13th INTERNATIONAL CONFERENCE ON

PRECISION AGRICULTURE

July 31-August 3, 2016 • Union Station • St. Louis, Missouri

Organized by: ISPA International Society of Precision Agriculture

Conference Chairperson
Dr. Ken Sudduth
Research Agricultural Engineer, USDA-ARS
President, International Society of Precision Agriculture

PROGRAM GUIDE

The InfoAg Conference

August 2-4, 2016 • Union Station • St. Louis, Missouri

Organized by: IPNI International Plant Nutrition Institute

Conference Chairperson
Dr. Steve Phillips
Director, North America Program
International Plant Nutrition Institute

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13th INTERNATIONAL CONFERENCE ON PRECISION AGRICULTURE

ICPA Evening Welcome Reception

Sunday, July 31

6-9 pm

Union Station

Name Badges & Registration

Registration is required to enter all ICPA & InfoAg program sessions and exhibit hall. Official conference name badges should be worn at all times.

The registration desk is open:

Monday, August 1 – Wednesday, August 3
7:00 am - 6:00 pm

Thursday, August 4
7:00 am - 12:00 pm

Hotel

All sessions and exhibits for ICPA/InfoAg 2016 are at:

St. Louis Union Station Hotel
1820 Market St. One Union Station
St. Louis, MO 63103
Phone: (314) 621-5262
Email: info@stlouisunionstation.com

Your ICPA Registration Includes

Program Registration Materials plus the following meals and refreshments:

- Sunday Evening Welcome Reception
- Monday Morning Break, Luncheon, & Afternoon Break
- Tuesday Morning Break, Luncheon, Afternoon Break, & Reception (appetizers and 2 drink tickets)
- Wednesday Morning Break

Your InfoAg Registration Includes

Program Registration Materials plus the following meals and refreshments:

- Tuesday Luncheon, Afternoon Break, & Reception (appetizers and 2 drink tickets)
- Wednesday Continental Breakfast, Morning Break, PrecisionAg Luncheon, Afternoon Break, & Reception (appetizers and 2 drink tickets)
- Thursday Continental Breakfast & Morning Break

Exhibits

PRECISIONAg

Exhibits are in the PrecisionAg Tech Center, located in the Midway. The exhibit hall is open during session breaks, breakfasts, lunches, and receptions. Exhibit hall will open to attendees Tuesday at 11:00 am. Exhibit hall will close Thursday at 9:00 am.

Certified Crop Adviser CEU Credits

Attendees may earn a possible sixteen CEUs through the program, four additional CEUs may be available through the tour; all CEUs have been submitted for approval by the International CCA Board. Sign-in sheets will be available at each session.

Proceedings Online

Conference proceedings in the form of PDF slide sets from participating speakers will be posted to the website after the conference. Proceedings are not available in print or on CD. If you have specific questions, contact: info@infoag.org. Post Conference Survey: infoag.org/survey.

ICPA/InfoAg Websites & App

Both **ISPAG.com/ICPA** and **InfoAg.org** feature additional program details including presentation descriptions, speaker bios, and contact information for speakers and exhibitors. Access the complete ICPA/InfoAg conference overview, create and manage your personal conference itinerary, and easily search speakers, exhibitors, and presentations with the **ICPA/InfoAg Conference App. Get it here:**

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What's New this Year?

This year InfoAg will be held in conjunction with the 13th International Conference on Precision Agriculture. The conferences have separate registrations, but some of the program overlaps. ICPA starts Sunday evening with a reception. Monday includes ICPA plenary and breakout sessions. Tuesday, InfoAg and ICPA run concurrent. All sessions are available to registrants of either conference. ICPA ends at noon on Wednesday. InfoAg continues through noon on Thursday.

Schedule-at-a-Glance

Sunday, 31 July 2016

6:00pm – 9:00pm	ICPA Evening Welcome Reception	*Union Station*

Monday, 1 August 2016

7:00am – 6:00pm	On-site registration open	*Registration Desk*
8:00am –10:00am	**ICPA Opening General Session**	*Grand Ballroom F*
9:00am – 5:00pm	Full-Day Tour	
10:00am –10:20am	Break	*Foyer A*
10:20am –12:00pm	ICPA Concurrent Sessions	*Breakout Rooms*
12:00pm – 1:30pm	Luncheon	*Regency ABC*
1:40pm – 3:40pm	ICPA Concurrent Sessions	*Breakout Rooms*
3:40pm – 4:20pm	Break	*Foyer A*
4:20pm – 6:00pm	ICPA Concurrent Sessions	*Breakout Rooms*
6:00pm – 7:40pm	ICPA Poster Session and Cash bar	*Foyer A, B, & C*

Tuesday, 2 August 2016

7:00am – 6:00pm	On-site registration	*Registration Desk*
8:00am – 9:40am	ICPA Concurrent Sessions	*Breakout Rooms*
10:00am–11:40am	**Joint Plenary Session ICPA/InfoAg**	*Grand Ballroom DEF*
11:40am – 1:00pm	Luncheon	*Union Station Mall*
1:00pm – 3:00pm	ICPA/InfoAg Concurrent Sessions	*Breakout Rooms*
3:00pm – 3:40pm	Break in Exhibit Hall	*Midway*
3:40pm – 5:40pm	ICPA/InfoAg Concurrent Sessions	*Breakout Rooms*
5:40pm – 7:40pm	ICPA/InfoAg Reception in Exhibit Hall	*Midway*

Wednesday, 3 August 2016

7:00am – 6:00pm	On-site registration	*Registration Desk*
7:00am – 8:00am	ICPA/InfoAg Breakfast	*Midway*
8:00am – 9:40am	ICPA/InfoAg Concurrent Sessions	*Breakout Rooms*
9:40am –10:00am	13th ICPA Closing Session	*Grand Ballroom F*
10:00am –10:40am	Break in Exhibit Hall	*Midway*
10:40am–12:00pm	**PrecisionAg Plenary Session**	*Grand Ballroom DEF*
1:00pm – 5:00pm	Half-Day Tour	
12:00pm – 1:20pm	InfoAg Luncheon	*Union Station Mall*
1:20pm – 3:20pm	InfoAg Concurrent Sessions	*Breakout Rooms*
3:20pm – 4:00pm	InfoAg Break in Exhibit Hall	*Midway*
4:00pm – 5:20pm	InfoAg Concurrent Sessions	*Breakout Rooms*
5:20pm – 7:00pm	InfoAg Reception in Exhibit Hall	*Midway*

Thursday, 4 August 2016

7:00am –12:00pm	On-site registration	*Registration Desk*
7:00am – 9:00am	InfoAg Breakfast in Exhibit Hall	*Midway*
9:00am –11:00am	InfoAg Concurrent Sessions	*Breakout Rooms*
11:00am–12:00pm	**InfoAg Closing Plenary Session**	*Regency AB*

Please note: You must be registered for InfoAg to attend events listed in blue.

