



**The First Young Investigator Conference  
(EITC-YIC 2011)**

**"Leadership, Innovation, Growth"**

**Harvard University  
Cambridge, Massachusetts, USA**

**Thursday – Friday, August 18 – 19, 2011**

**Program**

Building Abbreviations and Addresses (**Harvard University**):

- **MD** (Maxwell Dworkin Building, School of Engineering and Applied Science (SEAS), Harvard University): Address: 33 Oxford Street, Cambridge, MA 02138, USA

***Day 1 (Thursday, August 18, 2011): Emerging Science & Technology***

**8/18 (Thu) 8:30 am - 6:00 pm : Registration**

Room: MD-G123

**8/18 (Thu) 9:00 am - 9:50 am : Opening Speech**

Chair: **Dr. Yi-Hsiang (Sean) Hsu** (哈佛醫學院許益祥教授), Harvard University

Room: MD-G115

**Ms. Anne Hung**

Director General, Taipei Economic and Cultural Office in Boston

(駐波士頓台北經濟文化辦事處洪慧珠處長)

**Opening Keynote:**

“Academia Sinica and The National Research Program for Biopharmaceuticals (NRPB) – the role in biotechnological development of Taiwan”

**Dr. Andrew H.-J. Wang**

Vice President, Academia Sinica

Republic of China (Taiwan)

(中央研究院副院長王惠鈞院士)

**Parallel Sessions:**

**8/18 (Thu) 9:50 am - 11:10 am : Technical Session D1-W1-T1:  
Medicine/Public Health/Biotechnology/Bioinformatics (1)**

Chair: **Professor Li-San Wang** (賓州大學醫學院王立三教授), University of Pennsylvania  
Room: MD-G135

“Discovering the Genetics Cause of Disease and New Mitochondrial Biology with MitoExome Sequencing”

**Mr. Steve Hershman**

Ph.D. Candidate

Harvard University

“Integrative Network Analysis of Multimodal Genomic Microarrays”

**Dr. Hsun-Hsien Chang**

Children’s Hospital Informatics Program

Harvard Medical School

(哈佛醫學院張洵銑博士)

“Bioinformatics and Genomics for Aging and Neurodegeneration”

**Dr. Kajia Cao**

Research Associate

Department of Cell Development and Biology

University of Pennsylvania

(賓州大學曹卡佳博士)

“MCAB – Multiple Tumor Class Classification using Covariance among Binary Classifiers”

**Dr. Fanny Yuk Yee Leung**

Postdoctoral Researcher

Department of Pathology and Laboratory Medicine

Penn Center for Bioinformatics

University of Pennsylvania

(賓州大學梁玉儀博士)

**8/18 (Thu) 9:50 am - 11:10 am : Technical Session D1-W2-T1: New  
Materials Science and Engineering, Nanotechnology (1)**

Chair: **Professor Jeff Tza-Huei Wang** (王澤輝), Johns Hopkins University

Room: MD-G119

“Transforming Light and Sound With Metamaterials”

**Professor Nicholas Xuanlai Fang**

Mechanical Engineering Department

Massachusetts Institute of Technology

(麻省理工学院机械工程系方绚莱教授)

“Acoustic Tweezers: Patterning, Focusing, and Separating Cells and Microparticles Using Standing Surface Acoustic Waves (SSAW)”

**Professor Tony Jun Huang**

Biomedical NanoElectroMechanicalSystems (BioNEMS)

-- Multi-Physics of Micro/Nano Systems

Department of Engineering Science and Mechanics

The Pennsylvania State University

(宾州州立大学黄竣教授)

“Microfluidics: From Laboratory Automation to Cellular Self-Organization”

**Professor Pak Kin Wong**

Department of Aerospace and Mechanical Engineering

The University of Arizona

(亞利桑那大學航空航天與機械工程系黃百健教授)

“Quantum Dots-Enabled Highly Sensitive Detection of Epigenetic Cancer Markers in Clinical Samples”

**Professor Jeff Tza-Huei Wang**

Departments of Mechanical Engineering, Biomedical Engineering and Oncology

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)

**8/18 (Thu) 9:50 am - 11:10 am : Technical Session D1-W3-T1: C4I (1): Broadband Technologies and Multimedia Services, Cloud Computing and Cyber Security**

Chair: **Professor Wen-Chieh (Steve) Lin** (林文杰), National Chiao Tung University

Room: MD-G125

“CloudSense: Continuous Fine-Grain Cloud Monitoring with Compressive Sensing”

**Mr. Chit-Kwan Lin**

Ph.D. Candidate in Computer Science

School of Engineering and Applied Sciences

Harvard University

(哈佛大學練哲軍)

“Anomaly Detection in Online Reputation Systems”

**Professor Yan (Lindsay) Sun**

Department of Electrical, Computer and Biomedical Engineering

University of Rhode Island

(罗德岛大学孙琰教授)

“From Information Retrieval to Active Media”

**Dr. Trista P. Chen**

Gracenote Inc.

