



**The First EITA Conference on Agricultural
Science and Technology, Biosystems Engineering
(the EITA-New Agriculture 2013)**

**"Precision Agriculture: Challenge and Future
Directions"**

**College of Veterinary Medicine
Cornell University
Ithaca, New York, USA**

Thursday-Friday, June 27-28, 2013

Program

(Draft as of 6/23/13)

Day 1 (Thursday, June 27, 2013)

6/27 (Thu) 8:30 am - 5:00 pm: Registration

Room: **James Law Auditorium**

6/27 (Thu) 9:00 am - 9:30 am: Opening Session

Room: **James Law Auditorium**

General Conference Co-chairs:

Dr. Yung-Fu Chang, Professor, Department of Population Medicine and Diagnostic Sciences,
College of Veterinary Medicine, Cornell University

(康乃爾大學獸醫學院張永富教授)

Dr. Ta-Te Lin, Distinguished Professor and Associate Dean, Department of Bio-Industrial
Mechatronics Engineering, College of Bioresources and Agriculture, National Taiwan University

(臺灣大學生物資源暨農學院、生物產業機電工程系特聘教授林達德副院長)

Welcome Remarks:

Dr. Michael Kotlikoff

Professor, Department of Biomedical Sciences
Austin O. Hoey Dean, College of Veterinary Medicine
Cornell University

6/27 (Thu) 9:30 am - 11:00 am: Plenary Session (1):

Chair: **Dr. Yung-Fu Chang**, Professor, Department of Population Medicine and Diagnostic
Sciences, College of Veterinary Medicine, Cornell University

(康乃爾大學獸醫學院張永富教授)

Room: **James Law Auditorium**

Dr. Joel D. Baines

James Law Professor of Virology
Associate Dean for Research and Graduate Education
College of Veterinary Medicine
Cornell University

“Intelligence Empowered Agricultural Systems for Food, Feed, Fiber, Fuel, and Furnishing”

Dr. Kuan Chong Ting

Professor and Head, Department of Agricultural and Biological Engineering
University of Illinois, Urbana-Champaign

(伊利諾大學農業暨生物工程學系教授兼系主任丁冠中教授)

6/27 (Thu) 11:00 am - 11:15 am: Break

6/27 (Thu) 11:15 am - 12:45 pm: Plenary Session (2)

Chair: **Dr. Ta-Te Lin**, Distinguished Professor and Associate Dean, Department of Bio-Industrial Mechatronics Engineering, College of Bioresources and Agriculture, National Taiwan University

(臺灣大學生物資源暨農學院、生物產業機電工程系特聘教授林達德副院長)

Room: **James Law Auditorium**

"Enhancements of Power Generation by Using Biogas in a Swine Farm"

Dr. Chiun-Hsun Chen

Dean, College of Engineering
Professor, Department of Mechanical Engineering
National Chiao Tung University

(交通大學工學院院長,高效率能源技術研究中心主任與機械工程系陳俊勳教授)

6/27 (Thu) 12:45 pm - 2:15 pm: Lunch

Parallel Sessions:

6/27 (Thu) 2:15 pm - 3:45 pm: Technical Session D1-W1-T1: Agroecology, Agricultural Biotechnology

Chair: **Dr. Ta-Te Lin**, Distinguished Professor and Associate Dean, Department of Bio-Industrial Mechatronics Engineering, College of Bioresources and Agriculture, National Taiwan University

(臺灣大學生物資源暨農學院、生物產業機電工程系特聘教授林達德副院長)

Room: **LH1**

“Gene Deletor Technology and its Applications in the Second and Third Generation Breeding Technologies”

Dr. Yi Li

Professor, Department of Plant Science
Director, New England Invasive Plant Center
University of Connecticut, Storrs

(康涅狄格大学植物科学系李义教授)

“Seed Potatoes – A Cooperative Production System that Facilitates Technology Transfer”

Dr. Amy Charkowski

Professor, Department of Plant Pathology
University of Wisconsin, Madison

“Recycling Irrigation System – A Focal Point of Agricultural Water Security and Plant Biosecurity in the 21st Century”

