



The 11th Emerging Information & Technology Conference

"Research, Innovation and Commercialization"

The University of Chicago
Chicago, Illinois

Thursday-Friday, July 28-29, 2011

Program

Building Abbreviations and Addresses (**UChicago**):

- **KCBD** (The Knapp Center for Biomedical Discovery, UChicago): Address: 900 East 57th Street, Chicago, IL 60637
- **BSLC** (Biological Sciences Learning Center, UChicago): Address: 924 East 57th Street, Chicago, IL 60637

Day 1 (Thursday, July 28, 2011)

7/28 (Thu) 8:00 am - 6:00 pm : Registration

Room: KCBD 1st Floor Lobby (8:00 am – 10:00 am)
BSLC Main Lobby (1st Floor) (10:00 am – 6:00 pm)

7/28 (Thu) 8:30 am - 6:00 pm : EITC Office & Storage

Room: BSLC 009

7/28 (Thu) 8:30 am - 9:40 am : Opening Speech

Chair: **Professor Wei-Jen Tang** (湯惟仁), Ben May Department for Cancer Research, the University of Chicago

Room: KCBD Lecture Hall 1103

Mr. Perry Pei-hwang Shen

Director General

Taipei Economic and Cultural Office in Chicago (TECO in Chicago)

(駐芝加哥台北經濟文化辦事處申佩璜處長)

Dr. Kevin White

James and Karen Frank Family Professor, Department of Ecology & Evolution

Director, Institute for Genomics and Systems Biology at the University of Chicago and Argonne National Laboratory

Parallel Sessions:

7/28 (Thu) 9:40 am - 11:10 am : Technical Session D1-W1-T1: New Green Energy/Environment/Sustainability, Intelligent/Electric Vehicle

Chair: **Professor Che-Wun Hong** (洪哲文), Department of Power Mechanical Engineering, National Tsing-Hua University
Room: BSLC 202

“The Energy Transformation”

Dr. Gong-Ping Yeh

Division Scientist, Computing Division
Fermi National Accelerator Laboratory (Fermilab)
(費米研究院資深科學家葉恭平博士)

“Engineering Solutions for Biomass Feedstock Production and Provision”

Professor K. C. Ting

Head, Department of Agricultural and Biological Engineering
University of Illinois at Urbana-Champaign
(伊利諾大學香檳校區農業生物工程系系主任丁冠中教授)

“Global Status and Prospects of Green Energy Technology and Policies”

Professor Jing-Tang Yang

Distinguished professor, Department of Mechanical Engineering, National Taiwan University
Director of the Office of Energy Strategy Development, National Science Council, ROC (Taiwan)
(台灣大學機械工程系楊鏡堂教授)
(國家科學委員會能源計畫辦公室主任)

7/28 (Thu) 9:40 am - 11:10 am : Technical Session D1-W2-T1: Medicine/Public Health/Biotechnology/Bioinformatics

Chair: **Professor Hong-Yo Kang** (康宏佑), Graduate Institute of Clinical Medical Sciences, College of Medicine, Chang Gung University
Room: BSLC 205

“Overview of Simultaneous PET/MR Imaging for Clinical and Preclinical Research”

Dr. Gene-Jack Wang

Senior Medical Scientist & Chair
Medical Department
Brookhaven National Laboratory
(布魯克海文國家實驗室醫學部主任王俊傑醫師)

“Development of Novel Tools for Gene Therapy via Protein Engineering”

Professor Huimin Zhao

Centennial Chair Professor
Departments of Chemical and Biomolecular Engineering, Chemistry, Biochemistry, and Bioengineering, Institute for Genomic Biology, Center for Biophysics and Computational Biology
215 Roger Adams Laboratory, Box C3, University of Illinois at Urbana-Champaign
(利諾伊大學厄巴納-香檳分校趙惠民教授)

“Following Protein Conformational Transitions, One Molecule at a Time”

Professor Haw Yang

Department of Chemistry

Princeton University

“Innovation through Fixed Dose Combination (FDC) Products: Opportunities and Challenges”