2016 Tours

The ICPA/InfoAg Conference offers a full-day "practitioner" tour on Monday, August 1 as well as a half day tour on Wednesday, August 3, after the end of the ICPA Conference.

Meeting Point: Terminal Atrium

Monday Tour, 9am-5pm

Sponsored by: JOHN DEERE

The tour will visit three locations featuring a wide range of technology. Bus transportation, Luncheon, and beverages will be provided.

Stop 1: Cortex
Founded in 2002, Cortex is the Midwest's premier innovation hub of bioscience and technology research, development, and commercialization.

Stop 2: Sydenstricker John Deere Dealership
Sydenstricker John Deere Dealership includes ten stores in northeast Missouri. We will be treated to a wonderful Luncheon provided by John Deere, as well as informative presentations, and a display of Deere precision equipment with a full range of tractors, combines, and implements.

Stop 3: UAS Demonstrations
Our third stop of the day will be at a model air strip in the Mississippi River bottoms. We will have UAS demonstrations, Q&A, and time to visit with the vendors. Vendors include SenseFly, Precision Drone, Scorpion Drones, Sentara, and more.

Wednesday Tour, 1pm-5pm

The Wednesday tour is a half-day tour with 2 stops.

Stop 1: Cortex
Founded in 2002, Cortex is the Midwest's premier innovation hub of bioscience and technology research, development, and commercialization.

Stop 2: Danforth Plant Science Center
Twenty scientific teams conduct research that leads to improved agricultural productivity and preserves our natural resources by reducing the need for pesticides and fertilizers, increasing the nutritional content of crops and improving resistance to drought, pests, and disease.

ATTENDEE NOTE: The beginning of August is a very hot and humid time of the year for St. Louis. Please dress for the weather including comfortable shoes (no open toes, sandals or flip flops) as there are uneven walking surfaces with some possible slip/trip hazards.

SUNDAY, JULY 31 6:00 PM to 8:00 PM	**ICPA Sunday Evening Welcome Reception** Room: Grand Hall / Lobby		
MONDAY, AUG. 1 8:00 AM to 10:00 AM	**ICPA Opening Plenary Session,** Room: Grand F **Welcome to ICPA, *Ken Sudduth*** **ECPA and ACPA** (8:20) **Building Sustainable Breadbaskets, Fostering Inclusive Growth** (8:40 am) *Margaret Zeigler*		
10:00 AM	**BREAK in Foyer C**		
MONDAY, AUG. 1	**TRACK 1**	**TRACK 2**	**TRACK 3**
10:20 AM to 12:00 PM	**Precision Ag, Environment, and Climate Change** Room:	**Precision Seeding** Room:	**Proximal Soil Sensing** Room:
	Climate Smart Precision Nitrogen Management [10:20 am]- Raj Khosla	**Maize Seeding Rate Optimization in Iowa Using Soil and Topographic Characteristics.** [10:20 am] - Mark Licht	**Integrated Analysis of Multilayer Proximal Soil Sensing Data** [10:20 am] - Viacheslav Adamchuk
	Quo Vadis Precision Farming [10:40 am] - Karel Charvat	**Positioning Strategy of Maize Hybrids Adjusting Plant Population by Management Zones** [10:40 am] - Adriano Anselmi	**A Data Fusion Method for Yield and Soil Sensor Maps** [10:40 am] - Eric Lund
	Climate Sensitivity Analysis on Maize Yield on the Basis of Precision Crop Production [11:00 am] - Aniko Nyeki	**Real-time Gauge Wheel Load Variability on Planter with Downforce Control During Field Operation** **[11:00 am] - Ajay Sharda**	**A Multi Sensor Data Fusion Approach for Creating Variable Depth Tillage Zones** [11:00 am] - David Whattoff
	Sensor-based Variable-rate N on Corn Reduced Nitrous Oxide Emissions [11:20 am] - Peter Scharf	**Measurement of In-field Variability for Active Seeding Depth Applications in Southeastern US** [11:20 am] - Aurelie Poncet	**Estimation of Soil Profile Properties Using a VIS-NIR-EC-force Probe** [11:20 am] - Yongjin Cho
	Using the Adapt-n Model to Inform Policies Promoting the Sustainability of US Maize Production [11:40 am] - Shai Sela	**Yield, Residual Nitrogen and Economic Benefit of Precision Seeding and Laser Land Leveling for Winter Wheat** [11:40 am] - Jing Chen	**Soil Attributes Estimation Based on Diffuse Reflectance Spectroscopy and Topographic Variability** [11:40 am] - Julyane Fontenelli
12:00 PM to 1:40 PM	**LUNCHEON**		

ICPA Opening Keynote Speaker

Margaret M. Zeigler, Ph.D.

Executive Director, Global Harvest Initiative

Since 2012, Dr. Margaret M. Zeigler has led the Global Harvest Initiative (GHI) as Executive Director. GHI is a collaborative private-sector voice to advance sustainable agriculture solutions for meeting the world's growing demand for food, feed, fiber and fuel. As the global population increases to nearly 9.7 billion in 2050, along with rising incomes and changing consumer preferences, GHI proposes five key policy goals that will enhance global agricultural productivity while conserving natural resources.

ICPA Sunday Evening Welcome Reception

Room: Grand Hall / Lobby

13th INTERNATIONAL CONFERENCE ON PRECISION AGRICULTURE

ICPA Opening Plenary Session, Room: Grand F

Welcome to ICPA, *Ken Sudduth*

13th INTERNATIONAL CONFERENCE ON PRECISION AGRICULTURE

ECPA and ACPA (8:20)

Building Sustainable Breadbaskets, Fostering Inclusive Growth (8:40 am) *Margaret Zeigler*

BREAK in Foyer C

TRACK 4	TRACK 5
Industry Focus on Data Analytics Room:	**Remote Sensing 1** Room:
Understanding Climate Change: Look Beyond Weather Stations [10:20 am] - Tim Marquis	**Challenges and Successes when Generating In-Season Multi-Temporal Calibrated Aerial Imagery** [10:20 am] - Randy Pearson
Precision Irrigation Forecasting On A Global Scale [10:40 am] - Levente Klein	**Creating Prescription Maps from Historical Imagery for Site-Specific Management of Cotton Root Rot** [10:40 am] - Chenghai Yang
Integration of Big Data Analytics and Crop Modeling [11:00 am] - Golnaz Badr	**Window-based Regression Analysis of Field Data** [11:00 am] - Anne Denton
Decision Agriculture in a Spatiotemporal Data Intensive Paradigm [11:20 am] - Brent Myers	**A Photogrammetry-based Image Registration Method for Multi-camera Systems** [11:40 am] - Hao Gan
	Developing UAV Image Acquisition System and Processing Steps for Quantitative Use of the Data in Precision Agriculture [11:40 am] - Arif Behiç Tekin

