The 2nd Young Investigator Conference
(EITA-YIC 2012)

"Leadership, Innovation, Growth"

The Sheraton Palo Alto Hotel
Palo Alto, California, U.S.A.

Thursday – Friday, July 26-27, 2012

Program

Day 1 (Thursday, July 26, 2012): Emerging Science & Technology

7/26 (Thu) 8:30 am - 5:00 pm: Registration
Room:

7/26 (Thu) 9:00 am - 9:50 am: Opening Speech
Chair: **Dr. Liang-Gee Chen (陳良基)**, National Taiwan University

Dr. Ching-Pin Chang (張景濱), Stanford University

Room: Spruce

Opening Keynote:

<TBD>

Parallel Sessions:
7/26 (Thu) 9:50 am - 11:20 am: Technical Session D1-W1-T1: Earth and Atmospheric Sciences, Aerospace and Ocean Engineering (1)

Chair: **Professor Shu-Hua Chen (陳淑華),** University of California, Davis
Room: **Juniper**

"Mathematical Modeling and Scientific Research"
Dr. Hung-Chi Kuo
Associate Dean, College of Science &
Chair Professor of Atmospheric Sciences
National Taiwan University
(臺灣大學理學院副院長郭鴻基特聘教授)

"Representation of Storm Weather in Numerical Climate Models"
Dr. Guang Jun Zhang
Research Meteorologist

Division of Climate, Atmospheric Science, Physical Oceanography
Scripps Institution of Oceanography
(斯克里普斯海洋研究所张广俊博士)

"On the Limit of Predicting the Madden-Julian Oscillation"
Dr. Wen-Wen Tung
Associate Professor, Department of Earth and Atmospheric Sciences
Purdue University
(普渡大學地球與大氣科學系董文文教授)

7/26 (Thu) 9:50 am - 11:20 am: Technical Session D1-W2-T1: Medicine, Public Health, Biomedical Science and Engineering (1)

Chair: **Dr. Cleo Yi-Fang Lee (李怡芳),** Stanford University
Room: **Spruce**

"How Cells Respond to Their Mechanical Environment: from Substrate to Nucleus"
Dr. Julie Ying Hui Ji
Assistant Professor, Department of Biomedical Engineering
Purdue School of Engineering and Technology
Indiana University-Purdue University Indianapolis
(印第安纳大学与普渡大学印第安纳波里斯联合分校生物医学工程学系季英慧教授)

"Fingerprinting Ion Channel Dysfunction for Treating Cardiac Arrhythmias"
Dr. Ye Chen-Izu
Assistant Professor of Biomedical Engineering, Pharmacology, Medicine/ Cardiology
University of California, Davis
(加州大学戴维斯分校生物医学工程学,药理学,心脏学学系陈晔教授)

"Toward an Imaging-Based Atlas of the Mouse Myocardial Fiber Structure"
Dr. Edward W. Hsu
Associate Professor, Department of Bioengineering
University of Utah

"Development of Nanoparticle-based Brain Tumor Therapeutic System"
Dr. Chiung-Yin Huang
Postdoctoral Fellow, Department of Neurosurgery
Chang Gung Memorial Hospital
(長庚醫院神經外科黃瓊瑩博士)

7/26 (Thu) 9:50 am - 11:20 am: Technical Session D1-W3-T1: New Materials Science and Engineering, Nanotechnology and New Green Energy (1)

Chair: **Professor Pei-Cheng Ku (古培正)**, University of Michigan at Ann Arbor
Room: **Maple**

"3D Bioactive Microspheres for Stem Cell Culture and Encapsulation"
Dr. Jiashing Yu
Assistant Professor, Department of Chemical Engineering
National Taiwan University
(臺灣大學化學工程學系游佳欣教授)

"Biomimetic Strategies for Engineering Protein- and Lipid-Based Biomaterials"
Dr. Xiaoyi Wu
Associate Professor, Department of Aerospace and Mechanical Engineering
The University of Arizona
(亚利桑纳大学机械和航天工程系吴筱益教授)

"Nanobiology: Investigating Biological Processes at the Nanoscale"
Dr. Andrew Yu-Jen Wang
Postdoctoral Researcher, Department of Pediatrics
Stanford University
(史丹佛大學醫學院小兒科系王禹真博士)

