會 (National Science Council)

102-2221-E-002-092-MY3, N.T.\$ 1,671,000, 2014/08/00-2016/07/00

Development and Implement of A Traffic Surveillance System in Real-World Wireless Networks

開發和設計一套符合真實世界無線網路的交通監控系統(台蒙雙邊國際合作研究計畫)

Sy-Yen Kuo (郭斯彥), sponsored by 科技部

103-2923-E-002 -011 -MY3, N.T.\$ 1,620,000, 2014/08/00-2017/07/00

NTU EECS and III Project Office

台灣大學電資學院與資策會計畫辦公室

Sy-Yen Kuo (郭斯彥), sponsored by 資策會 (Institute of Information Industry)

, N.T.\$ 3,000,000, 2014/06/00-2016/07/00

Chih-Chung (C. C.) Yang (楊志忠)

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

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 晶元光電股份有限公司 (Epistar Corporation)

05HT942006, N.T.\$ 1,000,000, 2016/11/01-2017/10/31

Ga- and N-polar GaN Growths on SiC Substrate(3/3)

於碳化矽基板上生長鎵與氮極化之氮化鎵(3/3)

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

AOARD 144105-3, N.T.\$ 1,587,000, 2016/10/01-2017/09/30

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

Thin p-type Light-emitting Diode for Reducing Efficiency Droop Effect and Enhancing Modulation Bandwidth(1/2)

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(1/2)

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

MOST 104-2622-E-002-031-CC2, N.T.\$ 3,252,000, 2015/11/01-2016/10/31

Thin p-type Light-emitting Diode for Reducing Efficiency Droop Effect and Enhancing Modulation Bandwidth(1/2)

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(1/2)

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 晶元光電股份有限公司 (Epistar Corporation)

04HT942009, N.T.\$ 1,500,000, 2015/11/01-2016/10/31

Ga- and N-polar GaN Growths on SiC Substrate(2/3)

於碳化矽基板上生長鎵與氮極化之氮化鎵(2/3)

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

AOARD 144105-2, N.T.\$ 1,615,750, 2015/10/01-2016/09/30

Efficiency Improvement of Ultraviolet Light-emitting Diode Based on Nanophotonics and Semiconductor Nanostructures

利用奈米光子學及半導體奈米結構提升紫外發光二極體之效率(1/3)

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

MOST 104-2119-M-002-018-, N.T.\$ 9,000,000, 2015/08/01-2016/07/31

Multifunctional Optical Techniques for Cancer Cell Labeling and Inactivation with Bio-conjugated Au Nanoparticles--Surface Plasmon Resonance of Au Nanoring for Cancer Cell Labeling and Inactivation

基於金奈米顆粒的癌細胞多功能光學標記與滅活技術--金奈米環表面電漿子共振之癌細胞標記與滅活

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 行政院國家科學委員會 (National Science

Council)

NSC 102-2218-E-002-012-MY3, N.T.\$ 4,800,000, 2013/10/01-2016/09/30

Investigation of Surface Plasmon Coupling Mechanisms in a Light-emitting Diode

發光二極體內表面電漿子之耦合機制研究

Chih-Chung (C. C.) Yang (楊志忠), sponsored by 行政院國家科學委員會 (National Science Council)

NSC 102-2221-E-002-204-MY3, N.T.\$ 5,423,000, 2013/08/01-2016/07/31

Feipei Lai (賴飛熊)

臺大醫神－精準醫療人工智慧輔助決策系統

Feipei Lai (賴飛熊), sponsored by 科技部 (MOST)

MOST 107-2634-F-002-015, N.T.\$ 45,500,000, 2018/01/01-2021/12/31

智慧型穿戴式裝置於到院前緊急醫療救護之臨床應用—以心肺復甦術品質監測及遠距影像辨識為例

Feipei Lai (賴飛熊), sponsored by 科技部 (MOST)

MOST 105-2221-E-002-155-MY3, N.T.\$ 1,791,000, 2016/08/01-2018/01/31

術後傷口影像分析研究

Feipei Lai (賴飛熊), sponsored by 資策會 (Institute for Information Industry)

105-FS-C16, N.T.\$ 2,500,000, 2016/04/01-2016/12/15

Shi-Chung Chang (張時中)

Service Supply Chain Analysis and Design beyond Frontier - Communication and Mobile

Service Applications - Subproject 1: Impact Analysis of Co-opetition Strategies of Service

Supply Chain with Emerging Service Provisioning - Mobile Broadband Access Applications

服務供應鏈之前瞻分析與設計及其通訊與行動服務應用(II)—總計畫暨子計畫一：新興服務

對供應鏈競合之衝擊分析:以行動寬頻接取服務為例

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

MOST 103-2221-E-002-220-MY2, N.T.\$1,963,000, 2014/08/01-2016/07/31

Enabling Technologies and Operation Models for Licensed Shared Access by LTE Services (1/3)

LTE 服務透過授權分享來接取頻譜之促成技術與運作模式研究(1/3)

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

MOST 103-2218-E-002-032, N.T.\$ 6,039,000, 2014/11/01-2015/10/31

Enabling Technologies and Operation Models for Licensed Shared Access by LTE Services (2/3)

LTE 服務透過授權分享來接取頻譜之促成技術與運作模式研究(2/3)

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

MOST 104-3115-E-002-004, N.T.\$ 7,040,000, 2015/08/01-2016/10/31

Enabling Technologies and Operation Models for Licensed Shared Access by LTE Services (3/3)

LTE 服務透過授權分享來接取頻譜之促成技術與運作模式研究(3/3)

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

MOST 105-2218-E-002-013, N.T.\$ 7,000,000, 2016/08/01-2017/10/31

我國動態頻譜共享機制研析與實驗平臺建置委託研究

Shi-Chung Chang (張時中), sponsored by 財團法人電信技術中心

N.T.\$ 2,250,000, 2016/12/22-2017/12/21

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, 2017/07/01-2019/12/31

Tzi-Dar Chiueh (闕志達)

Study on Next Generation Mobile Communications using Licensed and Unlicensed Spectrum

新世代使用授權與未授權頻譜的行動通訊網路之研究－總計畫及子計畫一：使用雙頻段多層行動通訊網路測試平台之建置

Tzi-Dar Chiueh (闕志達), sponsored by 科技部 (MOST)

MOST 104-2221-E-002-075-MY2, N.T.\$ 3,713,000, 2015/08/01-2017/10/31

Development of Smart Environment with Indoor Localization and Fall Detection for Elderly

銀髮族居家用智慧型室內定位與跌倒偵測系統之開發

Tzi-Dar Chiueh (闕志達), sponsored by 科技部 (MOST)

MOST 103-2221-E-002-264-MY2, N.T.\$ 2,950,000, 2014/08/01-2016/07/31

Sao-Jie Chen (陳少傑)

Quantum Dot IR Spectrogram Detection System-on-Chip (3/3)

量子點紅外線光譜偵測系統晶片(3/3)

Sao-Jie Chen (陳少傑), sponsored by 科技部 (Ministry of Science and Technology)

104-2218-E-002-002, N.T.\$ 2,176,000, 2015/08/01-2016/07/31

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

Zsehong Tsai (蔡志宏)

A Study of Key Energy-Saving Technologies in Multi-band IoT Mesh

多頻物聯網網狀網路節能關鍵技術之研究

Zsehong Tsai (蔡志宏), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002-060-, N.T.\$ 761,000, 2016/08/01-2017/07/31

A Study of Spectrum Trends for Next Generation Mobile Broadband, M2M, and V2X Communicataions

