



The 9th Emerging Information & Technology Conference

Massachusetts Institute of Technology
Cambridge, Massachusetts, U. S. A.
August 6 – 7, 2009

August 5th (Wednesday) 7:00 pm – 9:00 pm: Welcome Dinner (by Invitation)
Place: China Pearl Restaurant (龍鳳大酒樓)



Hosted by **Kuo-Tung Yang** (teco@tecoboston.org)
Director General, Taipei Economic and Cultural Office in Boston
駐波士頓臺北經濟文化辦事處 楊國棟處長

August 6th (Thursday) 8:00 am – 6:00 pm: Registration (Maclaurin Building 4, Room 4-146)

August 6th (Thursday) 8:30 am - 9:15 am: Opening Session (Room 4-163)
Conference Co-Chair: Dr. Lin-wen Hu, Massachusetts Institute of Technology (麻省理工學院 胡玲文 博士)
Conference Co-Chair: Professor Chin Pan, National Tsing Hua University (清華大學 潘欽教授)



“Science and Technology Development in Taiwan – Pursuing Excellence in Academic Research and Maintaining High-Quality R&D Environment”
Minister Lou-Chuang Lee (chr@nsc.gov.tw)
National Science Council, Executive Yuan, Taiwan, Republic of China
行政院國家科學委員會 李羅權 主任委員



“Remarks on the World-Wide Interest in Neutron Scattering as a Powerful Tool for Characterization of Energy Related Advanced Materials”
Professor Sow-Hsin Chen (sowhsin@mit.edu)
Department of Nuclear Science and Engineering, Massachusetts Institute of Technology
Academician, Academia Sinica, Taiwan
中央研究院數理科學組 陳守信 院士

August 6th (Thursday) 9:15 am – 10:45 am: Technical Session D1-W1-T1: Emerging Energy Technologies
Chair: Professor Minking K. Chyu, University of Pittsburgh (匹茲堡大學 邱民京 教授)
Room: 4-159



“Opportunities and Challenges of Green Energy Industry in Taiwan”
Dr. Hsin-Sen Chu (HsinSenChu@itri.org.tw)
Executive Vice President, Industrial Technology Research Institute (ITRI)
工業技術研究院副院長 曲新生 博士



“Two Phase Flow and Heat Transfer in Microchannels for Energy Applications”
Professor Chin Pan (cpan@ess.nthu.edu.tw)
Dean, College of Nuclear Science, National Tsing Hua University
清華大學原子科學院 潘欽 院長



“Multi-scale Modeling of Atomization and Spray”
Professor Chien-Pin Chen (cchen@che.uah.edu)
Department of Chemical and Materials Engineering, University of Alabama, Huntsville
阿拉巴馬大學化學與材料工程系 陳謙斌 教授

August 6th (Thursday) 9:15 am – 10:45 am: Technical Session D1–W2–T1: Analysis in Genetic Studies
Chair: Professor Jung-Ying Tzeng, North Carolina State University (北卡洛來那州立大學 曾仲瑩 教授)
Room: 4–153



“A Forest-Based Approach in Genome Wide Association Study”
Professor Ching-Ti Liu (ctliu@bu.edu)
Department of Biostatistics, Boston University
波士頓大學生物統計系 柳清地 教授



“A Combined Approach Using Case-Control and Family Data with Consideration of Population Stratification”
Professor Ren-Hua Chung (rchung@med.miami.edu)
Miami Institute for Human Genomics, University of Miami
邁阿密大學人類基因研究所 鍾仁華 教授



“Methods for Detecting Interactions between Genetic Polymorphisms and Prenatal Environment Exposure with a Mother-Child Design”
Professor Shuang Wang (sw2206@columbia.edu)
Mailman School of Public Health, Columbia University
哥倫比亞大學公共衛生學院 王爽 教授



“Kernel Machine Approaches for the Analysis of Genome Wide Association Studies”
Dr. Michael Chiao-An Wu (mwu@hsph.harvard.edu)
Department of Biostatistics, Harvard School of Public Health
哈佛大學公共衛生學院生物統計系 吳肇安 博士

August 6th (Thursday) 9:15 am – 10:45 am: Technical Session D1–W3–T1: Nanomaterial
Chair: Professor Alex K.-Y. Jen, University of Washington (華盛頓大學 任廣禹 教授)
Room: 4-149



“Novel Optical Properties of Semiconductor Nanocomposites”
Professor Yang-Fang Chen (yfchen@phys.ntu.edu.tw)
Department of Physics, National Taiwan University
台灣大學物理系 陳永芳 教授



“One-dimensional Nanomaterials for Energy Applications”
Dr. Kuei-Hsien Chen (chenkh@pub.iams.sinica.edu.tw)
Research Fellow, Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan
中央研究院原子與分子科學研究所 陳貴賢 博士



