



The 9th Emerging Information & Technology Conference

**Advancing Technology Innovations
through Collaboration**

Massachusetts Institute of Technology
Cambridge, Massachusetts, USA

Thursday – Friday, August 6 – 7, 2009

About EITC

Recognizing the profound effects and drastic changes the internet and other emerging technologies have brought to the U.S. economy and nations in the Asian-Pacific region, the Emerging Information and Technology Conference (EITC) was initiated in 1999 by Mr. Michael Hwa-Han Wang, formerly of AT&T Bell Labs in New Jersey. The first annual EITC took place in 2001 at Princeton University.

The EITC promotes discussions and the free exchange of ideas at the research frontiers of Emerging Technology and Services. People from all over the world with common professional interests come together for a couple days of intense discussion and examination regarding the most advanced aspects in their field. These meetings provide a valuable means of disseminating information and ideas in a way that cannot be achieved through the usual channels of communication - publications and presentations at large professional meetings. The EITC holds many meetings every year to facilitate information exchange among professionals from Asia and North America on emerging technologies and services. The objectives of the annual conference/ workshop are:

- To strengthen the technical and business ties between the Asian and North American universities, R&D institutions, and industries;
- To bring together experts and industry leaders to share technological advancements and business experiences; and
- To jointly explore opportunities in emerging technologies and services.

During the past nine years, EITC has greatly expanded in its size and scope to cover the most important emerging fields including biomedical research, renewable energy, green technology, financial services, nanotechnology, and C4I/SOC. The EITC annual conference and workshops have taken place at several flagship universities in United States and Taiwan, and invited lectures given by world-class professionals from Asia and North America on emerging technologies and services. The Ninth Annual EITC will be held at MIT on August 6-7, 2009, with the theme “Advancing Technology Innovations through Collaboration”

Hwa-Han Wang

Chair, EITC Managing Committee

Li-San Wang

Vice Chair, EITC Managing Committee

Welcome Message

Distinguished colleagues:

It is with pleasure that we welcome all of you to join us in the 9th Emerging Information and Technology Conference (EITC-2009). This conference will be held at MIT with four parallel technical tracks that highlight the advancement of emerging technologies.

The main mission of EITC is to strengthen the technical and business ties between Asian and North American universities, R&D institutions, and industries. This conference was initiated by visionary leaders who recognized that globalization is a driving force for accelerated intellectual and economic development. Interactions among Asian pacific and North American professionals are a catalyst for technology innovations. Since the inception of EITC, many outstanding academic and industrial leaders around the world contributed to the success of this conference and inspired many young scholars and professionals.

The theme of this conference is “Advancing Technology through Collaboration”. This theme underscores the essence of what EITC is built on: interdisciplinary, intergenerational, and international collaborations. Many of us have witnessed the rapid expansion of information technology in the past two decades. The explosive growth of internet has brought the world together and now the enormous shifts in technology landscape require our swift adaptation to new technological advances. In the midst of many challenges ahead, let’s ask ourselves: What is the next transformational technology that will reshape the world, and how can we work collaboratively to advance this technology? We truly look forward to experts from Energy/ Environment / Sustainability, Nanotechnology / NEMS / MEMS, Bioinformatics / Biotechnology / Medicine / Public Health, and C4I (Content, Computer, Communication, Consumer Electronics, and Integration)/SoC (System-on-a-Chip) technical tracks to share their research and to stimulate discussions.

Owing to the tireless efforts of the organizing committee and the generosity of our sponsors, EITC-2009 is shaping up to be a successful event. We look forward to your participation, and hope you enjoy the historic and cultural attractions in Boston during your visit.