下世代行動寬頻暨物聯網車聯網通訊頻譜趨勢之研究

Zsehong Tsai (蔡志宏), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-3011-F-002-007-, N.T.\$ 1,490,000, 2016/07/01-2017/06/30

A Study on the Spectrum Evolution Trend of Next Generation Mobile Broadband Service

下世代行動寬頻頻譜發展趨勢之研究

Zsehong Tsai (蔡志宏), sponsored by 科技部 (Ministry of Science and Technology)
MOST 104-3011-F-002-007, N.T.\$ 1,685,000, 2015/07/01-2016/06/30

Key Technologies for Device-2-Device Communications in Next Generation Mobile Networks

下世代行動通訊網路裝置聯網關鍵技術之基礎研究

Zsehong Tsai (蔡志宏), sponsored by 科技部 (Ministry of Science and Technology)
MOST 103-2221-E-002-024-MY2, N.T.\$ 1,708,000, 2014/08/01-2016/07/31

Huei Wang (王暉)

(105)優勢重點領域拔尖計畫-【總計畫感知寬頻雲端技術及其應用】-資訊電子科技整合研究中心-陳銘憲、王暉

Huei Wang (王暉), sponsored by 教育部 (Ministry of Education)
105R8908A, N.T.\$ 873,260, 2016/08/01-2017/07/31

Research of CMOS Transceiver for THz Interconnect Applications

應用於太赫茲互聯互補式金氧半場效電晶體收發機之研究

Huei Wang (王暉), sponsored by 科技部 (Ministry of Science and Technology)
105-2221-E-002-037-, N.T.\$ 716,000, 2016/08/01-2017/07/31

Millimeter-wave CMOS Transceiver Integrated Circuit and System-in-Package Technology Development (3/3)

毫米波 CMOS 發射與接收端積體電路與系統封裝 (SiP) 技術研發(3/3)

Huei Wang (王暉), sponsored by 科技部 (Ministry of Science and Technology)

105-3011-E-002-003-, N.T.\$ 9,500,000, 2016/08/01-2017/07/31

第 17 屆(第 3 年)國家講座主持人王暉-104 學年度第 2 學期及 105 學年度第 1 學期補助經費

Huei Wang (王暉), sponsored by 教育部 (Ministry of Education)

105M4909, N.T.\$ 1,000,000, 2016/02/01-2017/01/31

(105)優勢重點領域拔尖計畫-【總計畫-感知寬頻雲端技術及其應用】-資訊電子科技整合研究中心-陳銘憲、王暉

Huei Wang (王暉), sponsored by 教育部 (Ministry of Education)

105R8908, N.T.\$ 1,338,930, 2016/01/01-2016/07/31

Millimeter-wave CMOS Transceiver Integrated Circuit and System-in-Package Technology Development (2/3)

毫米波 CMOS 發射與接收端積體電路與系統封裝 (SiP) 技術研發(2/3)

Huei Wang (王暉), sponsored by 科技部 (Ministry of Science and Technology)

104-3115-E-002-003, N.T.\$ 9,498,000, 2015/08/01-2016/07/31

第 17 屆(第 2 年)國家講座主持人王暉-103 學年度第 2 學期及 104 學年度第 1 學期補助經費

Huei Wang (王暉), sponsored by 教育部 (Ministry of Education)

104M2905, N.T.\$ 1,000,000, 2015/02/01-2016/01/31

Research of Portable Miniaturized Dual-Broadband Vital Sign Detection(3/3)

可攜式微型化雙寬頻生理訊號偵測的研究(1/3-3/3)

Huei Wang (王暉), sponsored by 科技部 (Ministry of Science and Technology)

102-2221-E-002-038-MY3, N.T.\$ 3,066,000, 2013/08/01-2016/07/31

Ching-Fuh Lin (林清富)

Research and Development on Applications of Si Nanostructures and Si Thin Films for Solar Cells(3/3)

【混合型矽太陽能電池—總計畫暨子計畫三:矽奈米結構和薄型矽於太陽能電池的應用研究(3/3)】

Ching-Fuh Lin (林清富), sponsored by 科技部 (MOST)

MOST 103-2221-E-002 -132 -MY3, N.T.\$ 002, 2016/08/01-2017/07/31

Applications of ZnO in the Light Emitting Devices (2/3)

【氧化鋅在照明發光元件之應用(2/3)】

Ching-Fuh Lin (林清富), sponsored by 科技部 (MOST)

MOST 104-2221-E-002 -139 -MY3, N.T.\$ 001, 2016/08/01-2017/07/31

Extremely Light-Weight and Portable Apparatus for Gas Detection Based on Nano- to Micro-Technologies (2/3)

105 年度 【奈微米技術之可攜式氣體偵測器(2/3)】

Ching-Fuh Lin (林清富), sponsored by 科技部 (MOST)

MOST 105-2119-M-002-009, N.T.\$ 007, 2016/08/01-2017/07/31

Applications of flood disaster monitoring and early warning technology in a river basin
105 年度【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 Li n (林清富), sponsored by 科技部

MOST 105-3011-F-002-005, N.T.\$ 010, 2016/04/01-2016/12/31

Design and Synthesis Perovskite Nanomaterial for Flexible and Low Cost Solar Cell(3/3)
105 年度【設計與合成鈣鈦礦結構奈米材料應用於高效率長壽命低成本軟質太陽能電池(3/3)】

Ching-Fuh Li n (林清富), sponsored by 科技部 (MOST)

MOST 105-3113-E-002-010, N.T.\$ 007, 2016/01/01-2016/12/31

Si-based detection technology

國立台灣大學邁向頂尖大學-重點姊妹校初始合作經費矽基光偵測技術

Ching-Fuh Li n (林清富), sponsored by 教育部

105R203338, N.T.\$ 162, 2016/01/01-2016/12/31

Research and Development on Applications of Si Nanostructures and Si Thin Films for Solar Cells(2/3)

【混合型矽太陽能電池—總計畫暨子計畫三:矽奈米結構和薄型矽於太陽能電池的應用研究(2/3)】

Ching-Fuh Li n (林清富), sponsored by 科技部 (MOST)

MOST 103-2221-E-002 -132 -MY3, N.T.\$ 2,507,000, 2015/08/01-2016/07/31

Applications of ZnO in the Light Emitting Devices (1/3)

【氧化鋅在照明發光元件之應用(1/3)】

Ching-Fuh Li n (林清富), sponsored by 科技部 (MOST)

MOST 104-2221-E-002 -139 -MY3, N.T.\$ 1,421,000, 2015/08/01-2016/07/31

Extremely Light-Weight and Portable Apparatus for Gas Detection Based on Nano- to Micro-Technologies (1/3)

104 年度【奈微米技術之可攜式氣體偵測器(1/3)】

Ching-Fuh Li n (林清富), sponsored by 科技部 (MOST)

MOST 104-2119-M-002-017, N.T.\$ 9,000,000, 2015/08/01-2016/07/31

Jyh-Horng Chen (陳志宏)

Development of Quantitative Susceptibility Mapping Technology in Neurodegenerative Diseases

神經退化性疾病之定量磁化率影像研究

Jyh-Horng Chen (陳志宏), sponsored by 臺大醫院 (National Taiwan University Hospital), N.T.\$ 581,000, 2016/01/01-2016/12/31

Establishing Dementia Biomarkers with Multimodal High Spatiotemporal MR Neuroimaging

以多模式超高解析度神經磁振造影建立老年失智症生物標誌之研究

Jyh-Horng Chen (陳志宏), sponsored by 科技部 (Ministry of Science and Technology)

104-2745-B-002-002-, N.T.\$ 1,625,000, 2015/10/01-2016/12/31

Novel Biomedical Applications of Quantitative Susceptibility Mapping: Dynamic and Quantitative MRI