“Microreactor-Assisted Nano Deposition Process”
Professor Chih-hung (Alex) Chang (changch@che.orst.edu)
Department of Chemical Engineering, Oregon State University
奧勒岡州立大學化學工程系 張至弘 教授

August 6th (Thursday) 9:15 am – 10:45 am: Technical Session D1–W4–T1: Baseband System-on-Chip
Chair: Professor Hsi-Pin Ma, National Tsing-Hua University (清華大學 馬席彬 教授)
Room: 4–145



“The Sandbridge Sandblaster SB3500 Low Power SoC Implementation”
Dr. John Glossner (jglossner@sandbridgetech.com)
CTO and Executive Vice President, Sandbridge Technologies, Lowell, Massachusetts



“A Baseband Testbed for Multiuser Mobile MIMO/OFDMA Communications”
Professor Hsi-Pin Ma (hp@ee.nthu.edu.tw)
 Department of Electrical Engineering, National Tsing Hua University
 清華大學電機工程系 馬席彬 教授

August 6th (Thursday) 10:45 am - 11:00 am: Break

August 6th (Thursday) 11:00 am – 12:30 pm : Technical Session D1–W1–T2: Energy Technologies
 Chair: Professor Chin Pan, National Tsing Hua University (清華大學 潘欽 教授)
 Room: 4–159



“Carbon Dioxide Capture and Sequestration”
Dr. Yee Soong (yee.soong@netl.doe.gov)
 National Energy Technology Laboratory, U.S. Department of Energy
 美國能源部國家能源技術實驗室 宋逸 博士



“Coal Gasification and Its Applications to Clean Energy”
Professor Ting Wang (twang@uno.edu)
 Director of Energy Conversion and Conservation Center, University of New Orleans
 紐奧良大學機械工程系 王亭 教授



“Carbon Capture Technology which Can Reduce Raging Sand Storm”
Dr. Hsiao-Yuan Bruce Li (bli@21-century silicon.com)
 President and CTO, 21-Century Silicon, Garland, Texas
 21-Century Silicon 總裁 李曉遠 博士

August 6th (Thursday) 11:00 am – 12:30 pm: Technical Session D1–W2–T2: Medicine and Public Health
 Chair: Professor Hung-Yi Chiou, Taipei Medical University (台北醫學大學 邱弘毅 教授)
 Room: 4–153



“New Therapeutic Technologies for Diabetes. Inhalation, Deposition, and Fate of Insulin and Other Therapeutic Proteins”
Professor Joseph Brain (brain@hsph.harvard.edu)
 Department of Environmental Health, Harvard School of Public Health



“Taiwan Stroke Center and Registry – Current Issues in Research and Clinical Practice”
Professor Hung-Yi Chiou (hychiou@tmu.edu.tw)
 Dean, College of Public Health and Nutrition, Taipei Medical University
 台北醫學大學 公共衛生暨營養學院院長 邱弘毅 教授



“Genetic and Biochemical Predictors of Type 2 Diabetes in Women”
Professor Simin Liu (siminliu@ucla.edu)
 Department of Epidemiology, UCLA School of Public Health
 加州大學洛杉磯分校流行病學系 劉思敏 教授

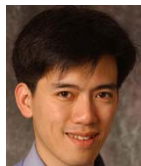


“Nutrition and the Risks of Type 2 Diabetes and Cardiovascular Diseases”
Dr. Yiqing Song (ysong3@rics.bwh.harvard.edu)
 Department of Medicine, Brigham and Women’s Hospital and Harvard Medical School
 哈佛醫學院布里翰婦女醫院 宋一青 博士

August 6th (Thursday) 11:00 am – 12:30 pm: Technical Session D1–W3–T2: NEMS and MEMS

Chair: Professor Fan-Gang Tseng, National Tsing Hua University (清華大學 曾繁根 教授)

Room: 4–149



“Optical Micromirror Actuation Using Thermocapillary Effect in Microdroplets”

Professor Yen-Wen Lu (ywleen@rit.edu)

Microsystems Engineering, Rochester Institute of Technology

羅徹斯特理工學院微系統工程研究所 盧彥文 教授



“A Gas Sensing System for Indoor Air Quality and Polluted Environmental Monitoring”

Professor Da-Jeng Yao (djyao@mx.nthu.edu.tw)

Institute of NanoEngineering and MicroSystems, National Tsing-Hua University

清華大學奈米工程與微系統研究所 饒達仁 教授



“From High Throughput Protein Micro Array toward Ultra High Sensitive Single Molecule Nanoarray”

Professor Fan-Gang Tseng (fangang@ess.nthu.edu.tw)