(陳佩君博士)

**8/18 (Thu) 11:10 am - 11:25 am : Break**

Room: MD-G123

**Parallel Sessions:**

**8/18 (Thu) 11:25 am – 12:45 pm : Technical Session D1-W1-T2:**

**Medicine/Public Health/Biotechnology/Bioinformatics (2)**

Chair: **Dr. Wen-Hui Lien** (連文慧), Rockefeller University

Room: MD-G135

“Cell Cycle-dependent Regulation of FoxM1 Activity by Phosphorylation”

**Dr. Yi-Ju Chen**

Postdoctoral Fellow

Department of Medicine,

Abramson Family Cancer Research Institute

University of Pennsylvania

(賓州大學陳怡如博士)

“Integrins Traffic Rapidly via Circular Dorsal Ruffles and Macropinocytosis during Stimulated Cell Migration”

**Dr. Zhizhan Gu**

Postdoctoral Research Fellow

Division of Rheumatology, Immunology and Allergy, Department of Medicine,  
Brigham and Women's Hospital, Harvard Medical School

(哈佛醫學院顧智湛博士)

“Proteomic Assessment of a Cell Model of Spinal Muscular Atrophy”

**Dr. Chia-Yen Wu**

Department of Biological Sciences

University of Delaware

(德拉瓦大學吳佳燕博士)

“Toward the Treatment of Human Genetic Disorders”

**Dr. Peng-Chieh Jessica Chen**

Postdoctoral Fellow

Brigham & Women's Hospital

Harvard Medical School

(哈佛醫學院陳芃潔博士)

“Genome-Wide Maps of Histone Modifications in the Hair Follicle Lineages”

**Dr. Wen-Hui Lien**

Postdoctoral Fellow

Laboratory of Mammalian Cell Biology and Development

The Rockefeller University

(洛克菲勒大學連文慧博士)

**8/18 (Thu) 11:25 am – 12:45 pm : Technical Session D1-W2-T2: New Materials Science and Engineering, Nanotechnology (2)**

Chair: **Professor Bingqing Wei** (魏秉庆), University of Delaware

Room: MD-G119

“In-situ Transmission Electron Microscopy Studies on Nanowire Growth”

**Professor Cheng-Yen Wen**

Department of Materials Science and Engineering

National Taiwan University

(台灣大學材料科學與工程學系溫政彥教授)

“Strength of Nanofiber Reinforced Composites”

**Professor Quanfang Chen**

Department of Mechanical, Materials and Aerospace Engineering

University of Central Florida

“Carbon-based 2D Materials, Structures and their Applications”

**Dr. Robert Vajtai**

Faculty Fellow

Department of Mechanical Engineering & Materials Science

Rice University

“CNT Supercapacitor Based Efficient Energy Management for Autonomous Wireless Sensor Nodes”

**Professor Dongsheng Brian Ma**

TxACE Chair Professor and Thrust Leader in Energy Efficiency  
Texas Analog Center of Excellence (TxACE)  
The University of Texas at Dallas  
(德州大学达拉斯分校电机工程系马东升教授)

**8/18 (Thu) 11:25 am – 12:45 pm : Technical Session D1-W3-T2: C4I  
(2): Multimedia Services, Visualization and Web Technologies**

Chair: **Dr. Trista P. Chen** (陳佩君), Gracenote Inc.  
Room: MD-G125

“Web Page Readability Enhancement”

**Mr. Chen-Hsiang (Jones) Yu**

Ph.D. Candidate in EECS  
Department of Electrical Engineering and Computer Science  
Massachusetts Institute of Technology  
(麻省理工學院電機工程與資訊科學系余禎祥)

“iPOEM: A GPS Tool for Integrated Management in Virtualized Data Centers”

**Professor Ya-Yunn Su**

Department of Computer Science & Information Engineering  
National Taiwan University  
(台灣大學資訊工程學系蘇雅韻教授)

“Active Learning for Interactive 3D Scene Reconstruction”

**Dr. Yao-Jen (Kevin) Chang**

Research Associate, Advanced Multimedia Processing (AMP) Lab  
School of Electrical and Computer Engineering  
Cornell University  
(康乃爾大學電機暨電腦工程學院張耀仁博士)