Dr. Tzuchi “Rob” Ju

Distinguished Associate Volwiler Fellow

Global Pharmaceutical Sciences

Abbott

7/28 (Thu) 9:40 am - 11:10 am : Technical Session D1-W3-T1: New Materials Science and Engineering, Nanotechnology

Chair: **Professor Ching-Fuh Lin** (林清富), Graduate Institute of Photonics and Optoelectronics and Department of Electrical Engineering, National Taiwan University

Room: BSLC 240

“Novel Nano-Scale Electrodes For Solid Oxide Electrochemical Cells”

Professor Scott Barnett

Department of Materials Science and Engineering

Northwestern University

“Silicon Thin Film Solar Cells Fabricated by ECRCVD”

Professor Ting Tung Li

Department of Mechanical Engineering

National Central University

(中央大學機械工程系利定東教授)

“Lithium Battery Technology and Modeling”

Professor Shi-Chern Yen

Department of Chemical Engineering

National Taiwan University

(台灣大學化學工程學系顏溪成教授)

“Sustainability through Silicon Material Innovation”

Dr. Joe Xiaobing Zhou

Senior Research Specialist

Dow Corning Corporation

(道康宁公司周晓兵博士)

7/28 (Thu) 9:40 am - 11:10 am : Technical Session D1-W4-T1: C4I and SoC - Broadband Technologies and Applications, Cyber Security, Cloud Computing, and SoC (System-on-a-Chip)

Chair: **Professor Hsi-Pin Ma** (馬席彬), Department of Electrical Engineering and

Institute of Communications Engineering, National Tsing Hua University

Room: BSLC 218

“Energy-Efficient and Memory Access Techniques for Wireless Video Entertainments”

Professor Wei Hwang

IEEE Life Fellow

University Chair Professor of Electronics Engineering,

National Chiao Tung University

Director, Center for Advanced Information Systems and

Electronics Research (CAISER), University System of Taiwan

(交通大學電子工程系黃威教授)

“Securing Data in the Cloud – Challenges and Research Directions”

Professor Elisa Bertino

Research Director, the Center for Education and Research in Information Assurance and Security (CERIAS)

Interim Director, Cyber Center (Discovery Park)

Department of Computer Science

Purdue University

“Detecting Anomaly Mobile Web Page through Template Classification”

Professor Chia-Mei Chen

Department of Information Management

College of Management

National Sun Yat-Sun University

(中山大學資訊管理學系陳嘉玫教授)

“Energy-Aware Multi-path Routing for Wireless Sensor Network with Holes”

Professor Sheng-Tzong Cheng

Chief, Department of Computer Science and Information Engineering

National Cheng-Kung University

(成功大學資訊工訊系教授兼系主任鄭憲宗教授)

7/28 (Thu) 11:10 am - 11:30 am : Break

Room: BSLC 009

Parallel Sessions:

7/28 (Thu) 11:30 am – 1:00 pm : Technical Session D1-W1-T2: New Green Energy/Environment/Sustainability, Intelligent/Electric Vehicle

Chair: **Professor Ta-Hui Lin** (林大惠), Department of Mechanical Engineering, National Cheng-Kung University

Room: BSLC 202

“Recent Advances in Green Energy and Green Chemicals Production from Cellulosic Biomass by Yeast-Based Technologies”

Professor Nancy W.Y. Ho

Research Professor

School of Chemical Engineering

Group Leader, Molecular Genetics Group

Laboratory of Renewable Resources Engineering (LORRE)

Purdue University, Potter Engineering Center

“Environment-Enhancing Energy – An Ultimate Substitute of Petroleum”

Professor Yuanhui Zhang

The Innoventor Professor in Engineering and the Associate Department Head

Department of Agricultural and Biological Engineering

University of Illinois at Urbana-Champaign

(利诺伊大学厄巴纳-香槟分校张源辉教授)

“Distributed Biofuel Production Technologies”

Professor R. Roger Ruan

Director, Center for Biorefining

Co-leader and Coordinator, IREE Biofuels and Bioproducts Cluster
Department of Bioproducts and Biosystems Engineering
The University of Minnesota at Twin Cities
(明尼苏达大学阮榕生教授)

