

第六届亚洲精准农业会议(6<sup>th</sup> ACPA)  
The Sixth Asian Conference on Precision Agriculture  
(中国 广州)  
(Guangzhou, China)

分会场报告  
日程安排  
(修正版)

Technical Session  
Agenda  
(Revised edition)

2015 年 11 月 17 日

November 17<sup>th</sup>, 2015

**第一分会场——“农情信息获取与处理技术”专题报告**  
**Session 1——Agricultural information acquisition and processing**  
**日程安排表 Program**

(分会场主席：中国农业大学李民赞教授                      地点：华南农业大学图书馆报告厅)  
 (Chair: Prof. Minzan Li from China Agricultural University      Location: Library Auditorium)

<b>11月18日上午 Nov. 18<sup>th</sup> 8:30am-12:15am</b>				
Moderator: Minzan Li(China Agricultural University, China) Nick Sigrimis (The Agricultural University of Athens, Greece)				
时间 Time	发言人 Speaker	国家/地区 Country or region	工作单位 Affiliation	题目 Title
8:30	Sakae Shibusawa	Japan	Tokyo University of Agriculture and Technology 东京农工大学	Community-based precision agriculture 以社区为基础的精准农业
8:45	Hui Li 李惠	Japan	Tokyo University of Agriculture and Technology 东京农工大学	Comparison of soil property map to rice yield map of paddy field 稻田土壤成分地图与收成地图的比较
9:00	Ngo Viet - Duc	Republic of Korea	Chungnam National University	Effects of temperature and estimation of functional components on Chinese cabbage and kale leaves
9:15	Pan Pu 蒲攀	China	China Agricultural University 中国农业大学	Soil Macronutrients Sensing Using ISE Sensor Array 基于电化学原理的土壤主要养分传感器研究与检测装 备开发
9:30	Yao Wen 文瑶	China	China Agricultural University 中国农业大学	A Rapid 3D Reconstruction of Fruit Tree Based on Point Cloud Registration 基于点云配准的果树快速三维重建
9:45	Hong Li 李虹	China	ChineseAcademy of Tropical Agricultural Science, Environment and Plant Protection Institute 中国热带农科院环境 与植物保护研究所	Increasing Peanut Plant Nodulation and Nitrogen Fixation using Soil Organic Carbon, Nitrate and Iron Spatial Patterns in an Intercropping System 利用土壤有机碳、硝酸盐和无机铁的空间变化格局提 高间作系统花生根瘤作用和固氮效益
10:00	茶歇 Tea break			
Moderator: Sakae Shibusawa (Tokyo University of Agriculture and Technology, Japan) Zhiyan Zhou (South China Agricultural University, China)				
10:15	Deqin Xiao 肖德琴	China	South China Agricultural University 华南农业大学	Agricultural visual information acquisition and analysis 农业视觉信息获取与解析
10:30	Dongdong Gu 古冬冬	China	Henan Agricultural University 河南农业大学	A novel nondestructive determination of total chlorophyll content in maize using a three-wavelength diffuse reflectance 基于三波长漫反射的玉米叶绿素无损测定新方法

10:45	Yuntao Ma 马韞韬	China	China Agricultural University 中国农业大学	Simulation of Individual Maize Kernel Growth with Source-Sink interactions 基于源库关系的玉米单个籽粒灌浆过程的模拟
11:00	Zhen Li 李震	China	South China Agricultural University 华南农业大学	Fruit fly monitoring using multi-media internet-of-things 用多媒体物联网监测橘小实蝇
11:15	Xiuhua Li 李修华	China	Guangxi University 广西大学	Analysis of the spectral characteristics of sugarcane leaves under different fertilizer treatments 不同施肥情况下甘蔗叶片光谱特性分析
11:30	Kai Yin 尹凯	China	Guangxi University 广西大学	Research on the Integrity Detection of the Sugarcane Planting Bud 甘蔗种植种芽完好性检测方法研究
11:45	Xudong Luo 罗旭东	China	Guangzhou Xingbokeyi Inc. 广州星博科仪有限公司	Function and architecture of the spectral images analysis network 光谱影像分析服务网功能及框架
12:00	HongXin Cao 曹宏鑫	China	Institute of Agricultural Economics and Information 农业经济与信息研究所	Spectrum- and cluster- based identification of rapeseed disease 基于光谱和聚类分析的油菜白斑病识别研究

**11月19日上午 Nov. 19<sup>th</sup> 8:30am-12:00am**

Moderator: Naiqian Zhang (Kansas State University, USA)  
Weixing Wang(South China Agricultural University, China)