**8/18 (Thu) 12:45 pm - 2:15 pm : Lunch**

**8/18 (Thu) 2:15 pm - 3:15 pm: Keynote Panel Discussion: New Green  
Energy, Environment, and Sustainability**

Moderator: **Dr. Lin-wen Hu** (胡玲文), Massachusetts Institute of Technology  
Room: MD-G115

**Professor Gang Chen**

Carl Richard Soderberg Professor of Power Engineering  
Director, Pappalardo Micro and Nano Engineering Laboratories  
Director, DOE EFRC: Solid-State Solar-Thermal Energy Conversion Center  
Massachusetts Institute of Technology  
(麻省理工学院机械工程系美国国家工程院院士陈刚教授)

**Dr. Lin-wen Hu**

Associate Director & Principal Research Scientist  
Nuclear Reactor Laboratory (NRL)  
Massachusetts Institute of Technology  
(麻省理工學院核子反應爐實驗室副主任胡玲文博士)

**Parallel Sessions:**

**8/18 (Thu) 3:15 pm – 4:35 pm : Technical Session D1-W1-T3:  
Medicine/Public Health/Biotechnology/Bioinformatics (3)**

Chair: **Dr. Huai-Kuang Tsai** (蔡懷寬), Academia Sinica

Room: MD-G135

“Characterization of Transcription Factor and MicroRNA Regulatory Networks Involved in Myelination”

**Dr. Li-Wei Chang**

Research Instructor, Department of Pathology and Immunology

Washington University in St. Louis

(聖路易華盛頓大學章立維博士)

“Integrating Bioinformatics Technologies with Biomedical Research by Collaborative Consulting Model”

**Dr. Yaoyu E. Wang**

Bioinformatics Analyst

Center for Cancer Computational Biology

Dana-Farber Cancer Institute

(波士頓達納法伯癌症研究所王耀煜博士)

“Precise Mapping for Bisulfite Sequencing in Generating DNA Methylation Profiles”

**Dr. Pao-Yang Chen**

Postdoctoral Fellow

Department of Molecular Cell and Developmental Biology

University of California at Los Angeles

(加州大學洛杉磯分校陳柏仰博士)

**8/18 (Thu) 3:15 pm – 4:35 pm : Technical Session D1-W2-T3: New  
Materials Science and Engineering, Nanotechnology (3)**

Chair: **Professor Jung-Tsung Shen** (沈榮聰), Washington University in St. Louis

Room: MD-G119

“Nanophotonic Emitters for Future Communication, Energy, and Health Care”

**Professor Pei-Cheng Ku**

Department of Electrical Engineering & Computer Science

The University of Michigan at Ann Arbor

(密歇根大學安娜堡分校電機系古培正教授)

“Organic and Inorganic Nanocrystal Thin Film Solar Cells”

**Dr. Hsiang-Yu Chen**

Postdoctoral Fellow, National Renewable Energy Laboratory

The U.S. Department of Energy

(美國國家可再生能源實驗室陳香好博士)

“Electromechanical Stability of Nanocrystalline Silicon Thin Film Transistors Made on Colorless Polyimide Foil Substrates”

**Professor I-Chun Cheng**

Graduate Institute of Photonics and Optoelectronics

Department of Electrical Engineering

National Taiwan University

(台灣大學電機工程學系陳奕君教授)

“Nanostructured Group IV Elements for Energy Storage”

**Professor Bingqing Wei**

Associate Professor, Department of Mechanical Engineering  
University of Delaware  
(德拉瓦大學機械工程系魏秉庆教授)

**8/18 (Thu) 3:15 pm – 4:35 pm : Technical Session D1-W3-T3: C4I  
(3): Broadband Technologies, Cloud Computing, Supercomputing and  
Smart Home**

Chair: **Dr. Jia-Yu (Tim) Pan** (潘家煜), Google U.S.A.  
Room: MD-G125

“Compressive Bidding for Wireless LAN Medium Access Control”

**Mr. Tsung-Han Lin**

Ph.D. Candidate in Computer Science  
School of Engineering and Applied Sciences  
Harvard University  
(哈佛大學林宗翰)

“Make the Web Faster Through Cloud Routing”

**Mr. Coach Wei**

CEO, Yottaa Inc

“Human Centered Software Design for Multi-Modal Sensing Smart House”

**Dr. Hen-I Yang**

Smart Home Laboratory  
Department of Computer Science  
Iowa State University

“Current Status and Trend in Supercomputing”

**Dr. Charng-Da Lu**

The Center for Computational Research  
The State University of New York at Buffalo  
(纽约州立大學水牛城分校呂長達博士)