磁化率定量影像於磁振造影之生醫應用:動態定量之磁共振影像

Jyh-Horng Chen (陳志宏), sponsored by 國家衛生院 (National Health Research Institutes)
NHRI-EX104-10424EI, N.T.\$ 1,288,000, 2015/01/00-2017/12/00

Quantitative Brain-Peripheral MR Imaging and Classification Techniques for Stroke Detection and Assessment

構建中樞與週邊神經系統聯結之磁共振影像技術：定量化中風偵測與評估研究

Jyh-Horng Chen (陳志宏), sponsored by 科技部 (Ministry of Science and Technology)
103-2321-B-002-097-, N.T.\$ 1,700,000, 2014/08/00-2017/07/00

Cheewee Liu (劉致為)

節能電晶體與記憶體技術-子計畫一：具備陡峭次臨界斜率之穿隧、負電容與壓電場效應電晶體(3/3)

Cheewee Li u (劉致為), sponsored by 科技部
103-2221-E-002-253-MY3, N.T.\$ 001, 2016/08/00-2017/07/00

超薄通道過渡金屬硫化物電晶體增強技術(3/3)

Cheewee Li u (劉致為), sponsored by 科技部
103-2221-E-002-232-MY3, N.T.\$ 001, 2016/08/00-2017/07/00

節能電晶體與記憶體技術-子計畫一：具備陡峭次臨界斜率之穿隧、負電容與壓電場效應電晶體(2/3)

Cheewee Li u (劉致為), sponsored by 科技部
103-2221-E-002-253-MY3, N.T.\$ 001, 2015/08/00-2016/07/00

超薄通道過渡金屬硫化物電晶體增強技術(2/3)

Cheewee Li u (劉致為), sponsored by 科技部
103-2221-E-002-232-MY3, N.T.\$ 001, 2015/08/00-2016/07/00

Chi-Kuang Sun (孫啟光)

THz Phonon Spectroscopy and Nanoscopy

兆赫聲譜學及奈米聲子成像術(3/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)
MOST 103-2112-M-002-016-MY3, N.T.\$ 2,605,000, 2016/08/01-2017/07/31

Spectrally-resolved Third Harmonic Generation Microscopy

頻譜解析三倍頻顯微術(3/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)
MOST 103-2221-E-002-137-MY3, N.T.\$ 1,646,000, 2016/08/01-2017/07/31

SP1:Advanced Optical Virtual Biopsy for Early Disease Diagnosis

國立台灣大學優勢重點領域拔尖計畫 子計畫一：以光學虛擬切片分子影像從事早期疾病診斷

Chi-Kuang Sun (孫啟光), sponsored by 教育部 (Ministry of Education)
105R8916A, N.T.\$ 515,286, 2016/08/01-2016/12/31

Harmonics-based in vivo optical virtual biopsy

倍頻式光學虛擬活體切片術(第七年)

Chi-Kuang Sun (孫啟光), sponsored by 國家衛生研究院 (National Health Research Institutes)
NHRI-EX105-9936EI, N.T.\$ 5,035,000, 2016/01/01-2016/12/31

SP1:Advanced Optical Virtual Biopsy for Early Disease Diagnosis

國立台灣大學優勢重點領域拔尖計畫 子計畫一：以光學虛擬切片分子影像從事早期疾病診斷

Chi-Kuang Sun (孫啟光), sponsored by 教育部 (Ministry of Education)
105R891601, N.T.\$ 909,585, 2016/01/01-2016/07/31

THz Phonon Spectroscopy and Nanoscopy

兆赫聲譜學及奈米聲子成像術(2/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)
MOST 103-2112-M-002-016-MY3, N.T.\$ 3,405,000, 2015/08/01-2016/07/31

Spectrally-resolved Third Harmonic Generation Microscopy

頻譜解析三倍頻顯微術(2/3)

Chi-Kuang Sun (孫啟光), sponsored by 科技部 (Ministry of Science and Technology)
MOST 103-2221-E-002-137-MY3, N.T.\$ 1,761,000, 2015/08/01-2016/07/31

Lung-Han Peng (彭隆瀚)

Wide-bandgap semiconductor ultra-fast phase change devices

台俄國合計畫-寬能隙半導體之超快相變化記憶體元件研究

Lung-Han Peng (彭隆瀚), sponsored by 國科會 (NSC)

NSC 103-2923-E-002-006-MY3, N.T.\$ 2,274,000, 2014/01/00-2016/12/00

Pai-Chi Li (李百祺)

高階診斷超音波系統商品化與事業化計畫(2/2)

Pai-Chi Li (李百祺), sponsored by 經濟部
, N.T.\$ 8,000,000, 2016/12/01-2017/11/30

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

Technology development and system implementation of shear wave computed tomography

斷層掃描式剪力波影像技術開發與系統實現(2/3)

Pai-Chi Li (李百祺), sponsored by 科技部

105-2221-E-002004-, N.T.\$ 2,995,000, 2016/08/01-2017/07/31

醫學工程學門研究發展及推動規劃小組計畫(1/3)

Pai-Chi Li (李百祺), sponsored by 科技部

105-2217-E-002-001, N.T.\$ 1,904,000, 2016/01/01-2016/12/31

高階診斷超音波系統商品化與事業化計畫(1/2)

Pai-Chi Li (李百祺), sponsored by 經濟部

104-EC-17-A-07-S3-016, N.T.\$ 8,000,000, 2015/12/01-2016/11/30

Technology development and system implementation of shear wave computed tomography
斷層掃描式剪力波影像技術開發與系統實現(1/3)

Pai-Chi Li (李百祺), sponsored by 科技部

104-2221-E-002-105-, N.T.\$ 3,036,000, 2015/08/01-2016/07/31

Validation, prototyping and application promotion of shear wave

萌芽個案計畫-用於三維細胞培養系統之剪力波彈性量測設備之設計驗證、樣機製作與應用推廣

Pai-Chi Li (李百祺), sponsored by 科技部

104-2812-8-002-001, N.T.\$ 6,000,000, 2015/03/01-2016/06/30

Automatic 3D ultrasound breast screening

自動化三維超音波乳房影像檢查

Pai-Chi Li (李百祺), sponsored by 科技部

103-2221-E-002-016-MY3, N.T.\$ 4,942,000, 2014/08/01-2017/07/31

Multiwave imaging technologies for 3D cell culture systems

用於三維細胞培養系統之多波影像技術

Pai-Chi Li (李百祺), sponsored by 科技部

102-2221-E-002 -065 -MY3, N.T.\$ 4,462,000, 2013/08/01-2016/03/31

Hsiao-Wen Chung (鍾孝文)

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

Advanced technical developments for Propeller echo-planar MR imaging

螺旋槳式面迴訊磁振造影進階技術發展

Hsiao-Wen Chung (鍾孝文), sponsored by 行政院國家科學委員會 (National Science Council)

NSC102-2221-E-002-021-MY3, N.T.\$ 3,725,000, 2013/08/01-2016/07/31

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

Huang, Sheng-Lung (黃升龍)

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)(1/3)

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

105-2627-M-002-029-, N.T.\$ 2,892,000, 2016/08/01-2017/07/31

由組織、細胞至胞器之臨床診斷用三維斷層成像暨分析術-(總計畫暨子計畫三)結合細胞形
貌及胞器散射紋理之三維單細胞分析術(3/3)

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

105-2325-B-002-011-, N.T.\$ 1,870,000, 2016/05/01-2017/04/30

光學同調斷層掃描術對提昇深層組織影像品質之研發

Sheng-Lung Huang (黃升龍), sponsored by 安盟生技股份有限公司

, N.T.\$ 2,880,000, 2016/03/16-2017/03/15

Development of High-Temperature Fully Crystalline oxide fibers

Sheng-Lung Huang (黃升龍), sponsored by U.S.A. Army Research Lab.