"Enhanced Transfection Efficiency of PEGylated Cation Lipid-DNA Complexes Prepared with an Acid-Labile PEG-Lipid"
Dr. Chia-Ling Chan
Postdoctoral Research Associate, Materials Research Laboratory
University of California, Santa Barbara
(加州大學聖塔芭芭拉分校材料研究實驗室詹佳玲博士)

7/26 (Thu) 11:20 am - 11:35 am: Break

Parallel Sessions:
7/26 (Thu) 11:35 am – 1:05 pm: Technical Session D1-W1-T2: Earth and Atmospheric Sciences, Aerospace and Ocean Engineering (2)

Chair: **Professor Shau-Shiun (James) Jan (詹劭勳),** National Cheng Kung University
Room: **Juniper**

"Decision Making under Uncertainty with Application to Air Traffic Management"
Dr. Yan Wan
Assistant Professor, Department of Electrical Engineering
University of North Texas
(北德克萨斯大学电机工程学系万妍教授)

"Robust Alternative Position Navigation and Time (APNT) Systems for Aviation"
Dr. Sherman Lo
Senior Research Engineer, Global Positioning System (GPS) Lab
Stanford University

"Modeling and Computation for Large-scale Air Traffic Flow Optimization"
Dr. Dengfeng Sun
Assistant Professor, School of Aeronautics and Astronautics
Purdue University
(普渡大学航空航天工程系孙登峰教授)

7/26 (Thu) 11:35 am – 1:05 pm: Technical Session D1-W2-T2: Medicine, Public Health, Biomedical Science and Engineering (2)

Chair: **Dr. Pao-Yang Chen (陳柏仰),** University of California, Los Angeles
Room: **Spruce**

"Engineering Proteins for Sensing and Controlling Cellular Signals"
Dr. Michael Z. Lin
Assistant Professor, Departments of Pediatrics and Bioengineering
Stanford University

"Using Ultrasound Standing Wave Fields to Enhance Gene Delivery Efficiency – For Both Viral and Non-Viral DNA Vectors"
Dr. Yu-Hsiang Lee
Assistant Professor, Graduate Institute of Biomedical Engineering
National Central University
(中央大學生物醫學工程研究所李宇翔教授)

"Active DNA Demethylation during Plant Gametogenesis"
Dr. Tzung-Fu Hsieh
Associate Research Specialist, Department of Plant and Microbial Biology
University of California, Berkeley

7/26 (Thu) 11:35 am – 1:05 pm: Technical Session D1-W3-T2: New Materials Science and Engineering, Nanotechnology and New Green Energy (2)

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

Dr. Hong Shen
Assistant Professor, Department of Chemical Engineering
University of Washington

"Development of a M2M-based Agroecological Monitoring System – Making the M2M Technology to Large-Scale Practices and Beyond"
Dr. Richard (Cheng-Long) Chuang
Postdoctoral Research Fellow, Intel-NTU Connected Context Computing Center
Department of Bio-Industrial Mechatronics Engineering
National Taiwan University
(Intel–臺大創新研究中心,臺灣大學生物產業機電工程學系莊欽龍博士)

"Transparent Photovoltaics"
Dr. Pei-Cheng Ku
Assistant Professor, 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)

7/26 (Thu) 1:05 pm - 2:35 pm: Lunch

Parallel Sessions:
7/26 (Thu) 2:35 pm – 4:05 pm: Technical Session D1-W1-T3: Earth and Atmospheric Sciences, Aerospace and Ocean Engineering (3)

Chair: **Professor Wen-Wen Tung (董文文),** Purdue University
Room: **Juniper**

"Harvesting Ocean Thermal Energy for Unmanned Underwater Explorations"
Dr. Yi Chao

Principal Scientist
Remote Sensing Solutions, Inc.
(遥感技术与应用公司趙暉博士)

"Background Ozone and Carbon Monoxide over the North Atlantic for 2001-2011"
Dr. Shiliang Wu
Assistant Professor, Atmospheric Sciences Program
Department of Geological and Mining Engineering and Sciences &
Department of Civil and Environmental Engineering
Michigan Technological University

"Modification of Hurricane Helene (2006) Development by Dust-Radiation-Cloud Interactions"
Dr. Shu-Hua Chen
Associate Professor, Department of Land, Air, and Water Resources
University of California, Davis
(加州大學戴維斯分校陳淑華教授)

7/26 (Thu) 2:35 pm – 4:05 pm: Technical Session D1-W2-T3: Medicine, Public Health, Biomedical Science and Engineering (3)