**8/18 (Thu) 4:35 pm – 4:50 pm : Break**

Room: MD-G123

**Parallel Sessions:**

**8/18 (Thu) 4:50 pm – 6:10 pm : Technical Session D1-W1-T4:  
Medicine/Public Health/Biotechnology/Bioinformatics (4)**

Chair: **Dr. Yi-Hsiang (Sean) Hsu** (許益祥), Harvard University  
Room: MD-G135

“Gene Set Testing, Stem Cells and Breast Cancer”

**Dr Di Wu**

Postdoctoral Research Fellow  
Department of Statistics  
Harvard University

“Medical Genetics: Using Pedigrees to Characterize the Founder Structure of a Closed Population”

**Dr. Woei-Jyh (Adam) Lee**

Fellow

National Institute of Health  
(美國國家衛生院李偉智博士)

“Using Modeling and Simulation on Personalized Medical Decision Support and Comparative Effectiveness Research”

**Dr. Chih-Lin Chi**

Postdoctoral Research Associate  
Laboratory for Personalized Medicine  
Center for Biomedical Informatics  
Harvard Medical School  
(哈佛醫學院紀志霖博士)

“Energy Restriction as an Antitumor Target of Thiazolidinediones”

**Dr. Shuo Dennis Wei**

Postdoctoral Research Fellow  
Department of Medicine  
Beth Israel Deaconess Medical Center  
Harvard Medical School  
(哈佛醫學院魏碩博士)

“Local Raster Scanning with Atomic Force Microscopy and its Application in Biology and Drug Development”

**Peter I-Tsyuen Chang**

Ph.D. Candidate in Mechanical Engineering  
School of Engineering  
Boston University  
(波士頓大學機械系張以全)

**8/18 (Thu) 4:50 pm – 6:10 pm : Technical Session D1-W2-T4: New Materials Science and Engineering, Nanotechnology (4)**

Chair: **Professor Yu-Bin Chen** (陳玉彬), National Cheng-Kung University  
Room: MD-G119

“Ultra-low-power Nonlinear Optical Devices”

**Professor Jung-Tsung Shen**

Department of Electrical & Systems Engineering  
Washington University in St. Louis  
(聖路易華盛頓大學電機暨系統工程學系沈榮聰教授)

“Optimization of Nano-Structures Embedded in Glass Windows for Energy-Saving”

**Professor Yu-Bin Chen**

Assistant Professor, Department of Mechanical Engineering  
National Cheng-Kung University  
(成功大學機械系陳玉彬教授)

**Professor Hong Yang**

Department of Chemical Engineering  
University of Rochester

**8/18 (Thu) 4:50 pm – 6:10 pm : Technical Session D1-W3-T4: C4I (4): Broadband Technologies and Multimedia Services, Cloud Computing and Cyber Security**

Chair: **Mr. Tsung-Han Lin** (林宗翰), Harvard University



Room: MD-G125

“A Simple Queueing Network Model of Mobility in a Campus Wireless Network”

**Mr. Yung-Chih Chen**

Ph.D. Candidate in Computer Engineering  
Electrical and Computer Engineering Department  
University of Massachusetts Amherst  
(麻州大學安默斯特分校陳勇志)

“Making Virtual More Realistic: from a Computer Graphics Perspective”

**Professor Wen-Chieh (Steve) Lin**

Department of Computer Science  
National Chiao Tung University  
(交通大學資訊工程學系林文杰教授)

“The Goals and Challenges of Click Fraud Penetration Testing Systems”

**Dr. Jia-Yu (Tim) Pan**

Google U.S.A.  
(美國谷歌公司潘家煜博士)

### **Taiwan Night:**

**8/18 (Thu) 7:00 pm – 9:30 pm : Taiwan Cultural Festival: Film**

**Festival** (台灣新銳電影回顧展)

Movie Name: No Puedo Vivir Sin Ti - 不能沒有你

Room & Address: Carpenter Center, Harvard University (Address: 24 Quincy Street,  
Cambridge, MA 02138)

Organizer: **Mr. Steven Lai**, Director, Press Division, TECO Office in Boston

## ***Day 2 (Friday, August 19, 2011): New Media & Creative Industries***

### **8/19 (Fri) 8:30 am - 6:00 pm : Registration**

Room: MD-G123

### **8/19 (Fri) 9:00 am - 9:50 am : Opening Speech**

Chair: **Professor Lin-shan Lee** (李琳山), National Taiwan University

Room: MD-G115

#### **Professor Lin-shan Lee**

Dean, College of Electrical Engineering and Computer Science

National Taiwan University

(台灣大學電資學院院長李琳山教授)

#### **Opening Keynote:**

“Cultural Creative Industries v.s. National Palace Museum”

##### **Dr. Kung-shin Chou**

Director, National Palace Museum

Republic of China (Taiwan)

(國立故宮博物院院長周功鑫博士)

### **8/19 (Fri) 9:50 am - 11:10 am : Plenary Session 1: New Media, Culture and Technology**

Chair: **Professor C. -C. Jay Kuo** (郭宗杰), University of Southern California

Room: MD-G115

“World Culture and Heritage is One-click Away!

