



**The 2nd EITA Bio Conference
(EITA-Bio 2012)**

"Recent Advances in Biomedical Research"

**The Frick Chemistry Laboratory
Princeton University
Princeton, New Jersey, USA**

Saturday–Sunday, October 27-28, 2012

Program

Day 1 (Saturday, October 27, 2012)

10/27 (Sat) 8:00 am - 6:00 pm: Registration

Room: The Frick Atrium

10/27 (Sat) 9:00 am - 9:50 am: Opening Session

Chair: **Dr. Wei-Jen Tang**, Ben May Department for Cancer Research, The University of Chicago
(芝加哥大學生物醫學研究所湯惟仁教授)

Room: The Taylor Auditorium

Dr. Ruby B. Lee, Department of Electrical Engineering, Princeton University
(普林斯頓大學電機系李佩露教授)

10/27 (Sat) 9:50 am - 11:10 am: Plenary Session (1)

Chair: **Dr. Ruby B. Lee**, Department of Electrical Engineering, Princeton University
(普林斯頓大學電機系李佩露教授)

Room: The Taylor Auditorium

“Neurodegenerative Disease Genetics; GWAS, Exomes and Beyond”

Dr. Gerard D. Schellenberg

Professor, The Department of Pathology and Laboratory Medicine
The Perelman School of Medicine
The University of Pennsylvania

“Biophotonics Imaging Platforms towards Translational Applications”

Dr. Xingde Li

Professor, Department of Biomedical Engineering
Johns Hopkins University

(約翰霍普金斯大學生物醫學工程系李興德教授)

10/27 (Sat) 11:10 am - 11:25 am: Break

Room: The Frick Atrium

10/27 (Sat) 11:25 am – 12:45 pm: Plenary Session (2)

Chair: Dr. Sun-Yuan Kung, Department of Electrical Engineering, Princeton University

(普林斯頓大學電機系貢三元教授)

Room: The Taylor Auditorium

“From the Era of Gigabyte Data to the Era of Petabyte Data: Are we ready for the next generation sequencing data?”

Dr. Yu Shyr

Director, Vanderbilt Center for Quantitative Sciences

Associate Director for Quantitative Sciences Integration, VICC

Ingram Professor of Cancer Research

Professor, Department of Biostatistics, Biomedical Informatics, Cancer Biology and Preventive Medicine

Vanderbilt University

(范德堡大學癌症中心生物統計主任石瑜教授)

“Combination of Genomic Technologies and Bioinformatics for Exploring New Cancer Biomarkers”

Dr. Eric Y. Chuang

Professor and Director, Graduate Institute of Biomedical Electronics and Bioinformatics

Department of Electrical Engineering

National Taiwan University

(臺灣大學生醫電子與資訊學研究所所長莊曜宇教授)

10/27 (Sat) 12:45 pm - 2:15 pm: Lunch

Room: The Frick Atrium

Parallel Sessions:

10/27 (Sat) 2:15 pm – 3:35 pm: Technical Session D1-W1-T1: In Silico Research and Biomedical Informatics

Chair: **Dr. Jhih-Wei Chu**, Department of Chemical and Biomolecular Engineering, University of California, Berkeley (加州大學柏克萊分校化學及分子生物工程系朱智璋教授)

Room: 124

“How Important is Each Behavior of the AADE7?”

Dr. Feipei Lai

Professor, Graduate Institute of Biomedical Electronics and Bioinformatics

Department of Electrical Engineering

National Taiwan University

(台灣大學電機工程學系生醫電子與資訊學研究所賴飛艷教授)

Dr. Yi-Hsiang (Sean) Hsu

Assistant Professor, School of Medicine

Harvard University

(哈佛大學醫學院許益祥教授)

10/27 (Sat) 2:15 pm – 3:35 pm: Technical Session D1-W2-T1: Biomedical Science and Engineering

Chair: **Dr. 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)

Room: 224

“The Addiction-obesity Connection Viewed in the Light of Medical Imaging”

Dr. Gene-Jack Wang

Senior Scientist and Chair, Medical Department
Brookhaven National Laboratory

(美國國家布魯克海文實驗室醫學部主任王俊傑醫師)

“Brain Imaging of Cognitive Control”

Dr. Chiang-shan Ray Li

Associate Professor, Department of Psychiatry and of Neurobiology
School of Medicine, Yale University

(耶魯大學醫學院精神病學及神經生物學系李江山教授)