Department of Engineering and System Science, National Tsing Hua University

清華大學工程與系統科學系 曾繁根 教授

August 6th (Thursday) 11:00 am – 12:30 pm: Technical Session D1–W4–T2: Medical IC

Chair: Professor Darrin Young, Case Western Reserve University (凱斯西儲大學 楊駿 教授)

Room: 4–145



“Silicon NMR Radio-Frequency Biomolecular Sensor”

Professor Donhee Ham (donhee@seas.harvard.edu)

School of Engineering & Applied Sciences, Harvard University



“A Release-on-Demand Wireless CMOS Drug Delivery SoC Based on Electrothermal Activation Technique”

Professor Yao-Joe Joseph Yang (yjy@ntu.edu.tw)

Associate Chair, Department of Mechanical Engineering, National Taiwan University

台灣大學機械工程系 楊耀州 教授



“A Wireless and Batteryless 10-bit Implantable Blood Pressure Sensing Microsystem for Real-time Genetically Engineered Mice Monitoring”

Professor Darrin J. Young (djy@case.edu)

Department of Electrical Engineering and Computer Science, Case Western Reserve University

凱斯西儲大學電機工程與計算機科學系 楊駿 教授

August 6th (Thursday) 12:30 pm – 1:45 pm: Lunch (Stratton Student Center W20 – 407)



“Hi-Tech Investment Opportunities in the New Era of Cross-Strait Relations”

Julian Lee (trlee@taitra.org.tw)

Director, Taiwan Trade Center, New York

對外貿易發展協會駐紐約辦事處主任 李再仁

August 6th (Thursday) 1:45 pm - 2:45 pm: Keynote Session D1–W1–K1: Energy and Nanotechnology

Chair: Professor Chin Pan, National Tsing Hua University (清華大學 潘欽 教授)

Room: 4–159



“Nanotechnology for Energy Applications”

Professor Gang Chen (gchen2@mit.edu)

Director of Micro and Nano Engineering Laboratories, Massachusetts Institute of Technology
麻省理工學院機械工程系 陳剛 教授

August 6th (Thursday) 1:45 pm - 2:45 pm: Keynote Session D1–W2–K1: Biotechnology

Chair: Professor Li-San Wang, University of Pennsylvania (賓州大學 王立三 教授)

Room: 4–153



“Epigenetic Regulation of Memory Formation in Health and Disease”

Professor Li-Huei Tsai (lhtsai@mit.edu)

Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology
Academician, Academia Sinica, Taiwan
中央研究院生命科學組 蔡立慧 院士

August 6th (Thursday) 1:45 pm – 2:45 pm: Keynote Session D1–W4–K1: System on Chip

Chair: Professor Sao-Jie Chen, National Taiwan University (台灣大學 陳少傑 教授)

Room: 4–145



“Mobile Phones and Multicores: Programming Nightmare or Architectural Renaissance”

Professor Arvind (arvind@csail.mit.edu)

Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology

August 6th (Thursday) 2:45 pm – 4:15 pm: Technical Session D1–W1–T3: Fuel Cells

Chair: Professor Ping-Hei Chen, National Taiwan University (台灣大學 陳炳輝 教授)

Room: 4–159



“Molecular Quantum Mechanics and Multiscale Design of Fuel Cells and Photoelectrochemical Cells”

Professor Che-Wun Hong (cwhong@pme.nthu.edu.tw)

Department of Power Mechanical Engineering, National Tsing Hua University
清華大學動力機械系 洪哲文 教授



“Optimization of Proton Exchange Membrane Fuel Cells by Inverse Heat Transfer Theory”

Professor Chin-Hsiang Cheng (chcheng@mail.ncku.edu.tw)

Department of Aeronautics and Astronautics, National Cheng Kung University
成功大學航空太空工程研究所 鄭金祥 教授



“Characteristic and Findings of Hydrogen Literature and Full Cell Patents: 1965 – 2006”

Professor Ming-yueh Tsay (mysay@nccu.edu.tw)

Graduate Institute of Library, Information and Archival Studies, National Chengchi University
政治大學圖書資訊與檔案學研究所 蔡明月 教授

August 6th (Thursday) 2:45 pm – 4:15 pm: Technical Session D1–W2–T3: Systems Biology

Chair: Professor Jung-Hsien Chiang, National Cheng Kung University (成功大學 蔣榮先 教授)

Room: 4-153



“Systems Approaches towards Brain Tumor Biology”

Dr. Leslie Chen (lchen@systemsbiology.org)

Post Doctoral Fellow, Institute for Systems Biology, Seattle
系統生物研究所 陳彥瑜博士



“Runx1 is Required for the Endothelial to Haematopoietic Cell Transition but not Thereafter”
Dr. Michael Jin-Feng Chen (michchen@mail.med.upenn.edu)
 Post-doc Fellow, School of Medicine, University of Pennsylvania
 賓州大學醫學院 陳錦峰 博士