Sow-Hsin Chen
General Conference Chair

Lin-Wen Hu
Conference Co-Chair

Chin Pan
Conference Co-Chair

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	Time	Event	Program	Location	Page
Wednesday, August 5th	07:00 pm – 10:00 pm	Welcome Dinner			
Thursday, August 6th	08:00 am – 06:00 pm	Registration		4-146	
	08:30 am – 09:15 am	Opening Session		4-163	7
	09:15 am – 10:45 am	<u>Technical Sessions</u>			
		Emerging Energy Technologies	D1-W1-T1	4-159	9
		Analysis in Genetic Studies	D1-W2-T1	4-153	12
		Nanomaterial	D1-W3-T1	4-149	16
		Baseband System-on-Chip	D1-W4-T1	4-145	19
	10:45 am – 11:00 am	Break			
	11:00 am – 12:30 pm	<u>Technical Sessions</u>			
		Energy Technologies	D1-W1-T2	4-159	9
		Medicine and Public Health	D1-W2-T2	4-153	12
		NEMS and MEMS	D1-W3-T2	4-149	16
		Medical IC	D1-W4-T2	4-145	19
	12:30 pm – 01:45 pm	Lunch/Speech			7
	01:45 pm – 02:45 pm	<u>Keynote Session</u>			
		Energy and Nanotechnology	D1-W1-K1	4-159	8
		Biotechnology	D1-W2-K1	4-153	8
		System on Chip	D1-W4-K1	4-145	8
	02:45 pm – 04:15 pm	<u>Technical Sessions</u>			
		Fuel Cells	D1-W1-T3	4-159	9
		Systems Biology	D1-W2-T3	4-153	13
		Polymer Solar Cell	D1-W3-T3	4-149	16
		Design Automation	D1-W4-T3	4-145	19
	04:15 pm – 04:30 pm	Break			
	04:30 pm – 06:00 pm	<u>Technical Sessions</u>			
		Green Energy	D1-W1-T4	4-159	10
		Medicine and Public Health	D1-W2-T4	4-153	13
		NEMS and MEMS	D1-W3-T4	4-149	17
		Computer and Communication	D1-W4-T4	4-145	20
	07:00 pm – 09:00 pm	Dinner (by invitation)			

	Time		Location	Page	
Friday, August 7th	09:00 am – 12:00 pm	Registration	4-146		
	09:15 am – 10:45 am	<u>Technical Sessions</u>			
		Nuclear and Hydrogen Energy	D2-W1-T1	4-159	10
		Biomedical Imaging Technology	D2-W2-T1	4-153	13
		Nanotechnology—Fuel Cell	D2-W3-T1	4-149	17
		Multi-Processor	D2-W4-T1	4-145	20
	10:45 am – 11:00 am	Break			
	11:00 am – 12:30 pm	<u>Technical Sessions</u>			
		Micro- and Nanoscale Energy Systems	D2-W1-T2	4-159	11
		Medicine and Public Health	D2-W2-T2	4-153	14
		Nanotechnology	D2-W3-T2	4-149	18
		System on Chip	D2-W4-T2	4-145	21
	12:30 pm – 01:45 pm	Lunch			
	01:45 pm – 02:45 pm	<u>Keynote Speech</u>		4-163	7
	02:45 pm – 04:15 pm	<u>Technical Sessions</u>			
		Computational Biology	D2-W2-T3	4-153	14
		Network –on-Chip	D2-W4-T3	4-145	21
	04:15 pm – 04:30 pm	Break			
	04:30 pm – 06:00 pm	<u>Technical Sessions</u>			
		Medicine and Public Health	D2-W2-T4	4-153	15
		C4I	D2-W4-T4	4-145	21
07:00 pm –09:00 pm	Post-Conference Dinner (by invitation)				

EITC Special Events

August 5th (Wednesday)

Welcome Dinner (by invitation), 7:00 pm – 10:00 pm



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)

Opening Speech, 8:30 am - 9:15 am; 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

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)

EITC 2009 General Chair

Department of Nuclear Science and Engineering, Massachusetts Institute of Technology
麻省理工學院核子科學與工程系 陳守信 教授 (中央研究院院士)

Lunch Speech, 12:30 pm – 1:45 pm; 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

Day One Dinner (by Invitation), 7:00 pm – 9:00 pm



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)