“Mechanisms of Epigenetic Regulation”

Dr. Hua-Ying Fan

Assistant Professor, Department of Biochemistry and Biophysics
The Perelman School of Medicine, the University of Pennsylvania

(賓州大學醫學院生物化學與生物物理系范華英教授)

10/27 (Sat) 2:15 pm – 3:35 pm: Technical Session D1-W3-T1: Bio-Materials, Bio-Nanotechnology/Bio-NEMS/Bio-MEMS

Chair: **Dr. Gou-Jen Wang**, Department of Mechanical Engineering and Graduate Institute of Biomedical Engineering, National Chung-Hsing University (中興大學機械工程學系王國禎特聘教授)

Room: 324

“Epidermal Electronics”

Dr. Nanshu Lu

Assistant Professor, Department of Aerospace Engineering and Engineering Mechanics
Texas Materials Institute, The University of Texas at Austin

(德克薩斯州大學奧斯汀分校航空和工程力學系與德克薩斯州材料研究所魯南姝教授)

“Label-Free Coloring Biofluids on Nanophotonic Device”

Dr. Gang Logan Liu

Assistant Professor, Department of Electrical and Computer Engineering and Bioengineering
University of Illinois at Urbana-Champaign

“Programmable Microcapsules”

Dr. Daeyeon Lee

Assistant Professor, Department of Chemical and Biomolecular Engineering
The University of Pennsylvania

10/27 (Sat) 3:35 pm – 3:50 pm: Break

Room: The Frick Atrium

Parallel Sessions:

10/27 (Sat) 3:50 pm – 5:10 pm : Technical Session D1-W1-T2: In Silico Research and Biomedical Informatics

Chair: **Dr. Li-San Wang**, Department of Pathology and Laboratory Medicine, The Perelman School of Medicine, the University of Pennsylvania (賓州大學醫學院王立三教授)

Room: 124

“Biomedical Image Processing and Neuronal Structures Analysis”

Dr. Yu-Tai Ching

Director, Institute of Biomedical Engineering
National Chiao Tung University

(交通大學生醫工程研究所所長荊宇泰教授)

“Analysis of Retinal Development using RNA-seq”

Dr. Li Cai

Associate Professor, Department of Biomedical Engineering
Rutgers University

Dr. Jessica C. Mar

Assistant Professor, Departments of Systems & Computational Biology and
Department of Epidemiology & Population Health
Albert Einstein College of Medicine of Yeshiva University

10/27 (Sat) 3:50 pm – 5:10 pm: Technical Session D1-W2-T2: Biomedical Science and Engineering

Chair: **Dr. Tso-Pang Yao**, Department of Pharmacology and Cancer Biology, Duke University Medical Center (杜克大學醫學中心姚佐邦教授)

Room: 224

“Control of Retinal Progenitor Fates by Transcription Factors and Notch Signaling”

Dr. Mengqing Xiang

Professor, Center for Advanced Biotechnology and Medicine & Department of Pediatrics
UMDNJ-Robert Wood Johnson Medical School

(新澤西州罗伯屋强森医学院高级生物技术与医学中心与儿科系向孟清教授)

Dr. Wenqin Luo

Assistant Professor, Department of Neuroscience
The Perelman School of Medicine, the University of Pennsylvania

(宾夕法尼亚大学医学院神经科学系罗文琴教授)

"The Role of Natural Killer T Cells in Intestinal Inflammation"

Dr. Chyung-Ru Wang

Professor, Department of Microbiology and Immunology
Feinberg School of Medicine

Northwestern University

(西北大學醫學院王瓊如教授)

10/27 (Sat) 3:50 pm – 5:10 pm : Technical Session D1-W3-T2: Bio-Materials, Bio-Nanotechnology/Bio-NEMS/Bio-MEMS

Chair: **Dr. Fan-Gang Tseng**, Department of Engineering and System Science and Biomedical Technology Research Center, National Tsing-Hua University

(清華大學工程與系統科學系主任曾繁根教授)

Room: 324

“Electric Tweezers”

Dr. Donglei (Emma) Fan

Assistant Professor, Department of Mechanical Engineering
The University of Texas, Austin

“Single-Cell Bio-MEMS for Systems Oncology”

Dr. Rong Fan

Assistant Professor, Department of Biomedical Engineering
Yale University

(耶魯大學生物醫學工程系樊榮教授)

“Photothermal Nanoblade for Single Cell Surgery and Cargo Delivery”