LUNCHEON

MONDAY, AUG. 1	TRACK 1	TRACK 2	TRACK 3
1:40 PM to 3:40 PM	**Evaluating Precision Ag Systems** Room:	**Nutrient Management 1** Room:	**Proximal Crop Sensing** Room:
	Mapping Spatial Production Stability in Integrated Crop and Pasture Systems: Towards Zonal Management That Accounts for Both Yield and Livestock-landscape Interactions. [1:40 pm] - Peter McEntee	**Should one phosphorus extraction method be used for VRT phosphorus recommendation in the southern Great Plains?** [1:40 pm] - Daryl Arnall	**Use of Crop Canopy Reflectance Sensor in Management of Nitrogen Fertilization in Sugarcane in Brazil** [1:40 pm] - Sergio Castro
	Within-field Profitability Assessment: Impact of Weather, Field Management and Soils [2:00 pm] - Peter Kyveryga	**Shifting Fertiliser Response Zones in a Four Year, Whole-paddock Cereal Cropping Experiment** [2:00 pm] - Ben Jones	**Detection of Nitrogen Stress on Winter Wheat by Multispectral Machine Vision** [2:00 pm] - Guillaume Marlier
	A Decade of Precision Agriculture Impacts on Grain Yield and Yield Variation [2:20 pm] - Matt Yost	**Claypan Depth Effect on Soil Phosphorus and Potassium Dynamics** [2:20 pm] - Lance Conway	**Time Series Study of Soybean Response Based on Adjusted Green Red Index** [2:20 pm] - Peter Larbi
	Net Returns and Production Use Efficiency for Optical Sensing and Variable Rate Nitrogen Technologies in Cotton Production [2:40 pm] - James Larson	**Spatial and Temporal Variation of Soil Nitrogen Within Winter Wheat Growth Season** [2:40 pm] - Xiaoyu Song	**In Season Estimation of Barley Biomass with Plant Height Derived by Terrestrial Laser Scanning** [2:40 pm] - Nora Tilly
	Field Potential Soil Variability Index to Identify Precision Agriculture Opportunity [3:00 pm] - Christopher Bobryk	**Spatial Variability of Soil Nutrients and Site Specific Nutrient Management in Maize** [3:00 pm] - Sheshadri T	**Measuring Height of Sugarcane Plants Through LiDAR Technology** [3:00 pm] - Rodrigo Trevisan
	Site-specific Scale Efficiency Determined by Data Envelopment Analysis of Precision Agriculture Field Data [3:20 pm] - Jacob Maurer	**Spatial Variability of Soil Nutrients and Precision Nutrient Management for Targeted Yield Levels of Groundnut (Arachis Hypogaea L.)** [3:20 pm] - HANUMANTHAPPA D.C	**Development of a Sensing Device for Detecting Defoliation in Soybean** [3:20 pm] - Joe Mari Maja
3:40 PM	**ICPA BREAK IN FOYER C**		
4:20 PM to 6:00 PM	**Phenotyping Applications** Room:	**Precision Horticulture and Greenhouse Applications** Room:	**Soil Spectroscopy** Room:
	Field Phenotyping Infrastructure in a Future World - Quantifying Information on Plant Structure and Function for Precision Agriculture and Climate Change. [4:20 pm] - Onno Muller	**Use of the Active Sensor Optrxtm to Measure Canopy Changes to Evaluate Foliar Treatments and to Identify Soil Quality in Table Grape** [4:20 pm] - Rodrigo Ortega	**Sensor Based Soil Health Assessment** [4:20 pm] - Kristen Veum
	Proximal Hyperspectral Sensing in Plant Breeding [4:40 pm] - Holger Lilienthal	**Design of a Greenhouse Monitoring System Based on GSM Technologies** [4:40 pm] - Göktürk Seyhan	**Laboratory Evaluation of Two VNIR Optical Sensor Designs for Vertical Soil Sensing** [4:40 pm] - Nuwan Wijewardane
	Non-destructive Plant Phenotyping Using a Mobile Hyperspectral System to Assist Breeding Research: First Results [5:00 pm] - Heike Gerighausen	**Precision Nutrient Management System Based on Ion and Crop Growth Sensing** [5:00 pm] - WooJae Cho	**Development of Micro-tractor-based Measurement Device of Soil Organic Matter Using On-the-go Visual-near Infrared Spectroscopy in Paddy Fields of South China** [5:00 pm] - Zhou Lianqing
	In-field Plant Phenotyping Using Multi-view Reconstruction: an Investigation in Eggplant [5:20 pm] - Thuy Nguyen	**Field Tests and Improvement of Sensor and Control Interface Modules with Improved Compatibility for Greenhouses** [5:20 pm] - Kwang-Min Han	**Comparing Predictive Performance of Near Infrared Spectroscopy at a Field, Regional, National and Continental Scales by Using Spiking and Data Mining Techniques** [5:20 pm] - Said Nawar
	Intuitive Image Analysing on Plant Data - High Throughput Plant Analysis with Lemnatec Image Processing [5:40 pm] - Stefan Paulus		**Memory Based Learning: A New Data Mining Approach to Model and Interpret Soil Texture Diffuse Reflectance Spectra** [5:40 pm] - Asa Gholizadeh
6:00 PM to 7:40 PM	**ICPA POSTER SESSION AND RECEPTION, Sponsored by Monsanto/Climate Corporation,** ROOM: FOYER ABC		THE CLIMATE CORPORATION

TRACK 4	TRACK 5
Spatial Variability Measurement Room:	**Remote Sensing 2** Room:
Understanding Complex Soil Variability: the Application of Archaeological Knowledge to Precision Agriculture Systems in the UK [1:40 pm] - Henry Webber	**Development of Sensor Reflection Indices To Predict Yield And Protein Content Based On In-Season N Status** [1:40 pm] - Ugur Yegul
The New Digital Soil Map of Sweden -Derived for Free Use in Precision Agriculture [2:00 pm] - Kristin Piikki	**Remote Sensing Inversion of Canopy Chlorophyll Content and Its Application in Evaluating Crop Condition and Predicting Crop Mature Date** [2:00 pm] - Jihua Meng
Sources of Information to Delineate Management Zones for Cotton [2:20 pm] - Rodrigo Trevisan	**Prediction of Sugarcane Yields in Commercial Fields by Early Measurements with an Optical Crop Canopy Sensor** [2:20 pm] - Gustavo Portz
The Daily Erosion Project - High Resolution, Daily Estimates of Runoff, Detachment, Erosion, and Soil Moisture [2:40 pm] - Brian Gelder	**High Resolution Hyperspectral Imagery to Assess Wheat Grain Protein in a Farmer's Field** [2:40 pm] - Francelino Rodrigues Jr.
Statistical Variability of Crop Yield, Soil Test N and P Within and Between Producer's Fields [3:00 pm] - Alan Moulin	**Almond Canopy Detection and Segmentation Using Remote Sensing Data Drones** [3:00 pm] - Tiebiao Zhao
Consequences of Spatial Variability in the Field on the Uniformity of Seed Quality in Barley Seed Crops [3:20 pm] - Shwan Hama Rash	
ICPA BREAK IN FOYER C	
Engineering Technologies 1 Room:	**Remote Sensing 3** Room:
Accuracy of Differential Rate Application Technology for Aerial Spreading of Granular Fertiliser Within New Zealand [4:20 pm] - Ian Yule	**Potential Improvement in Rice Nitrogen Status Monitoring Using Rapideye and Worldview-2 Satellite Remote Sensing** [4:20 pm] - Yuxin Miao
The Device of Air-assisted Side Deep Precision Fertilization for Rice Transplanter [4:40 pm] - Chunjiang Zhao	**Aerial Photographs to Predict Yield Loss Due to N Deficiency in Corn** [4:40 pm] - Peter Scharf
Site Specific Costs Concerning Machine Path Orientation [5:00 pm] - Mark Spekken	**Comparison Between High Resolution Spectral Indices and SPAD Meter Estimates of Nitrogen Deficiency in Corn** [5:00 pm] - Aicam Laacouri
Post Processing Software for Grain Yield Monitoring System Suitable to Korean Full-feed Combines [5:20 pm] - Kyu-Ho Lee	**Active and Passive Crop Canopy Sensors As Tools for Nitrogen Management in Corn** [5:20 pm] - Leonardo Bastos
Processing Yield Data from Two or More Combines [5:40 pm] - Leonardo Felipe Maldaner	**CropSAT - a Public Satellite-based Decision Support System for Variable-rate Nitrogen Fertilization in Scandinavia** [5:40 pm] - Mats Söderström
ICPA POSTER SESSION AND RECEPTION **Sponsored by Monsanto/Climate Corporation,** ROOM: FOYER ABC	THE CLIMATE CORPORATION