“Role and Mechanism of Alpha-E-Catenin in Regulation of Intercellular Adhesion and Cell Proliferation”
Dr. Wen-Hui Lien (wlien@mail.rockefeller.edu)
 Postdoctoral Fellow, The Rockefeller University, New York
 洛克菲勒大學 連文慧 博士

August 6th (Thursday) 2:45 pm – 4:15 pm : Technical Session D1-W3-T3: Polymer Solar Cell
 Chair: Professor Yang-Fang Chen, National Taiwan University (台灣大學 陳永芳 教授)
 Room: 4-149



“New Side-Chain Tethered Polythiophene for Heterojunction Solar Cell”
Professor Kung-Hwa Wei (khwei@mail.nctu.edu.tw)
 Chairman, Department of Materials Science and Engineering, National Chiao-Tung University
 交通大學 材料科學與工程系 韋光華 主任



“ZnO Nanorod Hybrid Material for High Efficient Photovoltaic Device”
 “Fabrication of Submicron Optical Cavity by Using Laser Reformation Technique”
Professor Ching-Fuh Lin (cflin@cc.ee.ntu.edu.tw)
 Graduate Institute of Photonics and Optoelectronics, National Taiwan University
 台灣大學光電工程學研究所 林清富 教授



“Molecular Self-Assembly for Flexible Electronics”
Professor Hong Ma (hma@u.washington.edu)
 Department of Materials Science & Engineering, University of Washington
 華盛頓大學材料科學與工程系 麻洪 教授

August 6th (Thursday) 2:45 pm – 4:15 pm: Technical Session D1-W4-T3: Design Automation
 Chair: Professor Yao-wen Chang, National Taiwan University (台灣大學 張耀文 教授)
 Room: 4-145



“Manufacturing for Design”
Professor Martin D. F. Wong (mdfwong@illinois.edu)
 Department of Electrical and Computer Engineering, University of Illinois, Urbana Champaign
 伊利諾大學電機與計算機工程系 黃定發 教授



“VLSI and LCD Process Variation Analysis and Cures”
Professor Charlie Chung-Ping Chen (cchen@cc.ee.ntu.edu.tw)
 Department of Electrical Engineering, National Taiwan University
 台灣大學電機工程系 陳中平 教授



“Scalable Hardware Synthesis and Verification with Craig Interpolation”
Professor Jie-Hong Roland Jiang (jhjiang@cc.ee.ntu.edu.tw)
 Department of Electrical Engineering, National Taiwan University
 台灣大學電機工程系 江介宏 教授

August 6th (Thursday) 4:15 pm – 4:30 pm : Break

August 6th (Thursday) 4:30 pm – 6:00 pm: Technical Session D1–W1–T4: Green Energy
Chair: Dr. Sean Shao-Hwa Wang, Industrial Technology Research Institute (工業技術研究院 王韶華 博士)
Room: 4–159



“Biomass-Ethanol Conversion: A Renaissance of Fermentation Technologies”
Professor J. H. David Wu (davidwu@che.rochester.edu)
Department of Chemical Engineering, University of Rochester
羅徹斯特大學化學工程系 吳政惠 教授



“Smarter Energy”
Dr. Jen-Yao Chung (jychung@us.ibm.com)
Senior Manager, Industry Technology and Solutions, IBM Thomas J. Watson Research Center
IBM 國際商業機械公司 華生研究中心 鐘健堯 博士



“Accelerate the Path to Renewable Energy by Business Model Innovation”
Dr. Sean Shao-Hwa Wang (seanwang@itri.com)
President, Industrial Technology Research Institute (ITRI) International, San Jose
工業技術研究院北美公司總經理 王韶華 博士



“Impact of Green Building on Global Warming”
Professor Jeffrey S. Seigel (jeffreysel@optonline.net)
Department of Civil Engineering, Polytechnic Institute of New York University

August 6th (Thursday) 4:30 pm – 6:00 pm: Technical Session D1–W2–T4: Medicine and Public Health
Chair: Professor Hong-Yo Kang, Chang Gung University (長庚大學 康宏佑教授)
Room: 4–153



“Ubiquitination in Signal Transduction and Cancer”
Professor Hui-Kuan Lin (hklin@mdanderson.org)
The University of Texas M. D. Anderson Cancer Center, Houston
德州大學安得生癌症中心 林慧觀教授



“Molecular Mechanisms and Clinical Relevance of Androgen and Androgen Receptor Actions”
Professor Hong-Yo Kang (hkang3@mail.cgu.edu.tw)
Graduate Institute of Clinical Medical Sciences, Chang Gung University
長庚大學臨床醫學研究所 康宏佑 教授