Dr. Pei-Yu (Eric) Chiou

Associate Professor, Department of Bioengineering
University of California, Los Angeles

(加州大學洛杉磯分校生物工程系邱培鈺教授)

Day 2 (Sunday, October 28, 2012):

10/28 (Sun) 9:00 am - 12:45 pm: Registration

Room: The Frick Atrium

Parallel Sessions:

10/28 (Sun) 9:50 am – 11:10 am: Technical Session D2-W1-T1: In Silico Research and Biomedical Informatics

Chair: **Dr. Jhih-Wei Chu**, Department of Chemical and Biomolecular Engineering, University of California, Berkeley (加州大學柏克萊分校化學及分子生物工程系朱智璋教授)

Room: 124

“Integrative Bioinformatics for Knowledge Discovery of PTM Networks”

Dr. Cathy H. Wu

Edward G. Jefferson Chair and Director, Center for Bioinformatics & Computational Biology
University of Delaware

(德拉威爾大學生物資訊及計算系統生物中心主任吳慧華教授)

“Data Mining in RNA Informatics”

Dr. Jason Tsong-Li Wang

Professor, Department of Computer Science

Director, Data and Knowledge Engineering Lab and Bioinformatics Center

New Jersey Institute of Technology

(紐澤西理工學院電腦科學系暨數據知識工程實驗室及生物資訊中心主任王中力教授)

“Computational Methods for Studying In Vivo Macromolecular Motion”

Dr. Edmond Chow

Associate Professor, School of Computational Science and Engineering

Georgia Institute of Technology

10/28 (Sun) 9:50 am – 11:10 am: Technical Session D2-W2-T1: Biomedical Science and Engineering

Chair: **Dr. 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)

Room: 224

“Menin, a Contextual Tumor Suppressor and Promoter in Controlling Endocrine Tumor and Leukemia”

Dr. Xianxin Hua

Associate Professor, Department of Cancer Biology

University of Pennsylvania Perelman School of Medicine

Dr. Jianming Hu

Professor, Department of Microbiology and Immunology

College of Medicine

The Pennsylvania State University

“Mitochondrial Quality Control and its Disease Implication”

Dr. Tso-Pang Yao

Professor, Department of Pharmacology and Cancer Biology
Duke University Medical Center
(杜克大學醫學中心姚佐邦教授)

10/28 (Sun) 9:50 am – 11:10 am: Technical Session D2-W3-T1: Bio-Materials, Bio-Nanotechnology/Bio-NEMS/Bio-MEMS

Chair: **Dr. Fan-Gang Tseng**, Department of Engineering and System Science and Biomedical Technology Research Center, National Tsing-Hua University
(清華大學工程與系統科學系主任曾繁根教授)
Room: 324

Dr. Nicholas X. Fang

Associate Professor, Department of Mechanical Engineering
Massachusetts Institute of Technology
(麻省理工学院机械工程系方绚莱教授)

“Optofluidic Lasers: Principles and Applications”

Dr. Xudong (Sherman) Fan

Associate Professor, Department of Biomedical Engineering
University of Michigan, Ann Arbor
(密歇根大学安娜堡分校生物医学工程系范旭东教授)

“Miniature MEMS-scanned Dual-axis Confocal Microscopy for Guiding Tumor Resection”

Dr. Jonathan T.C. Liu

Assistant Professor and Director, Molecular Biophotonics Lab
Department of Biomedical Engineering
The State University of New York, Stony Brook

10/28 (Sun) 11:10 am – 11:25 am: Break

Room: The Frick Atrium

Parallel Sessions:

10/28 (Sun) 11:25 am – 12:45 pm: Technical Session D2-W1-T2: In Silico Research and Biomedical Informatics

Chair: **Dr. Li-San Wang**, Department of Pathology and Laboratory Medicine, The Perelman School of Medicine, the University of Pennsylvania (賓州大學醫學院王立三教授)
Room: 124

“Statistical Methods to Infer Drug Target Pathways from High Throughput Data”

Dr. Hongyu Zhao

Chair, Biostatistics Division
Professor of Public Health (Biostatistics), of Genetics and of Statistics
School of Public Health
Yale University
(耶魯大學醫學院生物統計組主任趙宏宇教授)

“Flexible Methods for Assessing Interactions in Genetic Association Studies”

Dr. Michael Chiao-An Wu

Assistant Professor, 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)