Dr. Chuanxue Hong

Professor, Department of Plant Pathology, Physiology and Weed Science
Virginia Polytechnic Institute and State University

6/27 (Thu) 2:15 pm – 3:45 pm: Technical Session D1-W2-T1: Precision and Information Agriculture, Renewable Energy and Smart Grid

Chair: **Dr. Kuan Chong Ting**, Professor and Head, Department of Agricultural and Biological Engineering, University of Illinois, Urbana-Champaign

(伊利諾大學農業暨生物工程學系教授兼系主任丁冠中教授)

Room: **Hagan**

“Synthetic Silage: Engineering a Microbial Platform for Biomass Pretreatment”

Dr. Tom L. Richard

Professor of Biological Engineering
Director, Penn State Institutes of Energy and the Environment
Pennsylvania State University

“Bioenergy from Waste Biomass through the Bio-electrochemical System”

Dr. Shaoan Cheng

Changjiang Scholar & Professor, Department of Energy Engineering
Zhejiang University

(浙江大學能源工程學系長江學者成少安特聘教授)

“Automation on Precision Cultivation in Greenhouse”

Dr. Suming Chen

Professor, Department of Bio-Industrial Mechatronics Engineering
Director of Bioenergy Research Center
National Taiwan University

(臺灣大學生物產業機電工程學系陳世銘教授)

6/27 (Thu) 2:15 pm – 3:45 pm: Technical Session D1-W3-T1: Animal and Veterinary Sciences, Biomedical Sciences and Engineering

Chair: **Dr. Yung-Fu Chang**, Professor, Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University

(康乃爾大學獸醫學院張永富教授)

Room: **S1-017**

“Tumor suppressor WWOX in cell-cell recognition and cancer stem cell regulation”

Dr. Nan-Shan Chang

Distinguished Professor and Director, Institute of Molecular Medicine
National Cheng Kung University

(成功大學分子醫學研究所所長張南山特聘教授)

“Production and Delivery of Bioactive Factors with Food Grade Bacteria to Enhance Performance of Early Weaned Pig”

Dr. Julang Li

Professor, Department of Animal and Poultry Science
University of Guelph

"Application of High-throughput RNA Sequencing in Animal Reproduction: Application to the Bull Spermatozoal Transcript Profile"

Dr. Becky L. Sartini

Associate Professor, Department of Fisheries, Animal and Veterinary Science
University of Rhode Island

"Regulation of Sperm Storage in Mammals"

Dr. Pei-hsuan (Chris) Hung

Postdoctoral Associate, Department of Biomedical Sciences
Cornell University

6/27 (Thu) 3:45 pm – 4:00 pm: Break

Parallel Sessions:

6/27 (Thu) 4:00 pm – 5:30 pm : Technical Session D1-W1-T2: Agroecology, Agricultural Biotechnology

Chair: **Dr. Yi Li**, Professor, Department of Plant Science, Director, New England Invasive Plant Center
University of Connecticut, Storrs
Room: **LH1**

“What mechanisms of resistance to transgenic Bt-crops may be selected in insect populations in the field?”

Dr. Ping Wang

Associate Professor, Department of Entomology
College of Agriculture and Life Sciences
Cornell University

“Identify Soybean Genes Involved in Resistance to *Phakopsora pachyrhizi* Infection Using Biotechnology”

Dr. Zhi-Yuan Chen

Associate Professor, Department of Plant Pathology and Crop Physiology
Louisiana State University Agricultural Center

Dr. Wenling Deng

Assistant Professor, Department of Plant Pathology
National Chung Hsing University
(中興大學植物病理學系鄧文玲教授)

6/27 (Thu) 4:00 pm – 5:30 pm: Technical Session D1-W2-T2: Precision and Information Agriculture, Renewable Energy and Smart Grid

Chair: **Dr. Suming Chen**, Professor, Department of Bio-Industrial Mechatronics Engineering
National Taiwan University

(臺灣大學生物產業機電工程學系陳世銘教授)

Room: **Hagan**

"Biofuels and Biorenewable Chemicals from Waste and Alternative Biomass Based Feedstock"