“Vitamin D Metabolism and Its Role on the Natural History of Prostate Cancer”
Professor Tai Cheng Chen (taichen@bu.edu)
Section of Endocrinology, Diabetes, and Nutrition, Boston University School of Medicine
波士頓大學醫學院內分泌糖尿營養科 陳泰成 教授

August 6th (Thursday) 4:30 pm – 6:00 pm: Technical Session D1–W3–T4: NEMS and MEMS
Chair: Professor Jeff Tza-Huei Wang, Johns Hopkins University (約翰霍普金斯大學 王澤輝 教授)
Room: 4–149



“Creating the Next-Generation Small-Scale Machines for Precision Engineering, Microscopy and Biomedical Applications”

Dr. Shih-Chi Chen (scchen@mit.edu)

Research Fellow, Wellman Center for Photomedicine, Massachusetts General Hospital
麻省總醫院生醫光電中心 陳世祈 博士



“General Electric Manipulations of Microfluids”

Professor Shih-Kang Fan (skfan@mail.nctu.edu.tw)

Institute of Nanotechnology, National Chiao Tung University
交通大學奈米科技研究所 范士岡 教授



“Industrial Applications of MEMS - From Implantable Silicon Probe to Optical Switch”

Dr. Pinyen Lin (pinyen.lin@xerox.com)

Senior Research Scientist, Xerox Research Center, Webster, New York
美國全錄公司研究中心 林斌彥 博士



“Convergence of Quantum Dot Biosensors and Microfluidic Single Molecule Spectroscopy for Molecular Analysis of Diseases”

Professor Jeff Tza-Huei Wang (thwang@jhu.edu)

Departments of Mechanical Engineering & Biomedical Engineering, Johns Hopkins University
約翰霍普金斯大學機械工程系與生物醫學工程系 王澤輝 教授

August 6th (Thursday) 4:30 pm – 6:00 pm: Technical Session D1–W4–T4: Computer and Communication
Chair: Professor Chen-Mou Cheng, National Taiwan University (台灣大學 鄭振牟 教授)
Room: 4–145



“Low Power Wireless Communication Makes the World Freedom of Connect”

Z. K. Cheng (zkc@ichipdesign.com)

Vice President and Chief Architect, iCHIPdesign International, Garland, Texas
iCHIPdesign 副總裁 鄭志剛



“Telecom Transformation and Business Model Required for Future Telematics Services”

Dr. Shing TenqChen (stc@cht.com.tw)

Chunghwa Telecom Laboratories, Taiwan
中華電信公司電信研究所 鄧陳興 博士



“Cryptographic Computing on Graphics Cards”

Professor Chen-Mou Cheng (ccheng@cc.ee.ntu.edu.tw)

Department of Electrical Engineering, National Taiwan University
台灣大學電機工程系 鄭振牟 教授

August 6th (Thursday) 7:00 pm – 9:00 pm: Conference Dinner (by Invitation)
Place: China Pearl Restaurant (龍鳳大酒樓)



Hosted by **Minister Lou-Chuang Lee** (chr@nsc.gov.tw)

National Science Council, Executive Yuan, Taiwan, Republic of China
行政院國家科學委員會 李羅權主任委員

August 7th (Friday) 9:00 am – 12:00 pm: Registration (Maclaurin Building 4, Room 4–146)

August 7th (Friday) 9:15 am – 10:45 am: Technical Session D2–W1–T1: Nuclear and Hydrogen Energy

Chair: Professor Minking Chyu, University of Pittsburgh (匹茲堡大學 邱民京 教授)

Room: 4–159



“A Preliminary Study of High Temperature Gas Cooled Reactor and Hydrogen Production in Taiwan”

Professor Ching-Chang Chieng (cchieng@ess.tshu.edu.tw)

Department of Engineering Sciences and Systems, National Tsing Hua University

清華大學工程科學與系統系 錢景常 教授



“A View of Nuclear Hydrogen Production in Large Scale Power Generation System”

Professor Minking Chyu (mkchyu@pitt.edu)

Chair, Department of Mechanical Engineering and Materials Science, University of Pittsburgh

匹茲堡大學機械工程與材料科學系主任 邱民京 教授



“Boiling Heat Transfer Enhancement of Nanoparticle Thin Film Coatings”

Dr. Lin-wen Hu (lwhu@mit.edu)

Associate Director, MIT Nuclear Reactor Laboratory

麻省理工學院核子反應爐實驗室副主任 胡玲文 博士

August 7th (Friday) 9:15 am – 10:45 am: Technical Session D2–W2–T1: Biomedical Imaging Technology

Chair: Dr. Yin-Ching Iris Chen, Massachusetts General Hospital (麻省總醫院 陳盈靜 博士)