Chair: **Dr. Leslie Chen (陳彥瑜),** Institute for Systems Biology
Room: **Spruce**

"Road to Innovation: Burgeoning Technology that will Change Neurosurgery"
Dr. Abel Po-Hao Huang
Neurosurgeon, National Taiwan University Hospital, Yun-Lin branch
Clinical lecturer, College of Medicine, National Taiwan University Hospital
(台大醫院神經外科黃博浩醫師)

"Finding Immune Mechanisms of Airway Inflammation in Pulmonary Diseases: the Role of Surfactant Protein D and Biomedical Informatics Applications"
 Dr. Ko-Wei Lin
Postdoctoral Fellow, Division of BioMedical Informatics
School of Medicine
University of California, San Diego
(加州大學聖地牙哥分校醫學院林可薇博士)

"Erythroid/Myeloid Progenitors and Hematopoietic Stem Cells Originate from Distinct Populations of Endothelial Cells"
Dr. Michael Jin-Feng Chen
Post-doctoral Scientist, Stem Cell Program
Children's Hospital Boston
(波士頓兒童醫院陳錦峰博士)

"Intra-Uterine Calorie Restriction Regulates the Placental DNA Methylation Profile Influencing Fetal Development and Adult-type Chronic Diseases"
Dr. Pao-Yang Chen
Postdoctoral Fellow, Department of Molecular Cell and Developmental Biology
University of California, Los Angeles
(加州大學洛杉磯分校陳柏仰博士)

7/26 (Thu) 2:35 pm – 4:05 pm: Technical Session D1-W3-T3: New Materials Science and Engineering, Nanotechnology and New Green Energy (3)

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

"Exchange Interactions in Perovskite Oxide Nanostructures"
Dr. Yayoi Takamura
Associate Professor, Department of Chemical Engineering and Materials Science
University of California, Davis
(加州大學戴維斯分校化學工程與材料科學學系高村教授)

"Computational Design of Photocatalytic Materials for Solar Powered Hydrogen Production"
Dr. Gyeong S. Hwang
Professor & Lyondell Corp. Endowed Faculty Fellow in Engineering
Department of Chemical Engineering
The University of Texas at Austin

"Microfluidic Applications in Optics and Biosensing"
Dr. Sindy K.Y. Tang
Assistant Professor, Department of Mechanical Engineering
Stanford University

"Thermal Conductivity of a Single Nylon-6 Nanofiber"
Dr. Ming-Chang Lu
Assistant Professor, Department of Mechanical Engineering
National Chiao Tung University
(交通大學機械工程學系呂明璋教授)

7/26 (Thu) 4:05 pm – 4:20 pm: Break

Parallel Sessions:
7/26 (Thu) 4:20 pm – 5:50 pm: Technical Session D1-W1-T4: Earth and Atmospheric Sciences, Aerospace and Ocean Engineering (4)

Chair: **Dr. Fang-Cheng Chan (詹方正)**, Illinois Institute of Technology
Room: **Juniper**

"On The Forefront of a New Generation of Aviation System Performance"
Dr. Seth Young
Associate Professor and Chair, Dept. of Aviation
Director, Center for Aviation Studies
The Ohio State University

"Global Navigation Satellite System Interference Monitoring System at Airport Environment"
Dr. Shau-Shiun (James) Jan
Associate Professor, Department of Aeronautics and Astronautics
National Cheng Kung University
(成功大學航空太空工程學系詹劭勳教授)

"Local Area Augmentation System (LAAS) Ground Receiver Interference Analysis and Mitigation"

Dr. Fang-Cheng Chan
Senior Research Associate, Department of Mechanical and Aerospace Engineering
Illinois Institute of Technology
(伊利諾理工大學機械和航天工程系詹方正博士)

7/26 (Thu) 4:20 pm – 5:50 pm: Technical Session D1-W2-T4: Medicine, Public Health, Biomedical Science and Engineering (4)

Chair: **Professor Ching-Pin Chang (張景濱)**, Stanford University
Room: **Spruce**

"Targeting Her2 in Tumor-initiating Cells in Non-Her2 Amplified Breast Cancer"
Dr. Cleo Yi-Fang Lee
Postdoctoral Research Fellow, Stanford Cancer Institute
Stanford University
(史丹佛大學醫學院癌症研究所李怡芳博士)

"Systems Biology and Medicine"
Dr. Leslie Chen
Research Scientist, Institute for Systems Biology
(系統生物研究所陳彥瑜博士)