Have We Fully Explored the Potentials of New Media and Technology?”

##### **Professor Ching-chih Chen**

President, Global Connection and Collaboration, Inc.

Professor Emeritus of Simmons College

(全球連結與合作董事長陳劉欽智教授)

(美國波士頓西蒙斯學院榮譽教授)

“How an Art Museum Develops its Cultural Creative Applications and Services”

##### **Professor Yung-Cheng Hsieh**

Dean, Office of Research and Development

National Taiwan University of Arts

(台灣藝術大學研究發展處研發長謝顯丞教授)

### **8/19 (Fri) 11:10 am - 11:25 am : Break**

Room: MD-G123

### **8/19 (Fri) 11:25 am - 12:45 pm : Plenary Session 2: New Media, Entertainment Technology and Culture**

Chair: **Professor Yung-Cheng Hsieh** (謝顯丞), National Taiwan University of Arts

Room: MD-G115

“Paradigm Shifts in Modern ICT Era and Future Trends”

**Professor C. –C. Jay Kuo**

Director of the Signal and Image Processing Institute (SIPI) and  
Department of Electrical Engineering and Computer Science  
University of Southern California  
(南加州大學電機系郭宗杰教授)

“Melodic Variations: Toward Cross-Cultural Transformation”

**Ms. Cheng-Zhi (Anna) Huang**

Ph.D. Candidate in Computer Science  
School of Engineering and Applied Sciences  
Harvard University  
(哈佛大學黃成之)

**8/19 (Fri) 12:45 pm - 2:15 pm : Lunch**

**8/19 (Fri) 2:15 pm - 3:15 pm: Keynote Speech**

Moderator: **Professor Lin-shan Lee** (李琳山), National Taiwan University  
Room: MD-G115

“The Art of Tangible Bits”

**Professor Hiroshi ISHII**

Muriel R. Cooper Professor of Media Arts and Sciences  
Associate Director of MIT Media Laboratory  
Head of Tangible Media Group, Media Lab  
Massachusetts Institute of Technology

**8/19 (Fri) 3:15 pm – 4:35 pm : Plenary Session 3: Creative Design,  
Digital Humanities**

Chair: **Professor Yung-Cheng Hsieh** (謝顯丞), National Taiwan University of Arts  
Room: MD-G115

“World Heritage for Digital Humanities: Sights in Creative Panophotography and  
Domoscopy”

**Mr. Tito Dupret**

Hypermedia Director of Patrimonium-mundi.org  
Université Laval, Québec, Canada

“From Digital Archives to Digital Humanities”

**Professor Jieh Hsiang**

Distinguished Professor in Computer Science  
Director, Research Center for Digital Humanities  
National Taiwan University  
(台灣大學數位典藏中心主任暨台大資工系特聘教授項潔博士)

**8/19 (Fri) 4:35 pm – 4:50 pm : Break**

Room: MD-G123

**8/19 (Fri) 4:50 pm – 6:00 pm : Plenary Session 4: Future  
Development**

Chair: **Professor Ching-chieh Chen** (陳劉欽智), Global Connection and Collaboration &  
Simmons College  
Room: MD-G115

**Part A: 4:50 pm – 5:30 pm**

“Towards Understanding the Ecology of Art History”

**Dr. Maximilian Schich**

DFG Visiting Research Scientist from Germany & CCNR, Northeastern University

**Part B: 5:30 pm - 6:10 pm: Open Discussions and Q&A**

Panel discussion will be participated by all invited speakers, including:

**Professor Ching-chih Chen**, Global Connection and Collaboration & Simmons College

**Dr. Kung-shin Chou**, National Palace Museum, Republic of China (Taiwan)

**Mr. Tito Dupret**, Patrimonium-mundi.org, Université Laval, Québec, Canada

**Professor Jieh Hsiang**, National Taiwan University

**Professor Yung-Cheng Hsieh**, National Taiwan University of Arts

**Professor Hiroshi ISHII**, Massachusetts Institute of Technology

**Professor C. –C. Jay Kuo**, University of Southern California

**Professor Lin-shan Lee**, National Taiwan University

**Dr. Maximilian Schich**, Northeastern University

Q&A open to all participants