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ISPA
International Society of Precision Agriculture

Membership Includes:

- ❍ Membership directory access and opportunities to network with Precision Agriculture professionals from around the world
- ❍ Electronic space to post your resume, pictures, etc., for greater networking and professional opportunities
- ❍ Digital access to the society's journal, *Precision Agriculture*
- ❍ Opportunities to publish research and review articles in *Precision Agriculture*
- ❍ Opportunities to present oral and poster papers at society-sponsored events such as the International Conference on Precision Agriculture, Asian Conference on Precision Agriculture, European Conference on Precision Agriculture, etc.
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- ❍ Opportunities to nominate and be nominated by other members for ISPA sponsored awards and recognition at society events.

www.ispag.org

TOPIC	TITLE	AUTHOR(S)
Big Data Mining & Statistical Issues in Precision Agriculture	Precision farming research activities: the Italian panorama	*Paolo Menesatti*
	Predicting productivity agricultural corn and soybeans with data mining	*Miliano De Bastiani*
	North American Soil Test Summary	*Scott Murrell*
Engineering Technologies and Advances	A New Set of Shake and Catch System for Apple Harvesting	*Manoj Karkee*
	A Harvesting Robot System for Fresh Cherry Tomato in Greenhouse	*Feng Qingchun*
	Automated Support Tool for Variable Rate Irrigation Prescriptions	*A. Nguyen*
	Development of Land Leveling Equipment Based on GNSS	*Weiqiang Fu*
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	Evaluation of a Seed-Fertilizer Application System Using a Laser Scanner	*Changyuan Zhai*
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	Field Sampling and Electrochemical Detection of Nitrate in Agricultural Soils	*John Brockgreitens*
	Simulation of Curiosity and Exo Mars Rovers on Agriculture Terrain	*Marcelo Becker*
	Static and Kinematic Tests for Determining Spreaders Effective Width	*Leonardo Felipe Maldaner*
	The Methods and Applications of Artificial Intelligence Used in the Technologies of Precision Agriculture	*Aleksandrs Gailums*
	Using an industrial PLC to control implements	*Heleno Vale*
Food Security and Precision Agriculture	Agtech: Is Indian agriculture ready for "Gadgetization"?	*Raghavan Sampathkumar*
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	Open Data for Food Quality and Food Security Control: a Case Study of the Czech Republic	*Milos Ulman*
	Use of Satellite Data to Improve Damage Assessment Process for Agricultural Insurance Scheme in Indonesia	*Chiharu Hongo*
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	The Impact of Waste and Emissions Samarkand Chemical Plant on the Ecological State of Soils of Zarafshan Valley of Uzbekistan	*Tulkin Ortikov*
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	Application Of Organic And Mineral Fertilizers In Eroded Soils And Their Influence On The Yield Of Winter Wheat	*Komil Muminov*
	Airspeed And Pressure Affect Spray Droplet Spectrum From An Aerial Nozzle For Fixed-Wing Applications	*Ruirui Zhang*
	Assessing Temporal Heterogeneity Of Pigeon Pea Sterility Mosaic Through Gis Mapping And Its Impact On Crop Health	*Mahantesh Patil*
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	Technology Support For Game Monitoring As A Tool For Damages Reduction Of Field Crops	*Michal Stočes*
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	Estimating the growth status of winter wheat based on GreenSeeker	*Liu Xia*
	Estimation of Carbon and Nitrogen Content in Citrus Canopy by Low-altitude Remote Sensing	*Xuefeng Liu*
	Integrated Approach to Site-specific Soil Fertility Management	*Robin Gebbers*
	Winter Wheat Genotype Effect on Canopy Reflectance: Implications for Using NDVI for In-season Nitrogen Topdressing Recommendations	*Olga Walsh*
	Spatial Variability of Soil Nutrients and Precision Nutrient Management for Targeted Yield Levels of Groundnut (Arachis Hypogaea L.)	*Hanumanthappa D.C*
	Studies on Soil Spatial Variability and Its Impact on Cane Yield Under Precision Nutrient Management System	*Mohan Kumar R*
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	In-field Variability of Terrain and Soils in Southeast Kansas: Challenges for Effective Conservation	*Gretchen Sassenrath*
	Is Precision Agriculture in Uruguayan Rice Farms Worthwhile? A Case Study	*Camila Bonilla Cedrez*
	Rectification of Management Zones Considering Moda and Median As a Criterion for Reclassification of Pixels	*Eduardo Souza*
	Real-Time Protein Paddock Maps collected from the Australian Wheat and Barley Harvest	*Joel Salazar*
	Response of Soybean Cultivars According to Management Zones in Southern Brazil	*Geomar Corassa*
	Spatial Variability and Correlations Between Soil Attributes and Productivity of Green Corn Crop	*Wilson Souza*
	Spatial Variability of Soil Nutrients and Site Specific Nutrient Management in Maize	*Sheshadri T*
	Temporal and spatial variability of soil nutrients in arable Lands of Wugong County in Loess Plateau in China	*Jing Liu*
	Understanding In-field Variation of Lettuce Crop through Spatial and Seasonal Mapping of Soil Factors and Yields at a Field Scale	*Yara Boubout*
	Processing Yield Data from Two or More Combines	*Leonardo Felipe Maldaner*
Unmanned Aerial Systems	Developing UAV Image Acquisition System and Processing Steps for Quantitative Use of the Data in Precision Agriculture	*Arif Behiç Tekin*
	Developing a small UAV platform to detect sheath blight of rice	*Dongyan Zhang*
	Development of a PWM Precision Spraying System for Unmanned Helicopter	*Ruirui Zhang*
	Development of a PWM Variable Spraying System for UAV	*Yubin Lan*
	Plant Stand Count and Corn Crop Density Assessment Using Texture Analysis on Visible Imagery Collected Using Unmanned Aerial Vehicles	*Sathishkumar Samiappan*