“Studies of an Innovative Piezoelectric Micro-proton Exchange Membrane Fuel Cell and Development of 3.5KW PEMFC Hybrid”
Professor Hsiao-Kan Ma
Department of Mechanical Engineering
National Taiwan University
(台灣大學機械工程系馬小康教授)

**7/28 (Thu) 11:30 am – 1:00 pm : Technical Session D1-W2-T2:
Medicine/Public Health/Biotechnology/Bioinformatics**

Chair: **Professor Christine D. Wu** (吳大如), Department of Pediatric Dentistry,
University of Illinois at Chicago
Room: BSLC 205

“Strategies to Enhance Bone Regeneration in Critical-sized Defects”
Professor Tien-Min Gabriel Chu
Department of Restorative Dentistry
Indiana University School of Dentistry
(印第安納大學牙醫學系朱天民教授)

“Stem Cells for Musculoskeletal Tissue Regeneration”
Professor Wan-Ju Li
Department of Orthopedics and Rehabilitation
Department of Biomedical Engineering
University of Wisconsin-Madison
(威斯康星大學麥迪遜分校生物醫學工程學系李萬柱教授)

“Rigorous Quantitative Sciences Integration: the Foundation of Drug Approval in the Personal Genome Era”
Professor Yu Shyr
Ingram Professor of Cancer Research
Director, Vanderbilt Center for Quantitative Sciences
Chief, Division of Cancer Biostatistics
Vanderbilt University School of Medicine
(范德堡大學癌症中心生物統計主任石瑜教授)

“The Role of Foods and Diet in Oral Health Promotion and Disease Prevention”
Professor Christine D. Wu
Director of Cariology Research
Department of Pediatric Dentistry
University of Illinois at Chicago, College of Dentistry
(伊利諾大學芝加哥校區兒童牙醫系教授及齲齒研究中心主任吳大如教授)

**7/28 (Thu) 11:30 am – 1:00 pm : Technical Session D1-W3-T2: New
Materials Science and Engineering, Nanotechnology**

Chair: **Professor Chih-Hung (Alex) Chang** (張至弘), School of Chemical, Biological and
Environmental Engineering, Oregon State University
Room: BSLC 240

“A Top-Down Approach to Generating Functionalized Carbon-based Nanomaterials and Polymer Nanocomposites in Poly(phosphoric acid)”

Dr. Loon-Seng Tan

AFRL Fellow
Principal Research Chemist & Research Group Leader
Nanostructured & Biological Materials Branch
Materials & Manufacturing Directorate
US Air Force Research Laboratory

“Nanotechnology Research Supported by the Asian Office of Aerospace Research and Development”

Dr. Joseph Tringe

Major, The Air Force Office of Scientific Research (AFOSR), Air Force Materiel Command (AFMC)
Reserve Program Manager, USAF Office of Scientific Research/Asian Office of Aerospace Research and Development

“Nanotechnology Applied to the Macro World: Nanoscale Science and Engineering of Steels for Infrastructure Applications”

Professor Yip-Wah Chung

Professor of Materials Science and Engineering
Professor of Mechanical Engineering
Northwestern University
(西北大學材料科學與工程學系鐘業華教授)

“Molecular Combing of Quantum-Dot-Conjugated DNA and Its Use in Developing One-Dimensional FRET Sensor with Enhanced Target-Molecule Probing Sensitivity”

Professor Hsien-Hung Wei

Department of Chemical Engineering
National Cheng Kung University
(成功大學化學工程系魏憲鴻教授)

7/28 (Thu) 11:30 am – 1:00 pm : Technical Session D1-W4-T2: C4I and SoC - Broadband Technologies and Applications, Cyber Security, Cloud Computing, and SoC (System-on-a-Chip)

Chair: **Professor Yu-Hen Hu** (胡玉衡), Department of Electrical and Computer Engineering, University of Wisconsin at Madison
Room: BSLC 218

“Compressive Data Management for SoC, CMP and VM”

Professor Janet Meiling Wang-Roveda

Department of Electrical and Computer Engineering
The University of Arizona

““More Moore” and “More than Moore” beyond 22nm: Challenges and Opportunities”

Professor David Z. Pan

Department of Electrical and Computer Engineering
The University of Texas at Austin
(奧斯丁德州大學電機與計算機工程系潘志剛教授)