Dr. Jhih-Wei Chu

Assistant Professor, Department of Chemical and Biomolecular Engineering
University of California, Berkeley

(加州大學柏克萊分校化學及分子生物工程系朱智璋教授)

**10/28 (Sun) 11:25 am – 12:45 pm: Technical Session D2-W2-T2:
Biomedical Science and Engineering**

Chair: **Dr. Tso-Pang Yao**, Department of Pharmacology and Cancer Biology, Duke University
Medical Center (杜克大學醫學中心姚佐邦教授)

Room: 224

Dr. Fu-Hsiung Chang

Professor, Department of Biochemistry and Molecular Biology
National Taiwan University

(臺灣大學醫學院生物化學暨生物分子研究所張富雄教授)

“Understanding Biology via Discovering the Activities of “Orphan” Enzymes”

Dr. Hening Lin

Assistant Professor, Department of Chemistry and Chemical Biology
Cornell University

“Single Cell Genomics”

Dr. Honghua Li

Associate Professor, Department of Pharmacology
University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School

(新澤西州羅伯屋強森醫學院李洪華教授)

**10/28 (Sun) 11:25 am – 12:45 pm : Technical Session D2-W3-T2: Bio-
Materials, Bio-Nanotechnology/Bio-NEMS/Bio-MEMS**

Chair: **Dr. Yihua Bruce Yu**, Department of Pharmaceutical Sciences, University of Maryland,
Baltimore (馬里蘭大學巴爾的摩分校藥學院藥物科學系虞一華教授)

Room: 324

“Biomimetic Approaches for the in vitro Engineering of 3D Prostate Cancer Models”

Dr. Xinqiao Jia

Associate Professor, Materials Science and Engineering Department, Biomedical Engineering
Program

University of Delaware

(德拉維爾大學材料科學與工程系生物醫學工程組賈新橋教授)

“Multifunctional Polymeric Nanoparticles for Targeted Cancer Therapy and Diagnosis”

Dr. Shaoqin "Sarah" Gong

Associate Professor, Department of Biomedical Engineering &
Wisconsin Institutes for Discovery

University of Wisconsin, Madison

“Engineering Virus Nanoparticles for Biomedicine”

Dr. Junghae Suh

Assistant Professor, Department of Bioengineering

Rice University

10/28 (Sun) 12:45 pm - 2:15 pm: Lunch

Room: The Frick Atrium

Parallel Sessions:

10/28 (Sun) 2:15 pm – 3:35 pm: Technical Session D2-W1-T3: In Silico Research and Biomedical Informatics

Chair: **Dr. Jhih-Wei Chu**, Department of Chemical and Biomolecular Engineering, University of California, Berkeley (加州大學柏克萊分校化學及分子生物工程系朱智璋教授)

Room: 124

“A Variable-Selection-Based Novel Statistical Approach to Identify Susceptible Rare Variants Associated with Complex Diseases with Deep Sequencing Data”

Dr. Shuang Wang

Associate Professor, Department of Biostatistics

(哥倫比亞大學公共衛生學院王爽教授)

Dr. Hokeun Sun

Associate Research Scientist, Department of Biostatistics

The Mailman School of Public Health

Columbia University

“NIA Genetics of Alzheimer’s Disease Data Storage Site (NIAGADS)”

Dr. Li-San Wang

Assistant Professor, Department of Pathology and Laboratory Medicine

University of Pennsylvania Perelman School of Medicine

Penn Center for Bioinformatics

(賓州大學醫學院王立三教授)

10/28 (Sun) 2:15 pm – 3:35 pm: Technical Session D2-W2-T3: Biomedical Science and Engineering

Chair: **Dr. 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)

Room: 224

“New Directions for Neural Prosthesis to Treat Hearing Loss and Tinnitus”

Dr. Hubert H. Lim

Assistant Professor, Departments of Biomedical Engineering and Otolaryngology

University of Minnesota, Twin Cities

“A Multi-step Self-organization of Centimeter-long Epithelial Tubules”

Dr. Chin-Lin Guo

Assistant Professor of Bioengineering and Applied Physics

California Institute of Technology

(加州理工學院生物工程系與應用物理系郭青齡教授)

“Advance Bio Sensing by Nanopatterning”

Dr. Stephen Y. Chou

Member of National Academy of Engineering

Professor, Department of Electrical Engineering

Princeton University

(美国国家工程院院士普林斯顿大学电机系周郁教授)