Room: 4–153



“Constructing a Rich Internet Application (RIA) framework for PACS”

Professor Chia-Hung Hsiao (chhsiao@mail.tcu.edu.tw)

Department of Medical Informatics, Tzu Chi University

慈濟大學醫學資訊系 蕭嘉宏 教授



“Clinical Application of Diffusion MRI”

Dr. J.-Y. George Chiou (jychiou@bwh.harvard.edu)

Department of Radiology, Brigham and Women's Hospital, Harvard Medical School

哈佛大學醫學院 布里翰婦女醫院 放射科 邱志遠 博士



“Using High-Resolution Multi-Sliced CT for Coronary Angiography”

Dr. Chun-Shan Sam Yam (csyam@bidmc.harvard.edu)

Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School

哈佛大學醫學院 貝絲·以色列·狄肯思醫學中心 放射科 任鎮山 博士



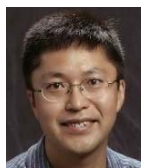
“Pharmacological MRI, Neuroscience, Neurodegeneration, and Drug Discovery”

Dr. Yin-Ching Iris Chen (iris@nmr.mgh.harvard.edu)

Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital

麻省總醫院 生物醫學影像中心 陳盈靜 博士

August 7th (Friday) 9:15 am – 10:45 am: Technical Session D2–W3–T1: Nanotechnology
Chair: Professor Kung-Hwa Wei, National Chiao-Tung University (交通大學 韋光華 教授)
Room: 4-149



“Carbon Nanotubes for Energy Storage and Conversion Devices”
Professor Bingqing (B.Q.) Wei (weib@udel.edu)
Department of Mechanical Engineering, University of Delaware
德拉瓦大學 機械工程系 魏秉庆 教授



“Microphase Separation Nanostructure and Nanoparticles for Proton Exchange Membranes Used in Fuel Cells”
Professor Chi-Yang Chao (cychao138@ntu.edu.tw)
Department of Materials Science and Engineering, National Taiwan University
台灣大學材料科學與工程系 趙基揚 教授



“Converting an Inconvenient Truth into a Convenient Business”
Peter C. Mei (pmei@21-centurysilicon.com)
Chairman and CEO, 21-Century Silicon, Garland, Texas
21-Century Silicon 執行長 梅家駒

August 7th (Friday) 9:15 am – 10:45 am: Technical Session D2–W4–T1: Multi-Processor
Chair: Professor Wei Hwang, National Chiao-Tung University (交通大學 黃威 教授)
Room: 4-145



“H.264 Video CODEC”
Professor Kenneth Hsu (kwheec@ritvax.isc.rit.edu)
Department of Computer Engineering, Rochester Institute of Technology
羅徹斯特理工學院計算機工程系 許根旺 教授



“Microdisplay for Mobile Video Revolution”
Dr. Bor-Yeu Tsaur (btsaur@kopin.com)
Executive Vice President and General Manager, Kopin Corporation, Westborough, Massachusetts
高平磊晶科技 執行副總裁 曹伯禹 博士



“Sense and Avoid Technology for Unmanned Aircraft Access to National Airspace”
Dr. Won-Zon Chen (won-zon.chen@ngc.com)
Northrop Grumman Aerospace Systems, El Segundo, California
諾斯洛普葛魯曼公司 陳萬鍾 博士

August 7th (Friday) 10:45 am – 11:00 am: Break

August 7th (Friday) 11:00 am – 12:30 pm: Technical Session D2–W1–T2: Micro- and Nanoscale Energy Systems
Chair: Professor Ping-Hei Chen, National Taiwan University (台灣大學 陳炳輝 教授)
Room: 4-159



“Sensor Network for Energy-Saving Applications”
Professor Ping-Hei Chen (phchen@ntu.edu.tw)
Department of Mechanical Engineering, National Taiwan University
台灣大學機械工程系 陳炳輝 教授



“Green Life Style Technology Development for Energy Saving”

Professor Da-sheng Lee (f11167@ntut.edu.tw)

Energy and Refrigerating Air Conditioning Engineering, National Taipei University of Technology
台北科技大學 能源與冷凍空調工程系 李達生 教授



“Third Generation Solar Cells”

Professor Wei-Fang Su (suwf@ntu.edu.tw)

Department of Materials Science and Engineering, National Taiwan University
台灣大學材料科學與工程系 林唯芳 教授



“Applications of Guided Mode Resonance device in Communication, LED and PV”

Professor Jenq-Yang Chang (jychang@dop.ncu.edu.tw)

Department of Optics and Photonics, National Central University
中央大學光電科學與工程系 張正陽 教授

August 7th (Friday) 11:00 am – 12:30 pm: Technical Session D2–W2–T2: Medicine and Public Health