“Development of Communications SoC Evaluation Platforms”

Professor Hsi-Pin Ma

Department of Electrical Engineering and

Institute of Communications Engineering
National Tsing Hua University
(清華大學電機工程學系馬席彬教授)

“From Multi-User MIMO to Multi-Cell MIMO: A Radio Resource Management Perspective”

Professor Li-Chun Wang

Distinguished Professor & Vice Chairman
Department of Electrical Engineering
National Chiao-Tung University
(交通大學電機系王蒞君教授)

7/28 (Thu) 1:00 pm - 2:30 pm : Lunch

7/28 (Thu) 2:30 pm - 3:30 pm: The Conference Keynote Session

Chair: **Professor Li-Chun Wang** (王蒞君), Department of Electrical Engineering,
National Chiao-Tung University
Room: BSLC 202

“Creating Advanced Communications for the 21st Century: Applications, Technology and Global Facilities”

Professor Joe Mambretti

Director, International Center for Advanced Internet Research
Northwestern University

Parallel Sessions:

7/28 (Thu) 3:30 pm – 5:00 pm : Technical Session D1-W1-T3: New Green Energy/Environment/Sustainability, Intelligent/Electric Vehicle

Chair: **Professor Huei Peng** (彭暉), Department of Mechanical Engineering, University of Michigan
Room: BSLC 202

Professor Lea-Der Chen

Associate Dean of Engineering & Computing Sciences
Professor of Mechanical Engineering
Texas A&M University at Corpus Christi
(德州農工大學陳立德教授)

“Parallel High-Speed Plasmonic Nano-Lithography”

Professor Cheng Sun

Nanoscale Science and Engineering Center for Scalable and Integrated Nanomanufacturing
Department of Mechanical Engineering
Northwestern University
(西北大學機械工程系孫誠教授)

“Offshore Wind Power Developments in Taiwan”

Professor Ta-Hui Lin

Distinguished Professor & Chairman
Department of Mechanical Engineering
National Cheng-Kung University
(成功大學機械工程系特聘教授兼系主任林大惠教授)

**7/28 (Thu) 3:30 pm – 5:00 pm : Technical Session D1-W2-T3:
Medicine/Public Health/Biotechnology/Bioinformatics**

Chair: **Professor Michael Chiao-An Wu** (吳肇安), Department of Biostatistics
The University of North Carolina at Chapel Hill
Room: BSLC 205

“Family-based Pathway Analysis Method”

Professor Ren-Hua Chung

Head, Division of Statistical Genetics
Center for Genetic Epidemiology and Statistical Genetics
Hussman Institute for Human Genomics
University of Miami Miller School of Medicine
(邁阿密大學人類基因研究所鍾仁華教授)

“A Novel Method for Detecting Rare-Variant Associations with Deep Sequencing Data in Large Genomic Regions”

Dr. Patrick Yee Him Cheung

Department of Biostatistics
Mailman School of Public Health
Columbia University
(哥倫比亞大學公共衛生學院張貽謙博士)

“A Weighted Fisher’s Method to Detect Rare-Variant Associations with Deep Sequencing Data for Complex Disorders”

Professor Shuang Wang

Department of Biostatistics
Mailman School of Public Health
Columbia University
(哥倫比亞大學公共衛生學院王爽教授)

“Analysis of High-throughput Sequencing Data via the Sequence Kernel Association Test”

Professor Michael Chiao-An Wu

Department of Biostatistics
The University of North Carolina at Chapel Hill
(北卡萊羅納大學教堂山分校生物統計系吳肇安教授)

**7/28 (Thu) 3:30 pm – 5:00 pm : Technical Session D1-W3-T3: New
Materials Science and Engineering, Nanotech**

Chair: **Professor Shi-Chern Yen** (顏溪成), Department of Chemical Engineering,
National Taiwan University
Room: BSLC 240

“Germanium Quantum Dots Optoelectronic Devices”

Professor Pei-Wen Li

Department of Electrical Engineering
National Central University
(中央大學電機工程學系李佩雯教授)

“Fast Flexible Electronics with Transferrable Semiconductor Nanomembranes”