Dr. Liangcheng Zhou

Postdoctoral Research Associate, Department of Electrical Engineering
Princeton University

10/28 (Sun) 2:15 pm – 3:35 pm: Technical Session D2-W3-T3: Bio-Materials, Bio-Nanotechnology/Bio-NEMS/Bio-MEMS

Chair: **Dr. Yihua Bruce Yu**, Department of Pharmaceutical Sciences, University of Maryland, Baltimore (马里兰大学巴尔的摩分校药学院药物科学系虞一华教授)

Room: 324

“An Electrochemical Impedimetric Biosensor Based on a Nanostructured Polycarbonate (PC) Substrate”

Dr. Gou-Jen Wang

Distinguished Professor, Department of Mechanical Engineering and Graduate Institute of Biomedical Engineering

National Chung-Hsing University

(中興大學機械工程學系王國禎特聘教授)

“Biologically Inspired Microsystems Engineering”

Dr. Mingming Wu

Associate Professor, Department of Biological and Environmental Engineering
Cornell University

(康奈尔大学生物工程和环境工程系吴珉珉教授)

“BioMEMS for Blood Sample Preparation and Cell Analysis”

Dr. Siyang Zheng

Assistant Professor, Department of Bioengineering
The Pennsylvania State University

(宾州州立大学生物工程系郑斯扬教授)

10/28 (Sun) 3:35 pm – 3:50 pm: Break

Room: The Frick Atrium

Parallel Sessions:

10/28 (Sun) 3:50 pm – 5:10 pm: Technical Session D2-W1-T4: In Silico Research and Biomedical Informatics

Chair: **Dr. Li-San Wang**, Department of Pathology and Laboratory Medicine, The Perelman School of Medicine, the University of Pennsylvania (賓州大學醫學院王立三教授)

Room: 124

“Hidden Markov Models with Applications in Cell Adhesion Experiments”

Dr. Ying Hung

Assistant Professor, Department of Statistics and Biostatistics
Rutgers University

“Cellular Commitment in the Epithelial-Mesenchymal-Transition”

Dr. Yibin Kang

Professor, Department of Molecular Biology

(普林斯顿大学分子生物学系康毅滨教授)

Dr. Caleb Bastian

PhD Candidate, Applied and Computational Mathematics
Princeton University

Dr. Woei-Jyh (Adam) Lee

National Institutes of Health
(美國國家衛生研究院李偉智博士)

10/28 (Sun) 3:50 pm – 5:10 pm: Technical Session D2-W2-T4: Biomedical Science and Engineering

Chair: **Dr. Tso-Pang Yao**, Department of Pharmacology and Cancer Biology, Duke University
Medical Center (杜克大學醫學中心姚佐邦教授)

Room: 224

“Dendrimer-based Imaging Agents for 19F Magnetic Resonance Imaging”

Dr. Yihua Bruce Yu

Associate Professor, Department of Pharmaceutical Sciences
University of Maryland, Baltimore
(马里兰大学巴尔的摩分校药学院药物科学系虞一华教授)

“Superresolution STED Imaging Reveals Distinct States of Intraflagellar Transport in Primary Cilia”

Dr. Jung-Chi Liao

Assistant Professor, Department of Mechanical Engineering and Biomedical Engineering
Columbia University
(哥倫比亞大學機械工程系與生物醫學工程系廖仲麒教授)

“Human Insulin Degrading Enzyme”

Dr. Wei-Jen Tang

Professor, Ben May Department for Cancer Research
The University of Chicago
(芝加哥大學生物醫學研究所湯惟仁教授)

10/28 (Sun) 3:50 pm – 5:10 pm: Technical Session D2-W3-T4: Bio-Materials, Bio-Nanotechnology/Bio-NEMS/Bio-MEMS

Chair: **Dr. Fan-Gang Tseng**, Department of Engineering and System Science and Biomedical
Technology Research Center, National Tsing-Hua University

(清華大學工程與系統科學系主任曾繁根教授)

Room: 324

“Microelectromechanical Systems for Biomolecular Sensing and Manipulation”

Dr. Qiao Lin

Associate Professor, Department of Mechanical Engineering
Columbia University

Dr. Fan-Gang Tseng

Professor and Chairman, Department of Engineering and System Science
Deputy Director, Biomedical Technology Research Center
National Tsing-Hua University
(清華大學工程與系統科學系主任曾繁根教授)

Dr. Jeff Tza-Huei Wang

Associate Professor

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)