TUES, AUG. 2	TRACK 1	TRACK 2	TRACK 3
8:00 AM to 9:40 AM	**Data Mining, Big Data, and Data Ownership** Room: Grand F	**Precision Crop Protection** Room: Regency AB	**Livestock and Pasture Applications** Room: Grand B
	'Spatial Discontinuity Analysis' a Novel Geostatistical Algorithm for On-farm Experimentation [8:00 am] - Benjamin Marchant, Sebastian Rudolph	**Detection of Potato Beetle Damage Using Remote Sensing from Small Unmanned Aircraft Systems** [8:00 am] - E. Raymond Hunt	**Hyperspectral Imaging to Measure Pasture Nutrient Concentration and Other Quality Parameters** [8:00 am] - Ian Yule
	Translating Data into Knowledge - Precision Agriculture Database in a Sugarcane Production [8:20 am] - Guilherme Sanches	**Greenhouse Study to Identify Glyphosate-resistant Weeds Based on Canopy Temperature** [8:20 am] - John Nowatzki, Alimohammad Shirzadi	**Measuring Pasture Mass and Quality Indices Over Time Using Proximal and Remote Sensors** [8:20 am] - Miles Grafton
	Surplus Science and a Non-linear Model for the Development of Precision Agriculture Technology [8:40 am] - Megan Cushnahan	**Field Evaluation of a Variable-rate Aerial Application System** [8:40 am] - Daniel Martin	**Ear Deployed Accelerometer Behaviour Detection in Sheep** [8:40 am] - Jamie Barwick
	Key Data Ownership, Privacy and Protection Issues and Strategies for the International Precision Agriculture Industry [9:00 am] - Joan Archer	**Use of Unmanned Aerial Vehicles to Inform Herbicide Drift Analysis** [9:00 am] - Joby Prince Czarnecki	**Evaluating Low-Cost Lidar and Active Optical Sensors for Pasture and Forage Biomass Assessment** [9:00 am] - Mark Trotter
	Ownership and Protections of Farm Data [9:20 am] - Paul Goeringer		
TUES, AUG. 2 10:00 AM to 11:40 AM	**InfoAg Opening Plenary Session,** Room: Grand DEF **Moderator:** ***Steve Phillips***		
	Welcome to InfoAg, ***Steve Phillips***		
	ISPA Awards Program - Sponsored by Iteris [10:20 am], ***Ken Sudduth***		
	InfoAg Opening Keynote [10:50 am], ***Dr. Mark Alley***		
11:40 AM to 1:00 PM	**LUNCHEON IN UNION STATION MALL**		

InfoAg Opening Keynote Speaker

Dr. Mark Alley - Independent Agronomy Consultant, Alley Agronomics

Mark Alley is the W. G. Wysor Professor Emeritus at Virginia Tech, where he conducted research in fertilizer use efficiency and improved agronomic crop production techniques. Research included soil sampling strategies for variable rate lime and fertilizer applications as well as work with N fertilizer placement, timing, and formulations. Mark is a Fellow of the American Society of Agronomy, the Soil Science Society of America, the American Association for the Advancement of Science, and the Fluid Fertilizer Foundation. He served as president of the American Society of Agronomy in 2009.

TRACK 4	TRACK 5
Engineering Technologies 2 Room: Grand D	**Unmanned Aerial Systems 1** Room:
Value of Map Sharing Between Multiple Vehicles Using Automated Section Control in the Same Field [8:00 am] - Jeffrey Bennett	**Small UAS Integrated Sensing Tools for Abiotic Stress Monitoring in Irrigated Pinto Beans** [8:00 am] - Lav Khot
Misalignment Between Sugar Cane Transshipment Trailers and Tractor [8:20 am] - José Paulo Molin	**High Resolution Vegetation Mapping with a Novel Compact Hyperspectral Camera System** [8:20 am] - Pieter-Jan Baeck
Helvis - A Small-scale Agricultural Mobile Robot Prototype for Precision Agriculture [8:40 am] - Marcelo Becker	**Towards Calibrated Vegetation Indices from UAS-derived Orthomosaics** [8:40 am] - Klaas Pauly
Development of a Crop Edge Line Detection Algorithm Using a Laser Scanner for an Autonomous Combine Harvester [9:00 am] - Chan Woo Jeon	**Safety and Certification Considerations for Expanding the Use of UAS in Precision Agriculture** [9:00 am] - Kelly Hayhurst
	Multispectral Imaging and Elevation Mapping from an Unmanned Aerial System for Precision Agriculture Applications [9:20 am] - Madison Mackenzie

InfoAg Opening Plenary Session, Room: Grand DEF

Moderator: ***Steve Phillips***

The InfoAg Conference

Welcome to InfoAg, ***Steve Phillips***

ISPA Awards Program - Sponsored by Iteris [10:20 am], ***Ken Sudduth***

InfoAg Opening Keynote [10:50 am], ***Dr. Mark Alley***

LUNCHEON IN UNION STATION MALL

Tuesday Afternoon – August 2

TUES, AUG. 2	TRACK 1	TRACK 2	TRACK 3
1:00 PM to 3:00 PM	**Managing by Zones** Room: Regency C	**Sponsor Showcase** Room: Regency AB	**Spray Technology** Room: Grand ABC
	Science Behind Zones: Background/timeline/tools [1:00 pm] - Raj Khosla	**SST Software** [1:00 pm] - Matt Waits	**Variable Rate Chemical Application** [1:00 pm] - Joe Tevis
	Moving from Grid to Zone [1:20 pm] - Brian Arnall		
	Are Soil Test Recs Ready for High Resolution Spatial Application [1:40 pm] - Josh McGrath	**John Deere** [1:40 pm] - Lane Arthur	**OK 2 Spray** [1:40 pm] - Andres Ferreyra
	Zones Case Studies and Panel Discussion [2:00 pm]		
		Raven Industries [2:20 pm]	**Adaptive Sprayer Technology** [2:20 pm] - Todd Howatt
3:00 PM	**BREAK IN THE EXHIBIT HALL**		
3:40 PM to 5:40 PM	**Technology Decisions** Room: Regency C	**Sponsor Showcase** Room: Regency AB	**Nitrogen Tools** Room: Grand ABC
	Comparing Hardware/Software Systems [3:40 pm] - John Musser	**The Five Pillars of Modern Agriculture** [3:40 pm] - Nish Magarian	**Nitrogen Management Tools - Needs, Promises and Pitfalls** [3:40 pm] - Paul Gangwish, Jim Schepers
	Machinery and Technology Decisions: A Farmer's Perspective [4:20 pm] - Brian Watkins	**Dawn of a New Era** [4:20 pm] - Alan Brady, Ernie Chappell	**NutrientStar Program** [4:40 pm] - Wade Thomason
	Equipment ROI [5:00 pm] - Jordan Shockley	**Trimble's Software Dev Leaders Discuss What Is & What Is NOT Working in Ag Software Today** [5:00 pm] - Kevin Pattison, Bob Wold	**NutrientStar Field Trials** [5:20 pm] - John McGuire
5:40 to 7:30 PM	**RECEPTION IN PRECISIONAG TECH CENTER**		