"Convection-enhanced Delivery in Glioma Treatment"
Dr. Pin-Yuan Chen
Research Scientist, Department of Neurological Surgery, University of California San Francisco
Assistant Professor, Department of Neurological Surgery,
Chang Gung Memorial Hospital Linkou Medical Center
(林口長庚紀念醫院神經外科陳品元教授)

"Epigenetic Mechanism of Heart Muscle Development and Disease"
Dr. Ching-Pin Chang
Associate Professor, Department of Medicine
Stanford University
(史丹佛大學醫學院醫學系張景濱教授)

7/26 (Thu) 4:20 pm – 5:50 pm: Technical Session D1-W3-T4: New Materials Science and Engineering, Nanotechnology and New Green Energy (4)

Chair: **Professor Pei-Cheng Ku (古培正)**, University of Michigan at Ann Arbor
Room: **Maple**

"Emerging Charge Trapping Nonvolatile Memories"
Dr. Jianlin Liu
Professor, Department of Electrical Engineering
University of California, Riverside
(加州大学河滨分校电机工程学系刘建林教授)

"Plasmonic Metamaterials and Their Applications in Super Resolution Imaging"
Dr. Zhaowei Liu
Assistant Professor, Department of Electrical and Computer Engineering
University of California, San Diego

(加州大学圣地亚哥分校电子及计算机工程系刘照伟教授)

"Nanostructured Thermoelectric Materials for Waste Heat Recovery"
Dr. Zhixi Bian
Assistant Adjunct Professor, Department of Electrical Engineering
University of California, Santa Cruz
(加州大学圣克鲁兹分校电机工程学系邊志喜教授)

"Quantum Nano-photonics: Photonics Interacting with Atomic Degrees of Freedom"
Dr. Jung-Tsung Shen
Assistant Professor, 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)

Day 2 (Friday, July 27, 2012): New Media & Creative Industries

7/27 (Fri) 8:30 am - 5:00 pm: Registration
Room:

7/27 (Fri) 9:30 am - 10:30 am: Opening Speech
Chair: **Dr. Liang-Gee Chen (陳良基)**, National Taiwan University

   Dr. Jia-Yu (Tim) Pan (潘家煜), Google Inc.

Room: **Oak**

Opening Keynote:

Dr. Jane Yung-Jen Hsu
Chair and Professor
Department of Computer Science and Information Engineering
National Taiwan University
(台灣大學資訊工程學系系主任許永真教授)

7/27 (Fri) 10:30 am - 11:20 am: Plenary Session:
Chair: **Dr. Jia-Yu (Tim) Pan (潘家煜)**, Google Inc.
Room: **Sequoia**

Ms. Chun-Huan Ho
Managing Director, Museum Shops & Restaurants
National Palace Museum
(故宮博物院商店與餐飲服務何春寰總經理)

7/27 (Fri) 11:20 am - 11:35 am: Break

Parallel Sessions:
7/27 (Fri) 11:35 am - 1:05 pm: Technical Session D2-W1-T1: Cloud Computing, Cyber Security, and Data Center
Chair: **Dr. Ching-Chih Weng (翁竟智)**, Facebook, Inc.
Room: **Oak**

"Security Challenges of the Internet of Things (IoT)"
Dr. Meiyuan Zhao
Senior Research Scientist
Intel Labs
(英特尔研究院赵玫瑗博士)

Dr. S. (Shyhtsun) Felix Wu
Professor, Department of Computer Science
University of California, Davis
(加州大学戴维斯分校计算机科学系吳士駿教授)

"Combating Click Fraud: Challenges and Approaches"
Dr. Jia-Yu (Tim) Pan

Software Engineer
Google Inc.
(美國谷歌公司潘家煜博士)

7/27 (Fri) 11:35 am - 1:05 pm: Technical Session D2-W2-T1: New Media, Web, and Entertainment Technology

Chair: **Dr. Jia-Yu (Tim) Pan (潘家煜)**, Google Inc.
Room: **Sequoia**

"Challenges and Opportunities of Machine Learning Research"
Dr. Chih-Jen Lin
Distinguished Professor
Department of Computer Science and Information Engineering
National Taiwan University
(台灣大學資訊工程學系林智仁特聘教授)

"Video Aware Wireless Networks (VAWN) - Research Program Overview"
Dr. Douglas S. Chan
Senior Wireless Systems Engineer
Cisco Systems