Professor Zhenqiang (Jack) Ma

Department of Electrical and Computer Engineering

Department of Nuclear Engineering and Engineering Physics
Materials Science Program
UW Energy Institute
University of Wisconsin-Madison
(威斯康辛大學電機與計算機工程系馬振強教授)

“Nanophotonic Emitters for Future Communication, Energy, and Health Care”
Dr. Luke Lee & Professor Pei-Cheng Ku
Department of Electrical Engineering & Computer Science
The University of Michigan at Ann Arbor

“Graphene Nanomaterial for Sensors and Energy Applications”
Professor Mark Ming-Cheng Cheng
Department of Electrical and Computer Engineering
Wayne State University

**7/28 (Thu) 3:30 pm – 5:00 pm : Technical Session D1-W4-T3: C4I
and SoC - Broadband Technologies and Applications, Cyber Security,
Cloud Computing, and SoC (System-on-a-Chip)**

Chair: **Professor Shanchieh Jay Yang** (楊善傑), Department of Computer Engineering,
Rochester Institute of Technology
Room: BSLC 218

“The Human-centric Cyber Situation Awareness MURI”
Professor John Yen
Director, Strategic Research Initiatives
Professor of Information Sciences and Technology
Affiliate Professor of Computer Science and Engineering
The College of Engineering
Pennsylvania State University

“On Developing a Guideline for Establishing RFID Privacy Policies”
Professor Shi-Cho Cha
Department of Information Management
National Taiwan University of Science and Technology
(臺灣科技大學資訊管理系查士朝教授)

“Secure Computation Outsourcing in Cloud Computing”
Professor Kui (Quinn) Ren
Department of Electrical and Computer Engineering
Illinois Institute of Technology
(伊利諾理工大学电机与计算机工程系任奎教授)

“Mobile Cloud Computing: Opportunities, Technologies, and Challenges”
Professor Yung-Hsiang Lu
School of Electrical and Computer Engineering
Purdue University
(普度大學電機與計算機工程學院陸永祥教授)

Day 2 (Friday, July 29, 2011)

7/29 (Fri) 9:00 am - 5:00 pm : Registration

Room: BSLC Main Lobby (1st Floor) (7:00 am – 6:20 pm)

7/29 (Fri) 9:00 am - 5:00 pm : EITC Office & Storage

Room: BSLC 009

Parallel Sessions:

7/29 (Fri) 9:40 am - 11:10 am : Technical Session D2-W1-T1: New Green Energy/Environment/Sustainability, Intelligent/Electric Vehicle Technologies

Chair: **Professor Huei Peng** (彭暉), Department of Mechanical Engineering, University of Michigan at Ann Arbor

Room: BSLC 202

“Can We Produce Energy from the Carbohydrate in Lignocellulosic Biomass”

Professor JunYong (J.Y.) Zhu

Scientific Team Leader, USDA Forest Service, Forest Products Laboratory
Department Biological Systems Engineering, University of Wisconsin-Madison

“Utilization of Biofuel and Biomass Energy for Transportation and Heat Generation”

Professor Song-Chang Kong

Department of Mechanical Engineering

Iowa State University

(愛荷華州州立大學龔松長教授)

“Biofuel and Biomaterials from Renewable Biomass”

Professor Zaohui Tong

Department of Agricultural and Biological Engineering

University of Florida, Gainesville

(佛羅里達大學農業與生物工學系童朝暉教授)

7/29 (Fri) 9:40 am - 11:10 am : Technical Session D2-W2-T1: Medicine/Public Health/Biotechnology/Bioinformatics

Chair: **Professor Wei-Jen Tang** (湯惟仁), Ben May Department for Cancer Research, The University of Chicago

Room: BSLC 205

“How to Activate Cell-surface Receptors: RTKs and Neuronal Receptors”

Professor Xiaolin He

Molecular Pharmacology and Biological Chemistry

Northwestern University

(西北大學何小林教授)

“Mechanism for the Assembly of Co-transcriptional RNA Capping Complex”

Professor Jianhua Fu

Department of Biochemistry

Medical College of Wisconsin

(威斯康星醫科大學大學生物化學系傅建華教授)