TRACK 4	TRACK 5	TRACK 6
Precision Irrigation Room: Grand D	**Unmanned Aerial Systems 2** Room: Grand E	**Data Mining and Big Data** Room: Grand F
Precision irrigation forecasting on a global scale [1:00 pm] - Levente Klein	**Large-scale UAS Data Collection, Processing and Management for Field Crop Management** [1:00 pm] - John Nowatzki	**Translating Data into Knowledge - Precision Agriculture Database in a Sugarcane Production** [1:00 pm] - Guilherme Sanches
Spectral Vegetation Indices to Quantify In-field Soil Moisture Variability [1:20 pm] - Jeffrey Siegfried	**Weather Impacts on UAV Flight Availability for Agricultural Purposes in Oklahoma** [1:20 pm] - Cooper Morris	**Integration of big data analytics and crop modeling** [1:20 pm] - Golnaz Badr
Proximal Sensing of Leaf Temperature and Microclimatic Variables to Implement Precision Irrigation in Almond and Grape Crops [1:40 pm] - Erin Kizer	**Landowner Privacy Issues With UAVs** [1:40 pm] - Paul Goeringer	**Big Data Science for Precision Farming Business** [1:40 pm] - Brand Niemann
A Dynamic Variable Rate Irrigation Control System [2:00 pm] - George Vellidis	**Spatial-temporal Evaluation of Plant Phenotypic Traits Via Imagery Collected by Unmanned Aerial Systems (UAS)** [2:00 pm] - Sebastian Varela	**Surplus Science and a Non-linear Model for the Development of Precision Agriculture Technology** [2:00 pm] - Megan Cushnahan
Utilizing Space-based Technology for Cotton Irrigation Scheduling [2:20 pm] - Xin Qiao	**In-season Diagnosis of Rice Nitrogen Status Using Crop Circle Active Canopy Sensor and UAV Remote Sensing** [2:20 pm] - Junjun Lu	**Where big data will not go: Limitations of industry and opportunities for ecology in precision agriculture** [2:20 pm] - Patrick Lawrence
	Retrieving Crops' Quantitative Biophysical Parameters Through a Newly Developed Multispectral Sensor for UAV Platforms [2:40 pm] - Agustin Pimstein	**Potential Field Variability Index to Identify Suitable Areas for Precision Agriculture** [2:40 pm] - Christopher Bobryk
BREAK IN THE EXHIBIT HALL		
Decision Support Systems 2 Room: Grand D	**Remote Sensing 4** Room: Grand E	**Applications in Tree Fruit** Room: Grand F
Closing Yield Gaps with GxExM and Precision Agriculture [3:40 pm] - Charles Walthall	**Planet Labs' Monitoring Solution in Support of Precision Agriculture Practices** [3:40 pm] - Ryan Schacht	**A Precise Fruit Inspection System for Huanglongbing and Other Common Citrus Defects Using GPU and Deep Learning Technologies** [3:40 pm] - Daeun Choi
EZZone - An Online Tool for Delineating Management Zones [4:00 pm] - Camden Lowrance	**First Experiences with the European Remote Sensing Satellites Sentinel-1A/ -2A for Agricultural Research** [4:00 pm] - Holger Lilienthal	**Spatial Variability of Canopy Volume in a Commercial Citrus Grove** [4:00 pm] - Andre Colaço
Comparing Adapt-N to Static N Recommendation Approaches for US Maize Production [4:20 pm] - Harold van Es	**Selection and Utility of Uncooled Thermal Cameras for Spatial Crop Temperature Measurement Within Precision Agriculture** [4:20 pm] - Devin Mangus	**Detecting fruits in the tree of the citrus groves from 3D LiDAR point clouds** [4:20 pm] - Jorge Galdames
Analysis of High Yield Condition Using a Rice Yield Predictive Model [4:40 pm] - Yasumaru Hirai	**High Resolution 3d Hyperspectral Digital Surface Models from Lightweight Uav Snapshot Cameras – Potentials for Precision Agriculture Applications** [4:40 pm] - Helge Aasen	**Development of a Multiband Sensor for Citrus Black Spot Disease Detection** [4:40 pm] - Alireza Pourreza
	Comparison Between Tractor-based and UAV-based Spectrometer Measurements in Winter Wheat [5:00 pm] - Martin Leon Gnyp	**Steering Strategy Selection of a Robotic Platform for Bin Management in Orchard Environment** [5:00 pm] - Yunxiang Ye
	Melon Classification and Segementation Using Low Cost Remote Sensing Data Drones [5:20 pm] - Tiebiao Zhao	**Robustness of pigment analysis in tree fruit** [5:20 pm] - Jana Käthner
RECEPTION IN PRECISIONAG TECH CENTER		

Exhibitors
(alphabetical)