Dr. Richard S. Parnas

Professor of Chemical Engineering – Polymers Program, Institute of Materials Science & Associated Faculty – Environmental Engineering Program, Department of Chemistry
University of Connecticut

Dr. Ting Zhu

Assistant Professor, Department of Computer Science
The University of New York at Binghamton

"Production of Biofuels from CO₂"

Dr. Si-Yu Li

Assistant Professor, Department of Chemical Engineering
National Chung Hsing University
(中興大學化學工程學系李思禹教授)

6/27 (Thu) 4:00 pm – 5:30 pm : Technical Session D1-W3-T2: Animal and Veterinary Sciences, Biomedical Sciences and Engineering

Chair: **Dr. Ya-Ching Shen**, Professor, School of Pharmacy, College of Medicine, National Taiwan University

(臺大醫學院藥學系沈雅敬教授)

Room: **S1-017**

"Nutrition: at crossroads of human health and sustainable world"

Dr. Xingen Lei

Professor, Department of Animal Science
Cornell University

"IL-12 is Required for mTOR Regulation of Memory CTLs during Virus Infection"

Dr. Zhengguo Xiao

Assistant Professor, Department of Animal and Avian Sciences
University of Maryland, College Park

"In Vitro Embryogenesis, Animal Cloning and Embryonic Stem Cells"

Dr. Jyh-Cherng Ju

Distinguished Professor, Department of Animal Science,
National Chung Hsing University
(中興大學動物科學系朱志成特聘教授)

Day 2 (Friday, June 28, 2013):

6/28 (Fri) 9:00 am - 12:45 pm: Registration

Room: LH1

Parallel Sessions:

6/28 (Fri) 9:30 am – 11:00 am: Technical Session D2-W1-T1: Agroecology, Agricultural Biotechnology

Chair: **Dr. Kuan-Chen Cheng**, Assistant Professor, Graduate Institute of Food Science and Technology, Institute of Biotechnology, National Taiwan University

(台灣大學食品科技研究所/生物科技研究所鄭光成教授)

Room: **LH1**

“New and Bioactive Terpenoids and Lignans from Schisandra”

Dr. Ya-Ching Shen

Professor, School of Pharmacy, College of Medicine
National Taiwan University

(臺大醫學院藥學系沈雅敬教授)

“Active DNA Demethylation during Gametogenesis Regulates Gene Imprinting and Transposon Silencing in Arabidopsis”

Dr. Tzung-Fu Hsieh

Assistant Professor, Plants for Human Health Institute & Department of Plant Biology
North Carolina State University

6/28 (Fri) 9:30 pm – 11:00 am: Technical Session D2-W2-T1: Precision and Information Agriculture, Renewable Energy and Smart Grid

Chair: **Dr. Kuan Chong Ting**, Professor and Head, Department of Agricultural and Biological Engineering, University of Illinois, Urbana-Champaign

(伊利諾大學農業暨生物工程學系教授兼系主任丁冠中教授)

Room: **Hagan**

“A Green Process for the Production of Starch/Cellulose Acetate Bio-Materials”

Dr. Chunbao (Charles) Xu

Associate Professor, NSERC/FPInnovations Industrial Research Chair in Forest Biorefinery, Department of Chemical and Biochemical Engineering and Institute for Chemicals and Fuels from Alternative Resources (ICFAR)

Western University

"From Biomass to Biofuels: the Power of Synthetic Biology"

Dr. Kang Wu

Assistant Professor, Department of Chemical Engineering
The University of New Hampshire

(新罕布什尔大学化学工程系吴康教授)

6/28 (Fri) 9:30 pm – 11:00 am: Technical Session D2-W3-T1: Animal and Veterinary Sciences, Biomedical Sciences and Engineering

Chair: **Dr. Yung-Fu Chang**, Professor, Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University

(康乃爾大學獸醫學院張永富教授)

Room: **S1-017**

Dr. Jiuzhou John Song

Associate Professor, Department of Animal and Avian Sciences
University of Maryland, College Park

"Controlling Biofilms by Targeting Bacterial Cell-to-Cell Signaling"