“Experimental Models for Androgen Receptor Functions: Tools for Studying Androgens-related Disorders in Human”

Professor Hong-Yo Kang

Graduate Institute of Clinical Medical Sciences,
Chang Gung Memorial Hospital at Kaohsiung Medical Center,
Chang Gung University
(長庚大學臨床醫學研究所康宏佑教授)

7/29 (Fri) 9:40 am - 11:10 : Technical Session D2-W3-T1: New Materials Science and Engineering, Nanotechnologies

Chair: **Professor Ching-Fuh Lin** (林清富), Graduate Institute of Photonics and Optoelectronics and Professor Department of Electrical Engineering, National Taiwan University

Room: BSLC 240

“Vapor-Based Reactive Polymer Coatings: Surface Engineering Tools for Biotechnology”

Professor Hsien-Yeh Chen

Department of Chemical Engineering
National Taiwan University
(台灣大學化學工程學系陳賢燁教授)

“Nanostructured Materials: From Lotus Leaf to Phase Change Process”

Professor Yen-Wen Lu

Department of Bio-Industrial Mechatronics Engineering
National Taiwan University
(台灣大學生物產業機電工程學系盧彥文教授)

“High Pressure, High Temperature Route to Diamond Aerogel”

Professor Peter J. Pauzauskie

Department of Materials Science and Engineering
University of Washington

7/29 (Fri) 9:40 am - 11:10 : Technical Session D2-W4-T1: C4I and SoC - Broadband Technologies and Applications, Cyber Security, Cloud Computing, and SoC (System-on-a-Chip)

Chair: **Professor Li-Chun Wang** (王蒞君), Department of Electrical Engineering, National Chiao-Tung University

Room: BSLC 218

“Hybrid Cloud and Iterative MapReduce for Scalable Data Intensive Applications”

Professor Judy Qiu

School of Informatics and Computing
Indiana University Bloomington

“The Security Issues of a XBRL Demo Site”

Professor Deron Liang

Director, Software Research Center
Department of Computer Science & Information Engineering
National Central University
(中央大學資訊工程系教授兼軟體研究中心主任梁德容教授)

“Characterizing Hacker Behavior for Cyber Situation Awareness”

Professor Shanchieh Jay Yang

Department of Computer Engineering
Rochester Institute of Technology
(羅徹斯特理工學院楊善傑教授)

7/29 (Fri) 11:10 am - 11:30 am : Break

Room: BSLC 009

Parallel Sessions:

7/29 (Fri) 11:30 am – 1:00 pm : Technical Session D2-W1-T2: New Green Energy/Environment/Sustainability, Intelligent/Electric Vehicle

Chair: **Professor Ta-Hui Lin** (林大惠), Department of Mechanical Engineering, National Cheng-Kung University
Room: BSLC 202

“Microbial Syntrophy in Methanogenic Treatment Processes”

Professor Wen-Tso Liu

Department of Civil and Environmental Engineering
University of Illinois at Urbana-Champaign
(伊利諾大學香檳校區土木及環境工程學系劉文佐教授)

“Colossal Electrical Conductivity of Nano-scale YSZ Thin Films for SOFC”

Professor Chen-Chia Chou

Department of Mechanical Engineering
National Taiwan University of Science and Technology
(臺灣科技大學機械工程系周振嘉教授)

“Quantum Research on Biofuel Cells, Bio Solar Cells and OLEDs”

Professor Che-Wun Hong

Department of Power Mechanical Engineering
National Tsing-Hua University
(清華大學動力機械工程學系洪哲文教授)

7/29 (Fri) 11:30 am – 1:00 pm : Technical Session D2-W2-T2: Medicine/Public Health/Biotechnology/Bioinformatics

Chair: **Professor Hong-Yo Kang** (康宏佑), Graduate Institute of Clinical Medical Sciences, College of Medicine, Chang Gung University
Room: BSLC 205

“Intestine Lipid Metabolism and Energy Balance”

Professor C-L. Eric Yen

Department of Nutritional Sciences
University of Wisconsin at Madison
(威斯康辛大學營養科學系教授顏齊良教授)

“Systems Biology in Translational Medicine Research”