Chair: Dr. Jeng-Shin Lee, Harvard Medical School (哈佛醫學院 李政欣 博士)

Room: 4–153



“Development of Cell and Gene Therapy”

Dr. Jeng-Shin Lee (jlee@hihg.med.harvard.edu)

Deputy Director, Harvard Gene Therapy Initiative, Harvard Medical School
哈佛醫學院基因治療計畫 李政欣 博士



“Gene Therapy of the Eye”

Dr. Tiansen Li (tli@meei.harvard.edu)

Massachusetts Eye and Ear Infirmary, Harvard Medical School
哈佛醫學院 麻省眼耳鼻喉科醫院 李田森 博士



“Induced Pluripotent Stem Cells Using a Single Excisable Lentiviral Vector”

Professor Gustavo Mostoslavsky (gmostosl@bu.edu)

Department of Medicine, Boston University School of Medicine

August 7th (Friday) 11:00 am – 12:30 pm: Technical Session D2–W3–T2: Nanotechnology

Chair: Professor Chih-Hung Chang, Oregon State University (奧勒岡州立大學 張至弘 教授)

Room: 4–149



“Nanodiamond, Carbon Nanowalls and Applications”

Professor Yonhua Tzeng (tzengyo@mail.ncku.edu.tw)

Dean, College of Electrical Engineering and Computer Science, National Cheng Kung University
成功大學電機資訊學院院長 曾永華 教授



“Assembly and Integration of Nano-Components Using Lead-Free Nano-Solders”

Professor Zhiyong Gu (zhiyong_gu@uml.edu)

Department of Chemical Engineering, University of Massachusetts at Lowell
麻州大學洛爾分校化學工程系 谷志勇 教授



“Interface Engineering of Organic Electronics with Atomic-Layer-Deposited Thin Films”
Professor Feng-Yu Tsai (ftsai@ntu.edu.tw)
 Department of Materials Science and Engineering, National Taiwan University
 台灣大學材料科學與工程系 蔡豐羽 教授

August 7th (Friday) 11:00 am – 12:30 pm: Technical Session D2–W4–T2: System on Chip
 Chair: Professor Kenneth Hsu, Rochester Institute of Technology (羅徹斯特理工學院 許根旺 教授)
 Room: 4-145



“On-demand Memory Platform for Multi-Task Wireless Video Entertainment Systems”
Professor Wei Hwang (hwang@mail.nctu.edu.tw)
 Microelectronics and Information Systems Research Center, National Chiao-Tung University
 交通大學電子工程系 黃威 教授



“XML Content Processors for Web Application Firewall”
Professor Sheng-De Wang (sdwang@cc.ee.ntu.edu.tw)
 Department of Electrical Engineering, National Taiwan University
 台灣大學電機工程系 王勝德 教授



“QuteVP: A SystemC-based Virtual Platform for SoC HW/SW Co-Design and Co-Verification”
Professor Chung-Yang (Ric) Huang (ric@cc.ee.ntu.edu.tw)
 Department of Electrical Engineering, National Taiwan University
 台灣大學電機工程系 黃鐘揚 教授

August 7th (Friday) 12:30 pm – 1:45 pm: Lunch (Stratton Student Center W20 – 407)

August 7th (Friday) 1:45 pm – 2:45 pm: Keynote Speech (Room: 4-163)



Moderator: **Dr. Shan-Nan Chang** (sxc135@tecoboston.org)
 Director of Cultural Division, Taipei Economic and Cultural Office in Boston
 駐波士頓台北經濟文化辦事處文化組組長 張善楠 博士



“Information Technology Development and Broad-Based Societal Implications: From Specific Research Agenda to World Culture and Heritage”
Professor Ching-chih Chen (chingchih.chen@simmons.edu)
 Graduate School of Library and Information Science, Simmons College, Boston
 Project Director, Global Memory Net, NSF International Digital Library Program
 美國國家科學基金會全球記憶網計畫首席負責人
 聯合國教科文組織世界遺產中心遺產記憶網合作計畫首席負責人 陳劉欽智 教授

August 7th (Friday) 2:45 pm – 4:15 pm: Technical Session D2–W2–T3: Computational Biology
 Chair: Professor Li-San Wang, University of Pennsylvania (賓州大學 王立三 教授)
 Room: 4-153



“Discovery of a Novel Target for Cancer Therapy Using High-throughput Technologies”
Professor Hsueh-Fen Juan (yukijuan@ntu.edu.tw)
 Department of Life Science, National Taiwan University
 台灣大學生命科學系 阮雪芬 教授



“High-Performance Computing in Network Biology”
Professor Chun-Hsi (Vincent) Huang (huang@cse.uconn.edu)
 Department of Computer Science and Engineering, University of Connecticut
 康乃狄克大學計算機科學與工程系 黃俊熹 教授