Keynote Speech, 1:45 pm - 2:45 pm; Room: 4-163



Moderator: **Dr. Shan-Nan Chang** (sxc135@tecoboston.org)
Director, Cultural Division, Taipei Economic and Cultural Office in Boston
駐波士頓臺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

Post-Conference Dinner (by Invitation), 7:00 pm – 9:00 pm



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

Technical Program: Keynote Session

D1-W1-K1: Energy and Nanotechnology

August 6th (Thursday) 1:45 pm - 2:45 pm, Room: 4-159

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



“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)

D1-W2-K1: Biotechnology

August 6th (Thursday) 1:45 pm - 2:45 pm, Room: 4-153

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



“Epigenetic Regulation of Memory Formation in Health and Disease”

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

Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology

(中央研究院 蔡立慧 院士)

D1-W4-K1: System on Chip

August 6th (Thursday) 1:45 pm – 2:45 pm, Room: 4-145

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



“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

Technical Program: W1

Energy, Environment and Sustainability

D1-W1-T1: Emerging Energy Technologies

August 6th (Thursday) 9:15 am - 10:45 am, Room: 4-159

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



“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.tsinghua.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

D1-W1-T2: Energy Technologies

August 6th (Thursday) 11:00 am – 12:30 pm, Room: 4-159

Chair: Professor Chin Pan, National Tsing Hua University (清華大學原子科學院 潘欽 院長)



“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 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 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

D1-W1-T3: Fuel Cells

August 6th (Thursday) 2:45 pm – 4:15 pm, Room: 4-159

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



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

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

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 Findings and Summary of Full Cell Patents”

Professor Ming-Yueh Tsay (mytsay@nccu.edu.tw)

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

D1–W1–T4: Green Energy

August 6th (Thursday) 4:30 pm – 6:00 pm, Room: 4-159

Chair: Dr. Sean Shao-Hwa Wang, Industrial Technology Research Institute (工業技術研究院 王韶華 博士)



“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 吳政惠 教授



“Smarter Energy”

Dr. Jen-Yao Chung (jychung@us.ibm.com)

Senior Manager, Industry Technology and Solutions, IBM T.J. Watson Research Center
IBM 國際商業機械公司華生研究中心 鍾健堯 博士



“Accelerate the Path to Renewable Energy by Business Model Innovation”

Dr. Sean Shao-Hwa Wang (seanwang@itri.org.tw)

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 (jeffreyseigel@optonline.net)

Department of Civil Engineering, Polytechnic Institute of New York University
Director, Marketing & Business Development, Pavarini Construction, Stamford, Connecticut

D2–W1–T1: Nuclear and Hydrogen Energy

August 7th (Friday) 9:15 am - 10:45 am, Room: 4-159

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



“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 (lw.hu@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

D2-W1-T2: Micro- and Nanoscale Energy systems

August 7th (Friday) 11:00 am – 12:30 pm, Room: 4-159

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



“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)

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 J. Y. Chang (jychang@cc.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

Technical Program: W2

Bioinformatics, Biotechnology, Medicine, Public Health

D1-W2-T1: Analysis in Genetic Studies

August 6th (Thursday) 9:15 am – 10:45 am, Room: 4-153

Chair: Professor Jung-Ying Tzeng, North Carolina State University (北卡洛來那州立大學 曾仲瑩 教授)



“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 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

Department of Biostatistics, School of Public Health, Harvard University

哈佛大學公共衛生學院生物統計系 吳肇安 博士

D1-W2-T2: Medicine and Public Health

August 6th (Thursday) 11:00 am – 12:30 pm, Room: 4-153

Chair: Professor Hung-Yi Chiou, Taipei Medical University (台北醫學大學 邱弘毅 教授)



“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

D1-W2-T3: System Biology

August 6th (Thursday) 2:45 pm – 4:15 pm, Room: 4-153

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



“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, University of Pennsylvania
賓州大學 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 Associate, Rockefeller University
洛克菲勒大學 連文慧 博士