, N.T.\$ 1,645,500, 2015/09/28-2016/09/27

由組織、細胞至胞器之臨床診斷用三維斷層成像暨分析術-(總計畫暨子計畫三)結合細胞形
貌及胞器散射紋理之三維單細胞分析術(2/3)

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

104-2325-B-002-017-, N.T.\$ 1,870,000, 2015/05/01-2016/04/30

Fabrication of a low-loss Er:YAG double-clad crystal fiber

Sheng-Lung Huang (黃升龍), sponsored by U.S.A. Army Research Lab.

, N.T.\$ 1,448,080, 2010/09/15-2016/09/15

See-May Phoong (馮世邁)

Blind Estimation of Parameters in OFDM Systems

正交分頻多工系統之參數盲蔽估測

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

103-2221-E-002-122-MY3, N.T.\$ 2,348,000, 2014/08/01-2017/07/31

Chung- Chih Wu (吳忠幟)

高導電性高分子透明導體之開發與有機/奈米光電元件之應用

Chung- Chih Wu (吳忠幟), sponsored by 科技部

NSC 102-2221-E-002 -203 -MY3, N.T.\$ 4,856,000, 2013/08/01-2016/07/31

Ren C. Luo (羅仁權)

**Cartesian Position and Force Control of Anthoropomorphic Dual Robot Arm for
Optimizing the Interaction with Soft Tissues**

類人型雙臂機器人於卡式座標之位置與力量控制之軟性組織接觸力最佳化研究(1/3)

Ren C. Luo (羅仁權), sponsored by 國科會 (National Science Council)

103-2923-E-002-007-, N.T.\$ 600,000, 2014/01/01-2016/12/31

**Intelligent 3D Cognitive Semantic Map Exploration and Integration Service Robotic
System for**

智慧型三維語意式地圖探索整合服務機器人系統應用於老人醫療照護輔助(1/3)

Ren C. Luo (羅仁權), sponsored by 國科會 (National Science Council)

102-2221-E-002-236-, N.T.\$ 1,850,000, 2013/08/01-2016/07/31

International Center of Excellence on Intelligent Robotics and Automation Research (iRICE)

跨國頂尖研究中心-智慧型機器人及自動化跨國頂尖研究中心(2/5)

Ren C. Luo (羅仁權), sponsored by 國科會 (National Science Council)

NSC 102-2911-I-002-302-, N.T.\$ 15,000,000, 2012/02/01-2017/01/31

International Center of Excellence on Intelligent Robotics and Automation Research (iRICE)

跨國頂尖研究中心-智慧型機器人及自動化跨國頂尖研究中心

Ren C. Luo (羅仁權), sponsored by 國科會 (National Science Council)

103-2911-I-002-302-, N.T.\$ 13,000,000, 2012/02/01-2017/01/31

Polly Huang (黃寶儀)

以使用者感受為導向之網路電話資料傳輸

Polly Huang (黃寶儀), sponsored by 行政院國家科學委員會 (National Science Council)

NSC 102-2221-E-002 -095 -MY3, N.T.\$ 1,924,000, 2013/08/00-2016/07/00

Jiun-Haw Lee (李君浩)

Non-planar organic and organic-inorganic hybrid solar cell with singlet exciton fission

具備單重態激子分裂之非平面有機及有機-無機混成太陽能電池

Jiun-Haw Lee (李君浩), sponsored by 國科會

NSC 102-2221-E-002 -182 -MY3, N.T.\$ 3,476,000, 2013/08/00-2016/07/00

Yaow-Ming Chen (陳耀銘)

擔任 IEEE 電子電力期刊編輯委員以提升台灣影響力(2/2)

Yaow-Ming Chen(陳耀銘), sponsored by 科技部

MOST 105-2911-I-002-513, NT\$465,439, 2016/01/01-2016/12/31.

2016 國際未來能源挑戰實作競賽(IFEC)

Yaow-Ming Chen (陳耀銘), sponsored by 教育部

NT\$2,100,000, 2016/02/01-2017/1/31

微電網區域間功率調節器控制技術開發(2/2)

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

104-3113-E-042A-004-CC2, NT\$1,380,000, 2016/01/01-2016/12/31

數位式電源轉換器之模型化設計研究(1/3)

Yaow-Ming Chen(陳耀銘), sponsored by 科技部

MOST105-2221-E-002-168-MY3, NT\$930,000, 2016/08/01-2017/07/31

Hsuan-Jung Su (蘇炫榮)

Improving Areal-Spectral Efficiency with Small Cell and D2D Technologies

利用裝置間通訊與小型蜂巢式細胞增進區域頻譜效率

Hsuan-Jung Su (蘇炫榮), sponsored by 華碩 (ASUS)

, N.T.\$ 000, 2013/05/00-2016/04/00

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

Space Perception from Multiple Sensors and Following Path Planning for Mobile Vehicles in Complex Indoor Environments

行動載具在複雜室內環境之多重資訊空間感知法則與追隨運動路徑規劃

Feng-Li Lian (連豐力), sponsored by 行政院國家科學委員會 (National Science Council)

NSC 102-2221-E-002-247-MY3, N.T.\$ 2,398,000, 2013/08/01-2016/07/31

Yi-Cheng Lin (林怡成)

Design and Implementation of Planar High-Gain Antenna Module

平面式高增益天線模組之整合設計與研發

Yi-Cheng Lin (林怡成), sponsored by 台揚科技 (Micro Technology Inc.)

, N.T.\$ 1,449,000, 2016/10/00-2017/09/00

Design and Implementation of mmW Partially Reflective Surface Antennas

毫米波平面式部分反射型天線之研製

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

MOST 104-2221-E-002-059, N.T.\$ 715,000, 2015/08/00-2016/07/00

Jie-Hong Roland Jiang (江介宏)

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

Control algorithm and simulation development of RAIBA (Reconfigurable Array of Inexpensive Batteries Architecture)

可重組電池組 (RAIBA) 演算法與模擬

Jie-Hong Roland Jiang (江介宏), sponsored by 工業技術研究院

, N.T.\$ 1,000,000, 2015/12/01-2016/12/31

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)

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, 2016/08/01-2018/07/31

Flat-Panel Displays of Low Power Consumption Constructed with the MEMS (Micro-Electro-Mechanical Systems) Technology

以微機電技術製作低功率損耗之平面顯示器

Jui-che Tsai (蔡睿哲), sponsored by 科技部

MOST 104-2221-E-002-112, N.T.\$ 830,000, 2015/08/01-2016/10/31

Shih-Yuan Chen (陳士元)

Development and application of beam-steerable circularly polarized reflectarray

波束可掃描之圓極化反射陣列之研製與應用

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

MOST 104-2628-E-002-006-MY2, N.T.\$ 2,156,000, 2015/08/00-2017/07/00

Design of Embedded Antennas for Hand-Held Devices

手持設備嵌入式天線之設計

Shih-Yuan Chen (陳士元), sponsored by 華碩電腦股份有限公司

102-S-C23, N.T.\$ 4,165,875, 2013/05/00-2016/04/00

Ming-Hua Mao (毛明華)

Process development and characterization for microcavity devices integration

微共振腔元件積體化之製程開發與特性研究

Ming-Hua Mao (毛明華), sponsored by 科技部 (Ministry of Science and Technology)
MOST 105-2221-E-002-219, N.T.\$ 1,756,000, 2016/08/00-2017/10/00