“Understanding Chromatin Organization and Gene Regulation with ChIP-seq”
Dr. Clifford Meyer (cliff@research.dfci.harvard.edu)
 Research Scientist, Department of Biostatistics and Computational Biology,
 Dana-Farber Cancer Institute, Harvard School of Public Health



“Methods and Systems for ChIP-seq Data Analysis”
Professor D. Frank Hsu (hsu@cis.fordham.edu)
 Department of Computer and Information Sciences, Fordham University, New York
 紐約復旦大學計算機與資訊科學系 許德標 教授

August 7th (Friday) 2:45 pm – 4:15 pm : Technical Session D2–W4–T3: Network-on-Chip
 Chair: Professor Sao-Jie Chen, National Taiwan University (台灣大學 陳少傑 教授)
 Room: 4–145



“Error Control for On-chip Interconnect Networks”
Professor Paul Ampadu (ampadu@ece.rochester.edu)
 Department of Electrical and Computer Engineering, University of Rochester



“Application-Aware Oblivious Routing and Bandwidth-Adaptive Networks”
Professor Srin Devadas (devadas@mit.edu)
 Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology



“Multiband RF-Interconnect for Reconfigurable Network-on-Chip Communications”
Professor Mau-Chung Frank Chang (mfchang@ee.ucla.edu)
 Director of High Speed Electronics Laboratory, University of California at Los Angeles
 加州大學洛杉磯分校電機工程系 張懋中 教授

August 7th (Friday) 4:15 pm – 4:30 pm: Break

August 7th (Friday) 4:30 pm – 6:00 pm: Technical Session D2–W2–T4: Medicine and Public Health
 Chair: Dr. Yi-Hsiang Hsu, Harvard University (哈佛醫學院 許益祥 博士)
 Room: 4–153



“Omics Era: Transcriptomics, Pathway and Signature Analyses to Predict Diseases”
Professor Tianhua Tim Niu (tn7b@cms.mail.virginia.edu)
 Department of Psychiatry and Neurobehavioral Sciences, University of Virginia School of Medicine
 維吉尼亞大學醫學院 精神醫學與神經行為科學系 牛天華 教授



“The Link between Bone and Energy Metabolisms. Genome-Wide Association Studies of Complex Traits in the Framingham Study”
Dr. Yi-Hsiang (Sean) Hsu (yhhsu@hsph.harvard.edu)
 Institute for Aging Research, Hebrew SeniorLife, Beth Israel Deaconess Medical Center
 哈佛大學醫學院 貝絲·以色列·狄肯思醫學中心 希伯來老化醫學研究中心 許益祥 博士



“Parental and Offspring Genome-Wide DNA Methylation Changes, Residential Petrochemical Exposure, and Childhood Leukemia Risk”

Dr. Chen-yu Liu (cliu@hsph.harvard.edu)

Research Fellow, Department of Environmental Health, Harvard School of Public Health

哈佛公共衛生學院 環境衛生系 劉貞佑 博士



“Finding Disease Related Modules in Co-expressed Protein Interaction Networks”

Professor Hsuan-Cheng Huang (hsuancheng@ym.edu.tw)

Institute of Biomedical Informatics, National Yang-Ming University

陽明大學生物醫學資訊研究所 黃宣誠 教授

August 7th (Friday) 4:30 pm – 6:00 pm: Technical Session D2–W4–T4: C4I

Chair: Professor Kwang-Cheng Chen, National Taiwan University (台灣大學 陳光禎 教授)

Room: 4–145



“Autonomous Robot Team Formation and Cooperation”

Professor Shanchieh Jay Yang (jay.yang@rit.edu)

Department of Computer Engineering, Rochester Institute of Technology

羅徹斯特理工學院計算機工程系 楊善傑 教授



“An Adaptive Reasoning and Learning Framework for Cognitive Radio Systems”

Professor Pao-Ann Hsiung (pahsiung@cs.ccu.edu.tw)

Department of Computer Science and Information Engineering, National Chung-Cheng University

中正大學資訊工程系 熊博安 教授



“A Fast Time-to-Market SoC Design Platform”

Dr. Emerson Mingfu Hsiao (emerson@faraday-tech.com)

Director, Field Application and Marketing, Faraday Technology Corporation, Sunnyvale, California

智原科技 產品應用與市場推廣主任 蕭明富 博士

August 7th (Friday) 7:00 pm – 9:00 pm: Post-Conference Dinner (by Invitation)

Place: Royal East Restaurant (五月花酒樓)



Hosted by **Dr. Hsin-Hsiung Chang** (hhchang@tecrosd.org)

Science and Technology Division, Taipei Economic and Cultural Representative Office in the U.S.

駐美國台北經濟文化代表處科技組組長 張新雄 博士