Dr. Dacheng Ren

Associate Professor, Department of Biomedical and Chemical Engineering
Syracuse University

(雪城大学生物医学暨化学工程学系任大成教授)

"Lysosomal Dysfunction in Frontotemporal Lobar Degeneration"

Dr. Fenghua Hu

Research Scientist, Department of Molecular Biology and Genetics
Weill Institute for Cell and Molecular Biology
Cornell University

(康乃爾大學胡风华博士)

6/28 (Fri) 11:00 am – 11:15 am: Break

Room:

Parallel Sessions:

6/28 (Fri) 11:15 am – 12:45 pm: Technical Session D2-W1-T2:

Agroecology, Agricultural Biotechnology

Chair: **Dr. Tzung-Fu Hsieh**, Assistant Professor, Plants for Human Health Institute and
Department of Plant Biology, North Carolina State University

Room: **LH1**

"Temperature Stress Tolerance in Plants: Role of Proteins and Small Non-coding RNAs"

Dr. Jianhua Zhu

Assistant Professor, Department of Plant Science and Landscape Architecture
University of Maryland, College Park

"Isoflavone Aglycones Enrichment in Soymilk by Agricultural Waste-Based Immobilized β -Glucosidase"

Dr. Kuan-Chen Cheng

Assistant Professor, Graduate Institute of Food Science and Technology
Institute of Biotechnology
National Taiwan University

(台灣大學食品科技研究所/生物科技研究所鄭光成教授)

6/28 (Fri) 11:15 am – 12:45 pm: Technical Session D2-W2-T2: Precision and Information Agriculture, Renewable Energy and Smart Grid

Chair: **Dr. Suming Chen**, Professor, Department of Bio-Industrial Mechatronics Engineering
National Taiwan University

(臺灣大學生物產業機電工程學系陳世銘教授)

Room: **Hagan**

Dr. Liangcai Peng

Changjiang Scholar & Professor of Plant Biology
Director of Biomass & BioEnergy Research Center
Huazhong Agricultural University
(华中农业大学植物科技学院长江学者彭良才特聘教授)

“Plant Growth Measurement and Modeling in Plant Factory”

Dr. Ta-Te Lin

Distinguished Professor and Associate Dean
Department of Bio-Industrial Mechatronics Engineering
College of Bioresources and Agriculture
Graduate Institute of Brain and Mind Sciences
National Taiwan University
(臺灣大學生物資源暨農學院、生物產業機電工程系特聘教授林達德副院長)

6/28 (Fri) 11:15 am – 12:45 pm : Technical Session D2-W3-T2: Animal and Veterinary Sciences, Biomedical Sciences and Engineering

Chair: **Dr. Ya-Ching Shen**, Professor, School of Pharmacy, College of Medicine, National Taiwan University

(臺大醫學院藥學系沈雅敬教授)

Room: **S1-017**

“Development of Subtype-specific Monoclonal Antibodies (MAb) to Avian Influenza Virus and MAb-based Assays for the Rapid Detection of Avian Influenza”

Dr. Huaguang Lu

Senior Research Associate - Avian Virologist
Animal Diagnostic Lab
Department of Veterinary and Biomedical Sciences
Pennsylvania State University

“Molecular Basis of Interactions between HIV-1 gp120 and Coreceptors CCR5/CXCR4”

Dr. Shi-hua Xiang

Assistant Professor, Nebraska Center for Virology
School of Veterinary Medicine and Biomedical Sciences
University of Nebraska-Lincoln
(内布拉斯加大学林肯分校兽医学院向世华教授)

“Molecular Analysis of LigB of Leptospira, a Potential Vaccine Candidate”

Dr. Yung-Fu Chang

Director, Infectious Disease Research Program, Animal Health Diagnostic Center
Professor, Department of Population Medicine and Diagnostic Sciences
College of Veterinary Medicine, Cornell University
(康乃爾大學獸醫學院張永富教授)

6/28 (Fri) 12:45 pm - 2:15 pm: Lunch

6/28 (Fri) 2:15 pm – 5:30 pm: Conference Tours