Microdisk-microring-based photonic devices and their integration

以微碟環形共振腔為基礎之光電元件及其整合研究

Ming-Hua Mao (毛明華), sponsored by 行政院國家科學委員會 (National Science Council)
NSC 102-2221-E-002 -196 -MY3, N.T.\$ 6,388,000, 2013/08/00-2016/07/00

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

A Search Space Partitioning Based Deterministic Parallel ATPG for Test Set Size Reduction

以平行化搜尋技術降低測試圖樣數目的決定性自動測試圖樣產生技術之研發

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

MOST 104-2221-E-002-151 -, N.T.\$ 748,000, 2015/08/00-2016/07/00

Hung-Yun Hsieh (謝宏昀)

Key Technologies for 5G Mobile Devices (3/3)

前瞻下世代行動通訊終端關鍵技術研究 (3/3)

Hung-Yun Hsieh (謝宏昀), sponsored by 聯發科技股份有限公司

MOST-105-2622-8-002-002, N.T.\$ 000, 2016/10/01-2017/12/30

Key Technologies for 5G Mobile Devices (2/3)

前瞻下世代行動通訊終端關鍵技術研究 (2/3)

Hung-Yun Hsieh (謝宏昀), sponsored by 聯發科技股份有限公司

MOST-104-2622-8-002-002, N.T.\$ 000, 2015/10/01-2016/09/30

Enabling Medium Access Control Technologies for LTE-U Small Cells in Heterogeneous Networks

新世代使用授權與未授權頻譜的行動通訊網路之研究—子計畫三：支援未授權頻譜之 LTE 媒體接取控制層技術

Hung-Yun Hsieh (謝宏昀), sponsored by 科技部 (Ministry of Science and Technology)

MOST-104-2221-E-002-076-MY2, N.T.\$ 000, 2015/08/01-2017/07/31

Hsin-Shu Chen (陳信樹)

Near-threshold energy-efficient analog-to-digital converter(2/2)

操作在接近臨界區的高電能效率類比數位轉換器(2/2)

Hsin-Shu Chen (陳信樹), sponsored by 科技部 (Ministry of Science and Technology)

103-2221-E-002-269 -MY2, N.T.\$ 938, 2015/08/00-2016/07/00

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

Kun-You Lin (林坤佑)

Research on Wide Band Software-defined Radio Receiver

寬頻軟體定義無線電接收機研究

Kun-You Lin (林坤佑), sponsored by 科技部
MOST 104-2221-E-002-057, N.T.\$ 740,000, 2015/08/01-2016/07/31

RF Front-end Circuit and Module Techniques for Next Generation Mobile Communication
應用於下世代行動通訊之射頻前端電路與模組技術

Kun-You Lin (林坤佑), sponsored by 科技部
MOST 104-3115-E-002-006, N.T.\$ 4,505,000, 2015/08/01-2016/07/31

Ding-Wei Huang (黃定洧)

自動耦光量測邏輯演算法及量測操作設計

Ding-Wei Huang (黃定洧), sponsored by 工業技術研究院
, N.T.\$ 220,000, 2016/11/00-2016/12/00

委託製作感測器元件

Ding-Wei Huang (黃定洧), sponsored by 工業技術研究院
, N.T.\$ 48,000, 2016/10/00-2016/11/00

委託量測感測器光學特性參數

Ding-Wei Huang (黃定洧), sponsored by 工業技術研究院
, N.T.\$ 47,000, 2016/10/00-2016/12/00

高靈敏度微環型共振腔光感測器：設計、分析與光罩布局

Ding-Wei Huang (黃定洧), sponsored by 工業技術研究院
, N.T.\$ 200,000, 2016/10/00-2016/11/00

微發光二極體矩陣驅動及監測技術

Ding-Wei Huang (黃定洧), sponsored by 英屬開曼群島商鐸創科技股份有限公司台灣分公司
, N.T.\$ 700,000, 2015/11/00-2017/03/00

Jian-Jiun Ding (丁建均)

先進影音辨識技術之機器學習理論與特徵擷取方法之研究

Jian-Jiun Ding (丁建均), sponsored by 科技部 (MOST)

2017/08-2019/07

高品質 3D 內視鏡影像開發

Jian-Jiun Ding (丁建均), sponsored by 工業技術研究院

2017/01-2017/12

數位影像超解析處理技術評估與開發

Jian-Jiun Ding (丁建均), sponsored by 中強光電

2016/07-2017/07

IMU Assisted Image Deblurring (3rd Term)

Jian-Jiun Ding (丁建均), sponsored by Qualcomm

2016/06-2017/05

3D 內視鏡取像模組

Jian-Jiun Ding (丁建均), sponsored by 工業技術研究院

2016/01-2016/12

線性完整轉換在信號壓縮、傳送、與濾波器設計上的應用

Jian-Jiun Ding (丁建均), sponsored by 科技部 (MOST)

2015/08-2018/07

影音信號的特徵擷取和內容分析技術

Jian-Jiun Ding (丁建均), sponsored by 科技部 (MOST)

2014/08-2017/07

巴金森氏症個案上肢功能性活動之關節間協調能力動作分析

Jian-Jiun Ding (丁建均), sponsored by 科技部 (MOST)

2015/08-2016/07

Hsin-Chia Lu (盧信嘉)

高速無線通訊系統之多模多頻段射頻前端技術(4/4)

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

105-2218-E-002-002, N.T.\$ 011, 2016/10/00-2018/01/00

毫米波 CMOS 發射與接收端積體電路與系統封裝(SiP)技術研發(3/3)

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

105-3011-E-002-003, N.T.\$ 009, 2016/08/00-2017/10/00

應用於下世代行動通訊之射頻前端電路與模組技術(2/3)

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

105-3011-E-002-002, N.T.\$ 004, 2016/08/00-2017/10/00

不受旋轉及位移影響的穩定無線供電系統

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

105-2221-E-002-040, N.T.\$ 750, 2016/08/00-2017/07/00

高速無線通訊系統之多模多頻段射頻前端技術(3/4)

Hsin-Chia Lu (盧信嘉), sponsored by MOST

(104-2218-E- 002-005-), N.T.\$ 11,706,000, 2015/11/00-2016/10/00

前瞻下世代行動通訊終端關鍵技術研究(2/3)

Hsin-Chia Lu (盧信嘉), sponsored by MOST

(104- 2622-8-002-002-), N.T.\$ 75,970,000, 2015/10/00-2016/09/00

應用於下世代行動通訊之射頻前端電路與模組技術(1/3)

Hsin-Chia Lu (盧信嘉), sponsored by MOST

(104-3115- E-002-006-), N.T.\$ 4,505,000, 2015/08/00-2016/07/00

毫米波 CMOS 發射與接收端積體電路與系統封裝(SiP)技術研發(2/3)

Hsin-Chia Lu (盧信嘉), sponsored by MOST

(104-3115-E- 002-003-), N.T.\$ 9,498,000, 2015/08/00-2016/07/00

使用波束成形技術之毫米波 140GHz CMOS 脈波式即時影像掃瞄雷達系統—子計畫三：毫米波 140GHz CMOS 即時影像掃瞄雷達系統之晶片陣列天線與透鏡天線封裝(2/2)

Hsin-Chia Lu (盧信嘉), sponsored by MOST

(104- 2220-E-002-008-), N.T.\$ 1,019,000, 2015/05/00-2016/06/00

Kuen-Yu Tsai (蔡坤諭)

Pathfinding for 7–5nm Semiconductor Technology Nodes (4/5)

7-5nm 半導體技術節點研究(4/5)

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)

105-2622-8-002 -001, N.T.\$ 100,000,000, 2016/08/00-2017/07/00

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

深紫外光微影照明系統鏡片量測技術與系統研發

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.)