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Agren	11
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AgriData, Inc.	21
AgriNews	18
AgSolver, Inc.	28
AgSource Laboratories	118
AgSync	141
AgVoice	20
AgWorks Software LLC	140
Agworld	117
AutoProbe	19
aWhere, Inc.	146
Back 40 Precision	154
Biosorb, Inc.	26
Capstan Ag Systems	98, 99
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CDMS, Inc.	120
Chetu, Inc.	144
CropMetrics	40
CropZilla Software, Inc.	155
CustomWeather, Inc.	5
Davis Instruments	135
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Deimos Imaging	24
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Dupont Pioneer Encirca Services	67, 68, 69
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GeoVantage	127
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Harris Corporation	8
Hexagon Geospatial	9
Honeycomb	151
I.F.A.R.M., Inc.	143
iCropTrak	32
Insero/AgOtter	116
IPNI	31
Irrometer Company, Inc.	112
Iteris-ClearAg	87, 88, 89
John Deere	104, 105, 106, 107, 108
MapShots	66, 70, 71
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Practical Precision, Inc.	14
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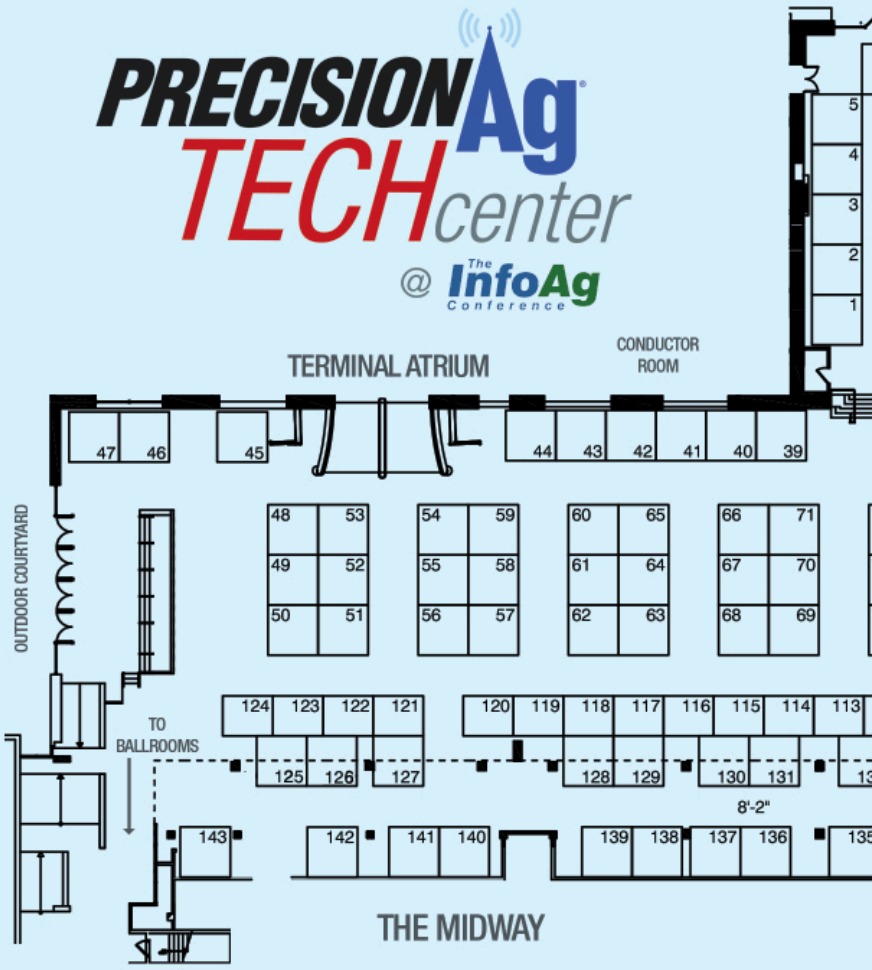

PrecisionHawk	128, 129
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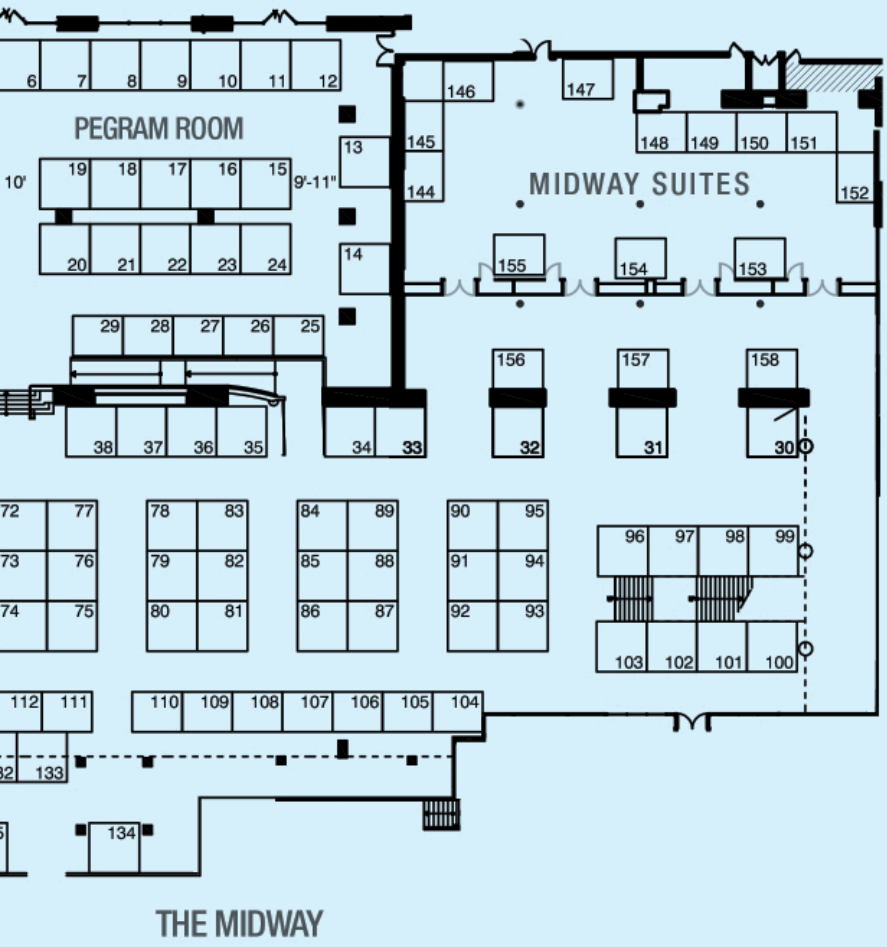
Exhibitors
(by booth number)



Exhibitors by booth number

1, 2	ScoutPro
3	WintexAgro USA
4	Geometrics
5	CustomWeather, Inc.
6	Waypoint Analytical
7	DigiFarm VBN
8	Harris Corporation
9	Hexagon Geospatial
10	Springer Media
11	Agren
12	Precision Drone LLC
13	FORCE-A
14	Practical Precision, Inc.
15	Measure UAS, Inc.
16	MyWay RTK
17	GVM, Inc.
18	AgriNews
19	AutoProbe
20	AgVoice
21	AgriData, Inc.
22, 23	Software Solutions Integrated, LLC
24	Deimos Imaging
25	New Ag International
26	Biosorb, Inc.
27	Sentera
28	AgSolver, Inc.
29	SGS North America, Inc.
30	The Weather Company
31	IPNI
32	iCropTrak
33, 34	Satshot, Inc.
35, 36	Ag Leader Technology
37, 38	EFC Systems
39	Decisive Farming
40	CropMetrics
41	Farmobile
42, 43, 44	Topcon Positioning Group
45	Midwest Laboratories Inc.
46, 47	GEOSYS
48, 49, 50, 51, 52, 53	SST
54, 55, 58, 59	WinField
56, 57	Falcon Automated Soil Sampling
60, 61, 62	Case IH
63, 64, 65	New Holland North America
66, 70, 71	MapShots
67, 68, 69	Dupont Pioneer Encirca Services
72, 73, 76, 77	PrecisionAg Institute
74, 75	Agrian, Inc.
78, 83	Praxidyn
79, 80, 81, 82	Esri
84, 85, 86	Veris Technologies
87, 88, 89	Iteris-ClearAg
90, 91	Mavrx, Inc.
92, 93	Trimble
94, 95	AGCO
96, 97	Micro-Trak Systems, Inc.
98, 99	Capstan Ag Systems
100, 101	FarmLogic
102	SOILMAP
103	NovAtel, inc.
104, 105, 106, 107, 108	John Deere
109	MyAgCentral
110	senseFly, a Parrot Company
111	The Climate Corporation
112	Irrometer Company, Inc.
113	Agricultural Retailers Association
114	SOYL
115	AgGateway
116	Insero/AgOtter
117	Agworld
118	AgSource Laboratories
119	DTN/The Progressive Farmer
120	CDMS, Inc.
121, 122, 123, 124	Raven
125, 126	Farmers Edge, Inc.
127	GeoVantage
128, 129	PrecisionHawk
130, 131	WDT SkyWise
132	Spensa Technology
133	The Fertilizer Institute
134	PAQ Interactive
135	Davis Instruments
136, 137	MicaSense, Inc.
138, 139	Agribotix
140	AgWorks Software LLC
141	AgSync
142	XS, Inc.
143	I.F.A.R.M., Inc.
144	Chetu, Inc.
145	UK Trade & Investment
146	aWhere, Inc.
147	Geonics Limited
148	Scorpion Drones
149	NutrientStar
150	AGBRIDGE
151	Honeycomb
152	SLANTRANGE
153	Waters Agricultural Laboratories
154	Back 40 Precision
155	CropZilla Software, Inc.
156	Next Instruments
157	Aglytix
158	SNA Manufacturing LLC