时间 Time	发言人 Speaker	国家/地区 Country or region	工作单位 Affiliation	题目 Title
8:30	Marc Vanacht	USA	AG Business Consultants	In what environment will Precision Agriculture evolve? How will changes in global economic, technical, social and farm structure affect Precision Agriculture, worldwide and in Asia? 精准农业在什么环境下发展? 全球经济、技术、社会和农业结构的改变将怎样影响世界和亚洲的精准农业?
8:45	Shen Jiang 姜晟	China	South China Agricultural University 华南农业大学	Research on Aquaculture Water Quality monitoring Based on Wireless Sensor Networks
9:00	Hong Sun 孙红	China	China Agriculture University 中国农业大学	Multi-Spectral Image Analysis for Maize Chlorophyll Content at Jointing Stage
9:15	Seongheon Kim	Republic of Korea	Gyeongsang National University	Vegetation Segmentation and Weed Detection Methods Based on Histogram and Morphological Difference for Soybean Image
9:30	Ting Li 李婷	China	China Agriculture University 中国农业大学	CO2 concentration monitoring and controlling system in solar greenhouse based on WSN 基于 WSN 的温室 CO2 浓度调控
9:45	Longsheng Fu 傅隆生	China	North-West A & F University 西北农林大学	Sensing and acquisition of information for harvesting robots of fruit and vegetable
10:00	茶歇 Tea break			

Moderator: I Made Anom Sutrisna Wijaya (Udayana University, Indonesia)  
Miao Li( Hefei Institutes of Physical Science, Chinese Academy of Sciences, China)

10:15	Zhaofeng Yuan 袁召锋	China	Nanjing Agricultural University 南京农业大学	SPAD values based nitrogen diagnosis in rice 基于 SPAD 值的水稻氮素诊断
10:30	Bo Zhang 张波	China	South China Agricultural University 华南农业大学	Acquisition and Processing of the Wisdom Aquiculture Information based on Agricultural Internet of Things 基于农业物联网的智慧水产信息获取与处理
10:45	Yongming Chen 陈永明	China	Yancheng Institute of Technology 盐城工学院	Rapidly perceiving living habitat of rice 稻米生境信息快速感知
11:00	Xiaoshuai Pei 裴晓帅	China	China Agriculture University 中国农业大学	Vehicular soil electrical conductivity and spectral reflectance detection system based on Android
11:15	Ming Xiang 项明	China	China Agriculture University 中国农业大学	Development of the integrated navigation system of agricultural vehicle and implement based on GNSS and MV
11:30	Wei Yang 杨玮	China	China Agriculture University 中国农业大学	Application of spectral screening method on prediction model of nitrogen content of jujube leaves
11:45	Haojie Liu 刘豪杰	China	China Agriculture University 中国农业大学	Estimation of maize chlorophyll content using Cropspec <sup>TM</sup> , a vehicle mounted crop canopy sensor
12:00	I Made Adnyana	Indonesia	Udayana University	Heavy Metals Contents and Their Mobility in Various Land Uses for Horticulture in Bali, Indonesia

**第二分会场——“智能农业装备与自动作业机械”分会场专题报告**  
**Session 2——Intelligent control and automatic operation of agricultural machines for precision farming**

**日程安排表 Program**

(分会场主席：国家农业信息化工程技术研究中心主任赵春江

地点：华南农业大学行政楼三楼会议室)

(Chair: Chunjiang Zhao from NERCITA, China

Location: Administration Building Conference Room (3rd floor))