"Life of a Data Miner at Google"
Dr. Yu-To Chen
Quantitative Analyst, Google Inc.
(美國谷歌公司陳毓鐸博士)

"Directed Learning"
Dr. Edward Yi-Hao Kao
Information Systems Lab
Department of Electrical Engineering
Stanford University
(史丹佛大學電機系高奕豪博士)

7/27 (Fri) 1:05 pm - 2:35 pm: Lunch

Parallel Sessions:
7/27 (Fri) 2:35 pm - 4:05 pm: Technical Session D2-W1-T2: Cloud Computing, Cyber Security, and Data Center

Chair: **Dr. Ching-Chih Weng (翁竟智)**, Facebook, Inc.
Room: **Oak**

"Responding to Attacks in Cloud Computing Environment"
Dr. Yu-Sung (Hank) Wu
Assistant Professor, Department of Computer Science
National Chiao-Tung University
(交通大學資訊工程系吳育松教授)

"Cloud Data Protection for the Masses"
Dr. Elaine (Runting) Shi

Research Scientist, AMP Lab
University of California, Berkeley
(加州大学伯克利分校石润婷博士)

"Erasure Coding and Data Storage at Facebook"
Dr. Scott Chun-Yang Chen
Facebook, Inc.
(Facebook陳俊仰博士)

7/27 (Fri) 2:35 pm - 4:05 pm: Technical Session D2-W2-T2: New Media, Web, and Entertainment Technology

Chair: **Dr. Yu-To Chen** (陳毓鐸)**,** Google Inc.
Room: **Sequoia**

"Everyday Sensing and Feedback"
Dr. Hao-Hua (Hao) Chu
Professor, Department of Computer Science and Information Engineering
Graduate Institute of Networking and Multimedia
National Taiwan University
(台灣大學資訊工程學系朱浩華教授)

"Which Tweets Will Be Headlines? Hierarchical Bayesian Models for Bridging Social Media and Traditional Media"
Dr. Yan Liu
Assistant Professor, Department of Computer Science
University of Southern California
(南加州大学计算机科学系刘燕教授)

"DBLOG: an Open Universe Probabilistic Programming Language for Relational Modeling"
Dr. Lei Li
Postdoctoral Fellow, Department of Electrical Engineering and Computer Science
University of California, Berkeley
(加州大学伯克利分校李磊博士)

7/27 (Fri) 4:05 pm – 4:20 pm: Break

Parallel Sessions:
7/27 (Fri) 4:20 am - 5:50 pm: Technical Session D2-W1-T3: Cloud Computing, Cyber Security, and Data Center

Chair: **Dr. Jia-Yu (Tim) Pan (潘家煜)**, Google Inc.
Room: **Oak**

"Cloud-based Speech Recognition for Mobile Applications"
Dr. Yun-Hsuan Sung
Senior Research Scientist
Google Inc.
(美國谷歌公司宋雲軒博士)

"Development of New Gerontechnologies and Gerontechnologists in a Rapidly Aging World"

Dr. Hen-I Yang
Smart Home Laboratory
Department of Computer Science
Iowa State University
(愛荷華州立大學計算機科學系楊恆毅博士)

"Facebook Recommendation System for Heterogeneous Content in Social Networks"
Dr. Ching-Chih Weng
Software Engineer
Facebook, Inc.
(Facebook翁竟智博士)

7/27 (Fri) 4:20 am - 5:50 pm: Technical Session D2-W2-T3: New Media, Web, and Entertainment Technology

Chair: **Dr. Scott Chun-Yang Chen (陳俊仰)**, Facebook, Inc.
Room: **Sequoia**

"Mobile Sensing for Behavior-ware Mobile Computing: a Language Approach"
Professor Joy Ying Zhang
Research Assistant Professor, Department of Electrical and Computer Engineering
Carnegie Mellon University Silicon Valley
(卡内基梅隆大学硅谷校区电子与计算机工程系张盈教授)

"Taiwan's Representative Industrial Developments in Computer Graphics"
Professor Yu-Chi Lai
Assistant Professor, Department of Computer Science and Information Engineering
National Taiwan University of Science and Technology
(台灣科技大學資訊工程系賴祐吉教授)

"Optimizing Locomotion Controllers Using Biologically-Based Actuators and Objectives"
Dr. Jack M. Wang
Postdoctoral Scholar
Computer Graphics Lab and Neuromuscular Biomechanics Lab
Stanford University
(史丹佛大學王孟傑博士)