105-2622-E-002-026 -CC1, N.T.\$ 2,224,100, 2016/06/00-2017/05/00

Pathfinding for 7–5nm Semiconductor Technology Nodes (3/5)

7-5nm 半導體技術節點研究(3/5)

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)

104-2622-8-002-003, N.T.\$ 99,989,000, 2015/08/00-2016/07/00

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

Nanolithography Patterning Enhancement and Nonrectangular-Geometry Modeling Techniques for Multi-ple-Gate CMOS Devices at the 11 nm Half-Pitch Node and Beyond

應用於半間距 11 奈米及以下製程世代多閘式電晶體之奈米微影成像度增進及非矩形元件快速模擬技術

Kuen-Yu Tsai (蔡坤諭), sponsored by 科技部 (Ministry of Science and Technology)

MOST103-2221-E-002-261-MY3, N.T.\$ 3,034,000, 2014/08/01-2017/07/31

Yi-Chang Lu (盧奕璋)

Encoding and Synthesis Techniques for High Dynamic Range Imaging

高動態範圍成像之編碼與合成技術

Yi-Chang Lu (盧奕璋), sponsored by 科技部

105-2221-E-002-090-, N.T.\$ 821, 2016/08/01-2017/07/31

Data Compression and Image Synthesis for Large Camera Array Systems

大型相機陣列系統之資料壓縮與影像合成

Yi-Chang Lu (盧奕璋), sponsored by 科技部

104-2221-E-002-098-, N.T.\$ 781,000, 2015/08/01-2016/07/31

Genome Sequencing Data Processors: Compression/Decompression and Sequence Assembly

基因定序資料處理器：壓縮/解壓縮與序列組裝

Yi-Chang Lu (盧奕璋), sponsored by 科技部

104-2220-E-002-016-, N.T.\$ 889,000, 2015/05/01-2016/04/30

Kung-Bin Sung (宋孔彬)

Three-dimensional refractive-index microscopy for live cell imaging

三維折射率活細胞顯微術

Kung-Bin Sung (宋孔彬), sponsored by 科技部

NSC 102-2221-E-002-032-MY3, N.T.\$ 3,768,000, 2013/08/01-2016/07/31

Chia-Hsiang Yang (楊家驤)

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 (楊家驤), 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 (楊家驤), 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

A Novel Tunnel FET and Its Application on Ultra-low Power Bio-electronic ICs (3/3)

新穎穿隧電晶體及在其在超低功率生醫電子積體電路之應用 (3/3)

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

MOST 104-2218-E-009-006, N.T.\$ 2,386,000, 2015/08/01-2016/07/31

Iterative Decoder for Multicarrier FTN Signaling with Full Duplex Capability (2/2)

非正交多載波系統具全雙工收發之遞迴解碼器設計(2/2)

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

MOST 104-2220-E-002-017, N.T.\$ 1,139,000, 2015/05/01-2016/04/30

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)－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

105- 2221-E-002-005-, N.T.\$ 000, 2016/08/00-2017/07/00

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)－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

MOST 104-2221-E-002-106, N.T.\$ 1,604,000, 2015/08/00-2016/07/00

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

Wing-Kit Choi (蔡永傑)

Blue Phase Liquid Crystal technologies (II)

藍相液晶技術 (II)

Wing-Kit Choi (蔡永傑), sponsored by 科技部 (Ministry of Science and Technology)

105-2221-E-002-163-, N.T.\$ 884,000, 2016/08/01-2017/07/31

Blue Phase Liquid Crystal technologies

藍相液晶技術

Wing-Kit Choi (蔡永傑), sponsored by 科技部 (Ministry of Science and Technology)

104-2221-E-002 -166 -, N.T.\$ 689,000, 2015/08/01-2016/07/31

Borching Su (蘇柏青)

Signal Processing Platform for Software-defined radio (II)

訊號軟體無線電處理平台研發 (II)

Borching Su (蘇柏青), sponsored by 中央大學前瞻科技研究中心

, N.T.\$ 1,330,000, 2016/01/01-2016/11/30

Key Technologies for Next Generation Mobile Devices -- Subproject 6: Non-orthogonal multicarrier modulation and multiple access (2nd year)

聯發科技產學大聯盟計畫：分項二子計畫六-非正交多載波調變及多重接取 (第二年)

Borching Su (蘇柏青), sponsored by 聯發科技, 科技部 (Mediatek Inc., Ministry of Science and Technology)

MOST 104-2622-8-002-002, N.T.\$ 000, 2015/10/00-2016/09/00

Waveform design and joint channel estimation for licensed-assisted access to unlicensed spectrum

新世代使用授權與未授權頻譜的行動通訊網路之研究--子計畫四:適用於非授權頻譜之共存波形設計暨總合通道估測

Borching Su (蘇柏青), sponsored by 科技部 (Ministry of Science and Technology)

104-2221-E-002-213-MY2, N.T.\$ 001, 2015/08/00-2016/07/00

電信核心技術研究與開發-子計畫二:利用裝置間通訊與小型蜂巢式細胞增進區域頻譜效率

Borching Su (蘇柏青), sponsored by 華碩電腦

, N.T.\$ 000, 2013/05/01-2016/04/30

Jiun-Yun Li (李峻賈)

淺層二維電子與電洞在矽鍺異質接面結構的物理特性

Jiun-Yun Li (李峻賈), sponsored by 科技部 (Ministry of Science and Technology)

103-2112-M-002-002-MY3, N.T.\$ 4,334,000, 2014/08/01-2017/07/31

Ge(Sn) materials and devices for 7nm node

鍺錫 材料與元件於 7 奈米節點的應用

Jiun-Yun Li (李峻賈), sponsored by 國家實驗研究院 (National Applied Research Laboratories)

, N.T.\$ 6,579,000, 2014/08/00-2017/06/00

Nien-Tsu Huang (黃念祖)

Developing an integrated DNA microarray-based microfluidic platform for rapid genetic mutation screening in patients with congenital long QT syndrome

長 Q-T 間期症候群病人基因突變快速篩檢之微流道系統研發

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

104-2221-E-002-205-, N.T.\$ 839, 2015/08/00-2016/07/00

Developing a Microfluidic Platform Integrated Microfiltration Membranes to Perform Efficient White Blood Cell Counting for Peritoneal Dialysis Infection Monitoring

慢性腎衰竭病人遠距居家照護-腹膜透析患者之無線照護晶片系統開發及整合-子計畫三:研製多孔洞結微過濾薄膜之微流道晶片應用於腹膜透析感染之白血球計數監測(2/2)

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

104-2220-E-002-012-, N.T.\$ 001, 2015/05/00-2016/04/00

Hung-Yi Lee (李宏毅)

Improving spoken content retrieval by deep learning techniques

以深層學習技術提升語音內容檢索之效能

Hung-Yi Lee (李宏毅)

, N.T.\$ 000, 2015/08/00-2016/07/00

Towards an Intelligent on-line lecture platform: Semantic retrieval and knowledge extraction for spoken lectures and automatic construction of learning map for on-line lectures

邁向智慧型線上課程平台：語音課程的語意檢索與知識擷取以及線上課程學習地圖的自動建構

Hung-Yi Lee (李宏毅), sponsored by 科技部
, N.T.\$ 000, 2015/02/00-2017/01/00

Ching-Jan Chen (陳景然)

應用於數位控制電源轉換器之軟啟動技術研究

Ching-Jan Chen (陳景然)

105-2221-E- 002-234-, N.T.\$ 000, 2016/08/00-2017/07/00

應用於 USB-PD 之廣操作區間返馳式轉換器之適應控制器研究

Ching-Jan Chen (陳景然)