<b>11月18日上午 Nov. 18<sup>th</sup> 8:30am-12:15am</b>				
Moderator: Chunjiang Zhao (NERCITA, China) Armin Werner (Lincoln Agritech Ltd, New Zealand)				
时间 Time	发言人 Speaker	国家/地区 Country or region	工作单位 Affiliation	题目 Title
8:30	S.B. Phillips	USA	International Plant Nutrition Institute 国际植物营养研究所	Using Precision Agriculture Technologies to Improve Nutrient Use Efficiency 使用精准农业技术来提高养分利用效率
8:45	Yeon-Soo Kim	Republic of Korea	Chungnam National University 忠南国立大学	Study on the Driving Performance Evaluation of Unmanned Tractors Using Carsim 使用 Carsim 对无人拖拉机驾驶性能评估的研究
9:00	Xiaochan Wang 汪小昆	China	Nanjing Agricultural University 南京农业大学	Research on variable rate fertilizer applicator 变量施肥机的研制
9:15	Xiongkui He 何雄奎	China	China Agricultural University 中国农业大学	Orchard Precision Spraying Techniques Based on Multi-sensors 基于多传感器的果园精准喷雾技术
9:30	Chengliang Liu 刘成良	China	Shanghai Jiao Tong University 上海交通大学	Robotics and automation in contemporary intelligent agricultural machine with application 农业智能装备中的机器人技术及应用
9:45	Xiaolin Zhuang 庄晓霖	China	South China Agricultural University 华南农业大学	Obstacle avoidance of binocular vision recognition system based on facility agriculture 用于设施农业中小车避障的双目视觉识别系统
10:00			茶歇 Tea break	
Moderator: Azmi Bin Yahya (University Putra Malaysia, Malaysia) Chengliang Liu(Shanghai Jiao Tong University, China)				
10:15	Danfeng Huang 黄丹枫	China	Shanghai Jiaotong University 上海交通大学	The development and application of quality and safety informatization techniques in vegetable production 蔬菜质量安全信息化技术体系的集成与应用
10:30	Pa-Ul Lee	Republic of Korea	Chungnam National University 忠南国立大学	Analysis of a PTO Driving Gear using Gear Design Program 利用齿轮设计的 PTO 驱动装置分析
10:45	Wan-Soo Kim	Republic of Korea	Chungnam National University 忠南国立大学	Simulation of the fuel consumption of an agricultural tractor 农用拖拉机耗油量仿真
11:00	Xiangjun Zou 邹湘军	China	South China Agricultural University 华南农业大学	FAULT-TOLERANT DESIGN OF FRUIT-PICKING ROBOT BASED ON BINOCULAR VISION 基于视觉的水果采摘机器人容错设计

11:15	Jiangtao Qi 齐江涛	China	Jilin University 吉林大学	Design and test of monitoring terminal based on LabVIEW for precision agriculture typical operation 基于 LabVIEW 的精准农业典型作业环节监测终端
11:30	Nam Seok Sung	Republic of Korea	Chungnam National University	Design of sensor and control interface module with improved compatibility for greenhouse environment control
11:45	Mingjin Yang 杨明金	China	Southwest University 西南大学	Heat & mass transfer during hot-air drying of rapeseed (Brassica napus L.) 甘蓝型油菜籽热风干燥传热传质
12:00	Xin Wang 王鑫	China	Heilongjiang Bayi Agricultural university 黑龙江八一农业大学	Design and experiment of intelligent vacuum-far-infrared dryer 智能远红外真空干燥机的设计与试验

**11月19日上午 Nov. 19<sup>th</sup> 8:30am-12:15am**

Moderator: Manjeet Singh Makkar (Punjab Agricultural University, India)  
Xiaochan Wang(Nanjing Agricultural University, China)

时间 Time	发言人 Speaker	国家/地区 Country or region	工作单位 Affiliation	题目 Title
8:30	Changyou Li 李长友	China	South China Agricultural University 华南农业大学	粮食干燥自适应控制系统 Self-adaptive Control System of Grain Drying Device
8:45	Zhigang Zhang 张智刚	China	South China Agricultural University 华南农业大学	华南农业大学农业机械导航关键技术研究进展 Research progress of Key technologies in agricultural navigation in SCAU
9:00	Soo-Gon Park	Republic of Korea	Chungnam National University 忠南国立大学	Image Calibration Device depending on Camera Tilt for an Autonomous Guidance System 基于摄像机俯仰运动进行图像校准的自主导航系统
9:15	Bashar Mehrez	China	South China Agricultural University 华南农业大学	Performance characteristics of agricultural rotary trencher
9:30	Jianze Chen 陈建泽	China	South China Agricultural University 华南农业大学	Progresses of Spraying Technology Researching in mountainous Orchard 山地果园喷雾技术研究进展
9:45	Bo Zhang 张博	China	Heilongjiang Bayi Agricultural university 黑龙江八一农垦大学	Design a Automatic System for control the Ditch Depth Precision on Corn No-tillage Seeder 玉米免耕播种机开沟深度自动控制系统
10:00	茶歇 Tea break			
Moderator: Yi-Chich Chiu (National Ilan University, Ilan, Taiwan, China) Xiongkui He (China Agricultural University, China)				
10:15	Song Gu 辜松	China	South China Agricultural University 华南农业大学	Development status of automated equipment systems for greenhouse production in China
10:30	Enli Lv 吕恩利	China	South China Agricultural University 华南农业大学	Technology and equipment of cold-chain logistics for Litchi 荔枝冷链物流技术与装备
10:45	Liangliang Yang	Japan	北海道大学 Hokkaido University	Where to mount a GPS antenna for a wheel-type robot tractor from the view of sensor fusion