D1-W2-T4: Medicine and Public Health

August 6th (Thursday) 4:30 pm – 6:00 pm, Room: 4-153

Chair: Professor Hong-Yo Kang, Chang Gung University (長庚大學 康宏佑教授)



“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



“The Novel Molecular Nucleus Shuttle for Oncogenic Proteins Proteolytic Processing by Matrix Metalloprotease-7”
Professor Wei-Hsuan Yu (whyu2004@ntu.edu.tw)
Neurobiology and Cognitive Science Center, National Taiwan University
台灣大學神經生物與認知科學研究中心 游偉綸 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

D2-W2-T1: Biomedical Imaging Technology

August 7th (Friday) 9:15 am - 10:45 am, Room: 4-153

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



“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

D2-W2-T2: Medicine and Public Health

August 7th (Friday) 11:00 am – 12:30 pm, Room: 4-153

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



“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 麻省眼耳專科醫院 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

D2-W2-T3: Computational Biology

August 7th (Friday) 2:45 pm – 4:15 pm, Room: 4-153

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



“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

D2–W2–T4: Medicine and Public Health

August 7th (Friday) 4:30 pm – 6:00 pm, Room: 4-153

Chair: Dr. Yi-Hsiang Hsu, Harvard University (哈佛醫學院 許益祥 博士)



“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

Technical Program: W3

Nanotechnology, NEMS, MEMS

D1-W3-T1: Nanomaterial

August 6th (Thursday) 9:15 am – 10:45 am, Room: 4-149

Chair: Professor Alex K.-Y. Jen, University of Washington (華盛頓大學 任廣禹 教授)



“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

D1-W3-T2: NEMS and MEMS

August 6th (Thursday) 11:00 am – 12:30 pm, Room: 4-149

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



“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

D1-W3-T3: Polymer Solar Cell

August 6th (Thursday) 2:45 pm – 4:15 pm, Room: 4-149

Chair: Professor Yang-Fang Chen, National Taiwan University (台灣大學 陳永芳 教授)



“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

D1-W3-T4: NEMS and MEMS

August 6th (Thursday) 4:30 pm – 6:00 pm, Room: 4-149

Chair: Professor Jeff Tza-Huei Wang, Johns Hopkins University (約翰霍普金斯大學 王澤輝 教授)



“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

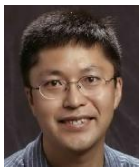


“Convergence of Quantum Dot Biosensors and Microfluidic Single Molecule Spectroscopy for Molecular Analysis of Diseases”
Professor Jeff Tza-Huei Wang (thwang@jhu.edu)
 Departments of Mechanical Engineering & Biomedical Engineering, Johns Hopkins University
 約翰霍普金斯大學機械工程系與生物醫學工程系 王澤輝 教授

D2-W3-T1: Nanotechnology-Fuel Cell

August 7th (Friday) 9:15 am - 10:45 am, Room: 4-149

Chair: Professor Kung-Hwa Wei, National Chiao-Tung University (交通大學 韋光華 教授)



“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 魏秉慶 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

D2-W3-T2: Nanotechnology

August 7th (Friday) 11:00 am – 12:30 pm, Room: 4-149

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



“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

Technical Program: W4

C4I (Content, Computer, Communication, Consumer Electronics, and Integration), SoC (System-on-a-Chip)

D1-W4-T1: Baseband System-on-Chip

August 6th (Thursday) 9:15 am - 10:45 am, Room: 4-145

Chair: Professor Hsi-Pin Ma, National Tsing-Hua University (清華大學 馬席彬 教授)



“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



“Cognitive Radio Networks”

Professor Kwang-Cheng Chen (chenkc@cc.ee.ntu.edu.tw)