105-S-C29, N.T.\$ 000, 2016/06/00-2017/05/00

High power density flyback converter with GaN switch

Ching-Jan Chen (陳景然)

105-S-C16, N.T.\$ 000, 2016/04/00-2016/12/00

A Power IC Hybrid Control Scheme for CPU Voltage Regulators, Modeling and Optimization

應用於中央處理器電壓調節器之電源積體電路混合式控制架構、模型與最佳化

Ching-Jan Chen (陳景然)

MOST 104-2218-E-002-027, N.T.\$ 000, 2015/08/00-2016/07/00

Faculty Publications

(Since 2012)

Ming-Syan Chen (陳銘憲)

Journal papers

C.-Y. Liu, M.-S. Chen and C.-Y. Tseng, "**IncreSTS: Towards Real-Time Incremental Short Text Summarization on Comment Streams from Social Network Services**", IEEE Trans. on Knowledge and Data Engineering, Vol. 27, No. 11, 2986, Nov. 2015

K.-T. Lai, D. Liu, M.-S. Chen and S.-F. Chang, "**Learning Sample Specific Weights for Late Fusion**", IEEE Trans. on Image Processing, Vol. 24, No. 9, 2772, Sep. 2015

K.-P. Lin, Y.-W. Chang and M.-S. Chen, "**Secure Support Vector Machines Outsourcing with Random Linear Transformation**", Knowledge and Information Systems (KAIS), Vol. 44, No. 1, 147, Jan. 2015

H.-H. Shuai, D.-N. Yang, P. S. Yu and M.-S. Chen, "**A Comprehensive Study on Willingness Maximization for Social Activity Planning with Quality Guarantee**", IEEE Trans. on Knowledge and Data Engineering, Jan. 2015

C.-Y. Shen, D.-N. Yang, L.-H. Huang, W.-C. Lee and M.-S. Chen, "**Socio-Spatial Group Queries for Impromptu Activity Planning**", IEEE Trans. on Knowledge and Data Engineering, Jan. 2015

H.-Y. Chi, W.-H. Cheng, and M.-S. Chen, "**UbiShop: Commercial Item Recommendation Using Visual Part-Based Object Representation**", Multimedia Tools and Applications, Jan. 2015

C.-Y. Shen, D.-N. Yang, W.-C. Lee and M.-S. Chen, "**Spatial-Proximity Optimization for Rapid Task Group Deployment**", ACM Transactions on Knowledge Discovery from Data, Jan. 2015

C.-H. Tai, P.-J. Tseng, P. S. Yu and M.-S. Chen, "**Identity Protection in Sequential Releases of Dynamic Social Networks**", IEEE Trans. on Knowledge and Data Engineering, Vol. 26, No. 3, 635, Mar. 2014

C.-C. Liao and M.-S. Chen, "**DFSP: A Depth-First SPelling Algorithm for Sequential Pattern Mining of Biological Sequences**", Knowledge and Information Systems (KAIS), Vol. 38, 623, Mar. 2014

S.-H. Wu, M.-S. Chen and C.-M. Chen, "**Optimally Adaptive Power Saving Protocols for Ad Hoc Networks Using the Hyper Quorum System**", IEEE/ACM Trans. on Networking, Vol. 22, No. 1, 1, Feb. 2014

C.-H. Tai, D.-N. Yang, P. S. Yu, and M.-S. Chen, "**Structural Diversity for Resisting Community Identification in Published Social Networks**", IEEE Trans. on Knowledge and Data Engineering, Vol. 26, No. 1, pp. 235-252, Jan. 2014

W.-L. Shen, C.-J. Lin, S. Gollakota and M.-S. Chen, "**Rate Adaptation for 802.11 Multiuser MIMO Networks**", IEEE Transactions on Mobile Computing, Vol. 13, No. 1, pp. 35-47, Jan. 2014

Conference & proceeding papers

P.-L. Liao, C.-K. Chou and M.-S. Chen, "**Uncovering Multiple Diffusion Networks Using the First-Hand Sharing Pattern**", Proc. of 2016 SIAM International Conference on Data Mining (SDM 2016), May. 2016

C.-K. Chou, C.-C. Lin, and M.-S. Chen, "**Context-Aware Daily Activity Summarization with Adaptive Transmission**", Proc. of the 31st ACM/SIGAPP Symposium on Applied Computing (SAC 2016), Apr. 2016

W.-L. Shen, C.-J. Lin, M.-S. Chen, and K. Tan, "**Client as a First-Class Citizen: Practical User-Centric Network MIMO Clustering**", Proc. of the IEEE International Conference on Computer Communications (INFOCOM 2016), Apr. 2016

H.-H. Shuai, C.-Y. Shen, D.-N. Yang, Y.-F. Lan, W.-C. Lee, P. S. Yu, and M.-S. Chen, "**Mining Online Social Data for Detecting Social Network Mental Disorders**", Proc. of the 25th International World Wide Web Conference (WWW 2016), Apr. 2016

Y.-L. Chen, M.-S. Chen, and P. S. Yu, "**Ensemble of Diverse Sparsifications for Link Prediction in Large-Scale Networks**", Proc. of the IEEE International Conference on Data Mining (ICDM 2015), Nov. 2015

C.-Y. Shen, H.-H. Shuai, D.-N. Yang, Y.-F. Lan, W.-C. Lee, P. S. Yu, and M.-S. Chen, "**Forming Online Support Groups for Internet and Behavior Related Addictions**", Proc. of the 2015 ACM International Conference on Information and Knowledge Management (CIKM 2015), Oct. 2015

H.-T. Chang, Y.-C. Frank Wang, and M.-S. Chen, "**R2P: Recomposition and Retargeting of Photographic Images**", Proc. of the 2015 ACM Multimedia Conference (MM 2015), Oct. 2015

C.-C. Chen and M.-S. Chen, "**HiClus: Highly Scalable Density-based Clustering with Heterogeneous Cloud**", Proc. of INNS Conference on Big Data (INNS-BigData'2015), Aug. 2015

C.-H. Wu, M.-Y. Yeh, and M.-S. Chen, "**Predicting Winning Price in Real Time Bidding with Censored Data**", Proc. of the 21st ACM SIGKDD Intern'l Conf. on Knowledge Discovery and Data Mining (KDD-2015), Aug. 2015

S.-C. Lin, S.-D. Lin, and M.-S. Chen, "**A Learning-based Framework to handle Multi-round Multi-party influence maximization on social networks**", Proc. of the 21st ACM SIGKDD Intern'l Conf. on Knowledge Discovery and Data Mining (KDD-2015), Aug. 2015

Y.-W. Teng, C.-H. Tai, P. S. Yu, and M.-S. Chen, "**An Effective Marketing Strategy for Revenue Maximization with a Quantity Constraint**", Proc. of the 21st ACM SIGKDD Intern'l Conf. on Knowledge Discovery and Data Mining (KDD-2015), Aug. 2015

Y.-W. Teng, C.-H. Tai, P. S. Yu, and M.-S. Chen, "**Modeling and Utilizing Dynamic Influence Strength for Personalized Promotion**", Proc. of the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2015), Aug. 2015

J.-M. Ho, P.-C. Hsiu and M.-S. Chen, "**Deadline-aware Envy-free Admission Control in Shared Datacenter Networks**", Proc. of the IEEE ICC 2015, Jun. 2015

J.-M. Ho, P. C. Hsiu and M.-S. Chen, "**Improving Serviceability for Virtual Clusters in Bandwidth-Constrained Datacenters**", Proc. of the 8th IEEE International Conference on Cloud Computing (CLOUD 2015), Jun. 2015