11:00	Moon-Chan Choi	Republic of Korea	Chungnam National University	Development of yield monitoring system and mapping for full-feed type mid-sized multi-purpose combines
11:15	Xiaofei An 安晓飞	China	National Engineering Research Center for Intelligent Equipment for Agriculture (NERCIEA) 国家农业智能装备技术研究中心	Development of Grain Yield Monitor System Based on CAN Bus 基于 CAN 总线的谷物产量计量系统研发
11:30	Qing Tang 唐青	China	NERCIEA 国家农业智能装备技术研究中心	Research in a Quasi-2D Canopy Model 准 2D 冠层模型
11:45	Quan Jia 贾全	China	Chinese Academy of Agricultural Mechanization Sciences 中国农机院	Research and Performance Test of Tractor Automatic Navigation Technology 拖拉机自动导航技术研究与性能测试
12:00	Kun Bi 毕昆	China	Analysis OME Co. 恩奈瑟斯（北京）光电技术有限公司	Plant root phenotype monitoring 植物根系形态学监测

**第三分会场——“精准农业航空关键技术”分会场专题报告**  
**Session 3——Key technologies for precision agricultural aviation**  
**日程安排表 Program**

(分会场主席：华南农业大学兰玉彬教授，地点：华南农业大学红满堂)  
 (Chair: Prof. Yubin Lan from South China Agricultural University  
 Location: Hongmangtang Hall)

<b>11月18日上午 Nov. 18<sup>th</sup> 8:30am-11:55am</b>				
Moderator: Yubin Lan(South China Agricultural University, China) Ivan Kirk (USDA ARS, USA)				
时间 Time	发言人 Speaker	国家/地区 Country or region	工作单位 Affiliation	题目 Title
8:30	Andrew Hewitt	Australia	University of Queensland 昆士兰大学	Precision Aerial Pesticides Applications: Current and Future 精准航空施药应用：现状与未来
8:45	Kyeong-Hwan Lee	Republic of Korea	Chonnam National University 韩国国立全南大学	Estimation of Rice Crop Growth using an Unmanned Aerial System 无人机用于作物长势监测
9:00	Huihui Zhang	USA	USDA ARS 美国农业部	Spatial Analysis of Remotely Sensed Imagery 空间统计学在图像处理中的应用
9:15	Xia Yao 姚霞	China	Nanjing Agricultural University 南京农业大学	Monitoring the Growth Status in Wheat with UAV-based Multispectral Imagery 基于无人机影像的小麦生长监测研究
9:30	Xiongkui He 何雄奎	China	China Agricultural University 中国农业大学	The Single- and Multi-wings UAVs Chemical Application Techniques 单-多旋翼无人机施药技术研究
9:45	Ruirui Zhang 张瑞瑞	China	National Engineering Research Center for Intelligent Equipment in Agriculture 国家农业智能装备工程技术研究中心	Research on Monitoring Technology and Spraying Model in Precision Aerial Application 精准航空施药监测技术与喷雾模型研究
10:00	茶歇 Tea break			
Moderator: Andrew Hewitt (Queensland University, Australia) Yong He (Zhejiang University, China)				
10:15	Ivan Kirk	USA	USDA ARS 美国农业部	Response Surface Methodology 响应面分析方法论
10:30	Hang Zhu 朱航	China	University of Illinois at Urbana-Champaign 伊利诺伊大学香槟分校	Experimental Performance of Multi-rotor Unmanned Vehicle for Chemical Application 基于多旋翼无人机的喷洒系统试验研究
10:45	Fenghua Yu 于丰华	China	Shenyang Agricultural University 沈阳农业大学	The Monitoring Research of Northern Japonica Rice Growth based on UAV Remote Sensing and Multi-Source Data Fusion 无人机遥感与多源数据融合对北方粳稻长势监测的研究