Department of Electrical Engineering, National Taiwan University

台灣大學電機工程系 陳光禎 教授

D1-W4-T2: Medical IC

August 6th (Thursday) 11:00 am – 12:30 pm, Room: 4-145

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



“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

D1-W4-T3: Design Automation

August 6th (Thursday) 2:45 pm – 4:15 pm, Room: 4-145

Chair: Professor Yao-Wen Chang, National Taiwan University (台灣大學 張耀文 教授)



“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

D1-W4-T4: Computer and Communication

August 6th (Thursday) 4:30 pm – 6:00 pm, Room: 4-145

Chair: Professor Chen-Mou Cheng, National Taiwan University (台灣大學 鄭振牟 教授)



“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
 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
 台灣大學電機系 鄭振牟 教授

D2-W4-T1: Multi-Processor

August 7th (Friday) 9:15 am - 10:45 am, Room: 4-145

Chair: Professor Wei Hwang, National Chiao-Tung University (交通大學 黃威 教授),



“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

D2-W4-T2: System on Chip

August 7th (Friday) 11:00 am – 12:30 pm, Room: 4-145

Chair: Professor Kenneth Hsu, Rochester Institute of Technology (羅徹斯特理工學院 許根旺 教授)



“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



“QuiteVP: 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

D2-W4-T3: Network-on-Chip

August 7th (Friday) 2:45 pm – 4:15 pm, Room: 4-145

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



“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

D2-W4-T4: C4I

August 7th (Friday) 4:30 pm – 6:00 pm, Room: 4-145

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



“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 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 蕭明富 博士

Sponsors

The EITC-2009 organizing committee gratefully acknowledges the support of the following organizations:

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2009 Taiwan Business Alliance Conference

Invest in Taiwan, Invest your future

Foreign direct investment plays an increasingly important role in Taiwan's economy. Taiwan's incessant improvement in relations with China, continued deregulation and streamlined procedures for setting up operations, along with on-going tax reforms have made this island a more attractive place for business investment.

The Taiwan government is also vigorously allocating funds for the development of six emerging industries: tourism, health care, biotechnology, green energy and high-end agriculture. Moreover, the government is backing the i-Taiwan 12 Projects to boost the country's economy. Since Taiwan has become the 41st signatory of the WTO's Government Procurement Agreement, lucrative business opportunities are open to foreign participation.

Going on its 6th year, the **2009 Taiwan Business Alliance Conference** will be an optimal platform for decision makers, industry professionals and venture capitalists to build stronger cross-border partnerships and expand business. Taiwan will again present wonderful opportunities through this year's conference, scheduled for 7-8 October 2009 at the Taipei International Convention Center (TICC).

Don't miss this unique opportunity. The event is open to multinational executives, venture capitalists and industrial representatives. Online registration will be offered by the end of July at <http://investintaiwan.nat.gov.tw/en>

Tentative Agenda

Date/Time	Activity	Venue
Oct. 7 (Wed.) 09:00~09:30	Registration	TICC Lobby
09:30~09:40	Opening Remarks By Minister Chii-MingYiin, Ministry of Economic Affairs	Room 101 (1F)
09:40~10:40	Session I : Taiwan's Opportunities & Challenges in Emerging Asian Markets	Room 101
10:40~11:00	Coffee Break	
11:00~12:00	Session II : Taiwan—Your Ideal Partner in Asia	Room 101
12:00~13:30	Luncheon	Banquet Hall (3F)
13:30~17:00	Panel Discussions: ◆ Green Energy Industry ◆ Auto Electronics Industry ◆ Tourism & Recreation Industry ◆ Healthcare Industry	Room 101 A/B/C/D
Oct. 8 (Thurs.)	Fact-finding tours	

Organizer:  Ministry of Economic Affairs (MOEA)

Co-organizer:  Taiwan External Trade Development Council (TAITRA)

EITC-2010 Announcement

The organizing committee for EITC-2010 is being formed. Those who are interested in participating in this event, please contact:

Hwa-Han Wang (hwahan@attglobal.net), Chair, EITC Managing Committee
Li-San Wang (lisanwang@gmail.com), Vice Chair, EITC Managing Committee