Professor Hsei-Wei Wang

Informatic Biology Group
Institute of Microbiology and Immunology
Director, Division of International Collaboration, Office of International Affairs
National Yang Ming University
(陽明大學微生物及免疫學研究所資訊生物研究室王學偉教授)

(陽明大學國際事務處國際合作組組長)

“Development of Novel Vaccines Against Tuberculosis”

Professor Chyung-Ru Wang

Department of Microbiology and Immunology,

Feinberg School of Medicine

Northwestern University

(西北大學醫學院王瓊如教授)

7/29 (Fri) 11:30 am – 1:00 pm : Technical Session D2-W3-T2: New Materials Science and Engineering, Nanotechnologies

Chair: **Professor Shi-Chern Yen** (顏溪成), Department of Chemical Engineering,

National Taiwan University

Room: BSLC 240

“Nanocrystal Solids: A Modular Approach to Materials Design”

Professor Dmitri Talapin

Department of Chemistry and James Frank Institute

The University of Chicago

“Inkjet-Printed Analytical Devices”

Professor Ying-Chih Liao

Department of Chemical Engineering

National Taiwan University

(台灣大學化學工程學系廖英志教授)

“TEM Applications in the Data Storage Industry”

Dr. Augusto A. Morrone

Materials Science Sr. Staff Engineer

Seagate Technology LLC

“Develop Solution-based Processes for Printing Electronics”

Professor Chih-Hung (Alex) Chang

School of Chemical, Biological and Environmental Engineering

Oregon State University

(奧勒岡州立大學化學工程系張至弘教授)

7/29 (Fri) 11:30 am – 1:00 pm : Technical Session D2-W4-T2: C4I and SoC - Broadband Technologies and Applications, Cyber Security, Cloud Computing, and SoC (System-on-a-Chip)

Chair: **Professor Sheng-Tzong Cheng** (鄭憲宗), National Cheng-Kung University

Room: BSLC 218

“GNSS 2020 Outlook, Applications and Challenges”

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)

“Bandwidth Recycling in Broadband Wireless Networks”

Professor J. Morris Chang

Department of Electrical and Computer Engineering
Iowa State University
(愛荷華州立大學電機與計算機系張致恩教授)

“A Fair Non-Repudiation Framework for Cloud Storage”

Professor Yu Chen

Department of Electrical and Computer Engineering
State University of New York – Binghamton

“On Security Protocols and Attacks in WiMAX Networks”

Professor Chin-Tser Huang

Department of Computer Science and Engineering
University of South Carolina
(南卡羅萊納大學電機與計算機系黃金澤教授)

7/29 (Fri) 1:00 pm - 2:30 pm : Lunch

Parallel Sessions:

7/29 (Fri) 2:30 pm – 4:00 pm : Technical Session D2-W1-T3: New Green Energy/Environment/Sustainability, Intelligent/Electric Vehicle

Chair: **Professor Che-Wun Hong** (洪哲文), Department of Power Mechanical Engineering
, National Tsing-Hua University
Room: BSLC 202

“Estimation and Control of Electric Ground Vehicles with In-Wheel Motors”

Professor Junmin Wang

Director, Vehicle Systems and Control Laboratory
Department of Mechanical and Aerospace Engineering
The Ohio State University
(俄亥俄州立大學王俊敏教授)

“Mode Transition Control between SI and HCCI Combustions”

Professor Guoming (George) Zhu

Mechanical Engineering
Electrical and Computer Engineering
Michigan State University

“Power Electronics for Future Energy and Grid Systems “

Professor Jih-Sheng (Jason) Lai

Director, Future Energy Electronics Center
Virginia Tech
(維吉尼亞理工大學未來能源研究中心主任賴日生教授)

“Design and Control of Electrified Vehicles”

Professor Huei Peng

Executive Director, Interdisciplinary and Professional Engineering Programs
Department of Mechanical Engineering
The University of Michigan at Ann Arbor
(密歇根大學安娜堡分校機械工程系彭暉教授)

**7/29 (Fri) 2:30 pm – 4:00 pm : Technical Session D2-W2-T3:
Medicine/Public Health/Biotechnology/Bioinformatics**

Chair: **Professor Chung-Ru Wang** (王瓊如), Feinberg School of Medicine, Northwestern University