11:00	Chengyu Cao 曹承煜	China	Zhuhai Yuren Aircraft Co. Ltd. 珠海羽人飞行器有限公司	UAV for supplementary pollination in hybrid rice breeding 杂交水稻制种辅助授粉无人机
11:15	Jizhong Deng 邓继忠	China	South China Agricultural University 华南农业大学	An Android Device-based Remote Sensing System of Unmanned Aerial Vehicle (UAV) for Image Acquisition and Analysis 一种基于安卓平台的无人机遥感图像采集与分析系统
11:30	Songchao Zhang 张宋超	China	Ministry of Agriculture, Nanjing Agricultural Mechanization Institute 农业部南京农业机械化研究所	Agricultural UAV Spraying Applications 农业航空喷雾应用
11:45	Yongjun Zheng 郑永军	China	China Agricultural University 中国农业大学	Application and platform construction of UAV for precision agriculture in CAU 无人机精准农业作业平台与应用示范基地建设
12:00	Zhang Pan 张盼	China	Southwest University 西南大学柑橘研究所	Droplet distribution effects on different citrus tree-shape by different spraying heights of a small unmanned aerial vehicle (UAV) 柑橘树形与无人机作业高度对雾滴沉积效果

**11月19日上午 Nov. 19<sup>th</sup> 8:30am-12:00am**

Moderator: Alex Thomasson (Texas A&M University, USA)  
Tongyu Xu (Shenyang Agricultural University, China)

时间 Time	发言人 Speaker	国家/地区 Country or region	工作单位 Affiliation	题目 Title
8:30	Dennis Zhu 朱秋阳	China	Guangzhou Tianxiang Aviation Technology Co., Ltd. 广州天翔航空科技有限公司	Pragmatic Style - UAV for Plant Protection 植保无人机的务实派
8:45	Yanhua Meng 蒙艳华	China	Anyang Quanfeng Aviation Plant Protection Technology Co., Ltd. 安阳全丰航空植保技术有限公司	Plant Protection Applications of UAV 无人机在植保作业中的应用
9:00	Zhu Sun 孙竹	China	Nanjing Agricultural Mechanization Institute, Ministry of Agriculture 农业部南京农业机械化研究所	Agricultural UAV Standards Establishment 农用无人机标准制定
9:15	Jiyu Li 李继宇	China	South China Agricultural University 华南农业大学	Design and test of rice aircraft seeding operation by UAV 无人机水稻撒播作业设计与试验
9:30	Sheng Wen 文晟	China	South China Agriculture University 华南农业大学	Analysis and Experimentation of the Atomization Characteristics of the Low Volume Swirl Nozzle for the Agricultural Unmanned Aerial Vehicles 农用无人机低量旋流喷嘴的雾化特性研究与试验
9:45	Baofeng Su 苏宝峰	China	Northwest A&F University 西北农林科技大学	Study on Growth Monitoring of Wine Grape based on Remote Sensing 基于遥感的酿酒葡萄长势监测
10:00	茶歇 Tea break			

Moderator: Kyeong-Hwan Lee (Chonnam National University, Republic of Korea)  
Xinyu Xue( Nanjing Agricultural Mechanization Institute, Ministry of Agriculture, China)

10:15	Jae Min Seo	Republic of Korea	Gyeongsang National University	Temporal field monitoring for soybean vegetation using UAV with Multispectral camera
10:30	Qi Lian 廉琦	China	Heilongjiang Bayi Agricultural university 黑龙江八一农业大学	Design and Experimental of charged device for Aerial-based Electrostatic Spay 航空静电喷雾荷电装置的设计及试验
10:45	Juntong Qi 齐俊桐	China	Yifei Intelligent Control Technolog Co., Ltd. 一飞智控(天津)科技有限公司	The Importance and Impact of Autonomous Flight Control in Precision Agricultural Aviation 自主飞行控制在精准农业航空中的意义与作用
11:00	Justin Gong	China	XAIRCRAFT Co., Ltd 广州极飞电子科技有限公司	Application of Unmanned Aerial Plant Protection 植保无人机的应用
11:15	Xiangdong Sun 孙向东	China	Wuxi Hanhe Aviation Technology Co., Ltd. 无锡汉和航空技术有限公司	Key Technologies of Agricultural UAV Applications (农用无人机应用关键技术分享)
11:30	Jinwei Fu 付谨维	China	Shenzhen Hi-tech New Agriculture Technology Co., Ltd 深圳高科新农技术有限公司	Agriculture UAV Management & Operator Training 农用无人机的管理和操作人员的培训
11:45	Chunchun Xie 谢春春	China	Shandong Ruida Pest Prevention & Control Co., Ltd 山东瑞达有害生物防治有限公司	Research and Application for Citrus Psylla (Huanglongbing, HLB) Controlled by Aviation Plant Protection Technology 航空植保技术控制柑橘木虱(黄龙病)研究与应用
12:00	Shengde Chen 陈盛德	China	South China Agricultural University 华南农业大学	Application of the Beidou Positioning System in the process of pollination of UAV 北斗定位系统在无人机授粉作业中的应用