Y.-L. Chien, K. C.-J. Lin and M.-S. Chen, "**Machine Learning Based Rate Adaptation with Elastic Feature Selection for HTTP Streaming**", Proc. of the IEEE International Conference on Multimedia and Expo (ICME 2015), Jun. 2015

C.-Y. Shen, D.-N. Yang, W.-C. Lee and M.-S. Chen, "**Maximizing Friend-Making Likelihood for Social Activity Organization**", Proc. of the 19th Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD-15), May. 2015

H.-H. Shuai, D.-N. Yang, P. S. Yu and M.-S. Chen, "**Scale-Adaptive Group Optimization for Social Activity Planning**", Proc. of the 19th Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD-15), May. 2015

C.-K. Chou and M.-S. Chen, "**Multiple Factors-Aware Diffusion in Social Networks**", Proc. of the 19th Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD-15), May. 2015

W.-L. Shen, K. Tan, C.-J. Lin and M.-S. Chen, "**Sieve: Scalable User Grouping for Large MU-MIMO Systems**", Proc. of the IEEE INFOCOM 2015, Apr. 2015

Gong-Ru Lin (林恭如)

Journal papers

Zu-Kai Weng, Huai-Yung Wang, Cheng-Ting Tsai, Yu-Chieh Chi, and Gong-Ru Lin, "QAM-OFDM MMWoF Transmission Based on a Dual-wavelength Injection-locked Colorless Laser Diode," *International Journal of Electrical Engineering*, Vol. 23, No. 5, pp. 187-194, Oct. 2016.

Ting-Hui Chen, Chun-Yen Lin, Yung-Hsiang Lin, Yu-Chieh Chi, Chih-Hsien Cheng, Zhengqian Luo, and Gong-Ru Lin, "MoS₂ nano-flake doped polyvinyl alcohol enabling polarized soliton mode-locking of fiber laser," *Journal of Material Chemistry C*, Vol. 4, pp. 9454-9459, Oct. 2016.

Sheng-Fong Lin, Yung-Hsiang Lin, Chih-Hsien Cheng, Yu-Chieh Chi, and Gong-Ru Lin, "Stability and chirp of tightly bunched solitons from nonlinear polarization rotation mode-locked erbium-doped fiber lasers," *IEEE/OSA Journal of Lightwave Technology*, Vol. 34, No. 22, pp. 5118-5128, Nov. 2016.

Chung-Lun Wu, Yung-Hsiang Lin, Sheng-Pin Su, Bo-Ji Huang, and Gong-Ru Lin, "Degenerated Four-Wave-Mixing in the Si Quantum Dot Doped Si-rich SiNx Channel Waveguide," *IEEE Journal of Lightwave Technology*, Vol. 34, No. 17, pp. 4111-4120, Sep. 2016.

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Cheng-Ting Tsai, Chi-Hsiang Lin, Chun-Ting Lin, Yu-Chieh Chi and Gong-Ru Lin, "60-GHz Millimeter-wave Over Fiber with Directly Modulated Dual-mode Laser Diode," *Scientific Reports*, Vol. 6, No. 27929, pp. 1-12, Jun. 2016.

Bo-Ji Huang, Chung-Lun Wu, Yung-Hsiang Lin, Chih-Hsien Cheng, Cheng-Hsuan Hsieh, Shih-Chang Syu, Huai-Yung Wang, Cheng-Ting Tsai, Yu-Chieh Chi, Po-Han Chang, Chih-I Wu, and Gong-Ru Lin, "All-optical Cross-Absorption-Modulation Based Gbit/s Switching with Silicon Quantum Dots," *IEEE Journal of Selected Topics in Quantum Electronics*, Vol. 22, No. 6, pp. 1900313, Nov./Dec. 2016.

Huai-Yung Wang, Yu-Chieh Chi, and Gong-Ru Lin, "Remote beating of parallel or orthogonally polarized dual-wavelength optical carriers for 5G millimeter-wave radio-over-fiber link," *Optics Express*, Vol. 24, No. 16, pp. 17654-17669, Aug. 2016.

Hsiang-Yu Chen, Yu-Chieh Chi, Chung-Yu Lin, Cheng-Ting Tsai, and Gong-Ru Lin, "Four-Wave-Mixing Suppression of Master-to-Slave Injection-Locked Two-Wavelength FPLD Pair for MMW-PON," *IEEE/OSA Journal of Lightwave Technology*, Vol. 34, No. 19, Oct. 2016.

Sheng-Pin Su, Chung-Lun Wu, Chih-Hsien Cheng, Bo-Ji Huang, Huai-Yung Wang, Cheng-Ting Tsai, Yung-Hsiang Lin, Yu-Chieh Chi, Min-Hsiung Shih, Chao-Kuei Lee, and Gong-Ru Lin,

“Nonstoichiometric SiC Bus/Ring Waveguide Based All-Optical Data Format Follower and Inverter,” *ACS Photonics*, Vol. 3, No. 5, pp. 806-818, Apr. 2016.

Chih-Hsien Cheng, Yu-Chieh Chi, Chung-Lun Wu, Chun-Jung Lin, Ling-Hsuan Tsai, Jung-Hung Chang, Mu Ku Chen, Min-Hsiung Shih, Chao-Kuei Lee, Chih-I. Wu, Din Ping Tsai and Gong-Ru Lin, “Catalytically solid-phase self-organization of nanoporous SnS with optical depolarizability,” *Nanoscale*, Vol. 8, No. 8, pp. 4579-4587, Jan. 2016.

Chih-Hsien Cheng, An-Jye Tzou, Jung-Hung Chang, Yu-Chieh Chi, Yung-Hsiang Lin, Min-Hsiung Shih, Chao-Kuei Lee, Chih-I Wu, Hao-Chung Kuo, Chun-Yen Chang, and Gong-Ru Lin, “Growing GaN LEDs on amorphous SiC buffer with variable C/Si compositions,” *Scientific Reports*, Vol. 6, No. 19757, pp. 1-12, Jan. 2016.

Hung-Yu Tai, Yu-Chieh Chi, Chih-Hsien Cheng, Po-Sheng Wang, Chih-I Wu, and Gong-Ru Lin, “Stoichiometry detuned silicon carbide as an orange and white light band solid-state phosphor,” *RSC Advances*, Vol. 6, No. 9, pp. 7121-7128, Jan. 2016.

Chung-Lun Wu, Yung-Hsiang Lin, Chih-Hsien Cheng, Sheng-Pin Su, Bo-Ji Huang, Jung-Hung Chang, Chih-I Wu, Chao-Kuei Lee and Gong-Ru Lin, “Enriching Si quantum dots in a Si-rich SiNx matrix for strong $\chi^{(3)}$ optical nonlinearity,” *Journal of Material Chemistry C*, Vol. 4, pp. 1405-1413, Jan. 2016.

Yu-Chieh Chi, Dan-Hua Hsieh, Chung-Yu Lin, Hsiang-Yu Chen, Chia-Yen Huang, Jr-Hau He, Boon Ooi, Steven P. DenBaars, Shuji Nakamura, Hao-Chung Kuo, and Gong-Ru Lin, “Phosphorous Diffuser Diverged Blue Laser Diode for Indoor Lighting and Communication,” *Scientific Reports*, Vol. 5, No. 18690, pp. 1-9, Dec. 2015.

Sheng-Pin Su, Chung-Lun Wu, Yung-Hsiang Lin, and Gong-Ru Lin, “All-optical modulation in Si quantum dot doped SiO_x micro-ring waveguide resonator”, *IEEE Journal of Selected Topics in Quantum Electronics*, Vol. 22, No. 2, pp. 1900109, Jun. 2015.

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