Room: BSLC 205

“Akt Signaling in Cancer Progression and Metastasis”

Professor Hui-Kuan Lin

Department of Molecular and Cellular Oncology
The University of Texas M. D. Anderson Cancer Center
(德州大學安得生癌症中心林慧觀教授)

“Understanding the Human Genome through Single Cell Analysis”

Professor Honghua Li

Department of Molecular Genetics, Microbiology and Immunology
University of Medicine and Dentistry of
New Jersey Robert Wood Johnson Medical School
(新泽西州罗伯屋强森医学院李洪華教授)

“Genome-wide Discovery and Clinical Validation of Pharmacogenomic Markers”

Professor Rong Stephanie Huang

Director, Pharmacogenomics of Anticancer Agent Research Cell Line Core,
Department of Medicine, The University of Chicago
(芝加哥大学医学系黄榕教授)

“Structural and Functional Analyses of Human Insulin Degrading Enzyme”

Professor Wei-Jen Tang

Ben May Department for Cancer Research
The University of Chicago
(芝加哥大學湯惟仁教授)

**7/29 (Fri) 2:30 pm – 4:00 pm : Technical Session D2-W3-T3: New
Materials Science and Engineering, Nanotechnologies**

Chair: **Professor Chih-Hung (Alex) Chang** (張至弘), School of Chemical, Biological and Environmental Engineering, Oregon State University

Room: BSLC 240

“Semiconductor Nanoelectronic and Nanophotonic Devices: Towards Controllability and Manufacturability”

Professor Xiuling Li

Department of Electrical and Computer Engineering
University of Illinois, Urbana-Champaign

“Self-Assembly of Solution Processing Graphitic Nanomaterials”

Dr. Vincent C. Tung

Department of Materials Science and Engineering
Northwestern University
(西北大學材料科學與工程學系童俊智博士)

“Solution-processed Nanostructured Oxide Material Deposition for Antireflective Coating”

Dr. Seung-Yeol Han

School of Chemical, Biological and Environmental Engineering

Oregon State University

“Si-based Nano-Structures for Photovoltaic and Photonics”

Professor Ching-Fuh Lin

Chair, Graduate Institute of Photonics and Optoelectronics and

Professor Department of Electrical Engineering

National Taiwan University

(台灣大學電機工程學系林清富教授)

7/29 (Fri) 2:30 pm – 4:00 pm : Technical Session D2-W4-T3: C4I and SoC - Broadband Technologies and Applications, Cyber Security, Cloud Computing, and SoC (System-on-a-Chip)

Chair: **Professor Hsi-Pin Ma** (馬席彬), Department of Electrical Engineering and

Institute of Communications Engineering, National Tsing Hua University

Room: BSLC 218

“Robust CMOS Millimeter-Wave Integrated Circuits”

Professor Yang Xu

Director of High Performance Integrated Circuits & Microsystem Lab

Department of Electrical and Computer Engineering

Illinois Institute of Technology

(伊利诺理工大学电机与计算机工程系徐阳教授)

“AES Chip Implementation and Oscillator-based DPA Countermeasure Circuit”

Professor Hsie-Chia Chang

Department of Electronics Engineering

National Chiao Tung University

(交通大學電子工程系張錫嘉教授)

“Optimal Layered Video IPTV Multicast Streaming over Mobile WiMAX Systems”

Professor Yu-Hen Hu

Vice-chair for Operations

Department of Electrical and Computer Engineering

University of Wisconsin at Madison

(威斯康辛大學電機與計算機工程系胡玉衡教授)

“A Fault-Tolerant NoC Scheme Using Bidirectional Channel”

Professor Sao-Jie Chen

Department of Electrical Engineering

National Taiwan University

(台灣大學電機工程學系陳少傑教授)

Acknowledgement

The EITC program committee would like to thank the following members of the UChicago Taiwanese Student Association for their leadership, organization, and support of this event.

Bonnie Sheu

Department of Biological Sciences

President, 2010-2011 UChicago Taiwanese Student Association

(芝加哥大學台灣同學會會長許芳瑜)