WEDS, AUG. 3	TRACK 1	TRACK 2	TRACK 3
8:00 AM to 10:00 AM	**N & P Decisions** Room: Regency C	**Sponsor Showcase** Room: Regency AB	**UAS Applications** Room: Grand ABC
	Phosphorus Fertilizer Decisions [8:00 am] - Tom Bruulsema, Alan Madison	**Delivering on the Promise of Decision Ag** [8:00 am] - Patrick Crampon	**Beyond the 'Wow' Factor** [8:00 am] - Norm Lamothe
		From Pixels to Profits [8:20 am] - Max Bruner	
		CropMetrics Precision Solutions in Water [8:40 am] - Kylen Hunt	**UAS: Brazil - Practical Applications of UAS** [8:40 am] - Estevão Parreira
	Science Based Nitrogen Program [9:00 am] - Paul Davis, Steve Phillips, Jim Wallace	**When Did Farming Become Paper Pushing?** [9:00 am] - Jonathan Sherrill	
		Digital Farming; Harvesting the New Hybrid of Data [9:20 am] - Charlie Magruder	**Agriculture and Part 107: What It Does and What Is Needed** [9:20 am] - Robert Blair
10:00 AM	**BREAK IN THE EXHIBIT HALL**		
10:40 AM to 12:00 PM	**PrecisionAg Awards and Plenary Speaker,** Room: Grand DEF **Moderator:** ***Paul Schrimpf***		
	PrecisionAg Awards [10:40 am], ***Paul Schrimpf***		
	PrecisionAg Plenary [11:00 am], ***Jack Uldrich*** **The Big AH-HAH! - How to Future-Proof Your Farm Against the Ten Trends Transforming the World of Tomorrow**		
12:00 PM to 1:20 PM	**PrecisionAg Luncheon in Union Station Mall** *Sponsored by SST Software, Raven, and IPNI*		

PrecisionAg Plenary Speaker

Jack Uldrich

Acclaimed Global Futurist, Speaker, and Best-Selling Author

Jack Uldrich paints vivid pictures of what the world may look like in just a few short years. He provides an in-depth exploration of how the "Internet of Things," "Big Data," social media, robotics, biotechnology, nanotechnology, artificial intelligence, renewable energy and "collaborative consumption" will change everyday life for all of us in the very near future. And he follows through with upbeat, practical and actionable insights on future trends, emerging technologies, innovation, change management and leadership.

TRACK 4	TRACK 5	TRACK 6
Precision Ag Worldwide Room: Grand D	**Precision Ag Education** Room: Grand E	**Standards and Data Issues** Room: Grand F
25 Years Precision Agriculture in Germany - A Retrospective [8:00 am] - Holger Lilienthal	**SMARTfarm Learning Hub: Next Generation Precision Agriculture Technologies for Agricultural Education** [8:00 am] - Mark Trotter	**Toward geopolitical-context-enabled interoperability in precision agriculture: AgGateway's SPADE, PAIL, WAVE, CART and ADAPT** [8:00 am] - R. Andres Ferreyra
A context changing with precision agriculture in Japan [8:20 am] - Sakae Shibusawa	**Knowledge, Skills and Abilities Needed in the Precision Ag Workforce: An Industry Survey** [8:20 am] - Bruce Erickson	**Modus: a Standard for Big Data** [8:20 am] - David Nerpel
AGTECH CHILE: an outreach and technology transfer platform for closing gaps in emerging Chilean precision agriculture companies [8:40 am] - Patricio Trebilcock	**A Content Review of Precision Agriculture Courses Across the US** [8:40 am] - Danielle Skouby	**FOODIE Data Model for Precision Agriculture** [8:40 am] - Karel Charvat
Accessing the benefits of precision agriculture in sub-Saharan Africa [9:00 am] - Iheanyichukwu Ogoke	**Precision Farming Basics Manual - A Comprehensive Updated Textbook for Teaching and Extension Efforts** [9:00 am] - D. Shannon	**Data Stewardship: Ownership, Privacy and Protection Issues and Strategies for International Precision Ag Business** [9:00 am] - Fang Shen
Determinants of Ex-ante Adoption of Precision Agriculture Technologies by Cocoa Farmers in Ghana [9:20 am] - Martin Bosompem		**The Legal Concerns of Farm Data Ownership and Protection** [9:20 am] - Paul Goeringer

ICPA Closing Plenary, [9:40 am] Room: Grand EF

13th INTERNATIONAL CONFERENCE ON PRECISION AGRICULTURE

BREAK IN THE EXHIBIT HALL

PrecisionAg Awards and Plenary Speaker, Room: Grand DEF

Moderator: ***Paul Schrimpf***

The InfoAg Conference

PrecisionAg Awards [10:40 am], ***Paul Schrimpf***

PrecisionAg Plenary [11:00 am], ***Jack Uldrich***

PrecisionAg Luncheon in Union Station Mall

Sponsored by SST Software, Raven, and IPNI

SST RAVEN IPNI International Plant Nutrition Institute

WEDS, AUG. 3	TRACK 1	TRACK 2	TRACK 3
1:20 PM to 3:20 PM	**Nitrogen Decisions** Room: Regency C	**Sponsor Showcase** Room: Regency AB	**UAS: What you need to know** Room: Grand ABC
	Nitrogen Decisions: Points of View [1:20 pm]	**NovAtel and PrecisionHawk: Delivering Accurate, Actionable Drone Data** [1:20 pm] - Thomas Haun, Gordon Ryley	**UAS: Platforms** [1:20 pm] - Kevin Price
		The Weather Company [1:40 pm]	
		AGCO [2:00 pm]	**Advances in Low Altitude Aerial Remote Sensing for Agricultural Applications** [2:00 pm] - Mike Ritter
	Nitrogen Decisions from a Farmer's View Point [2:20 pm] - Don Glenn	**Accelerating The Adoption of Precision Ag by Making it Easier** [2:20 pm] - Jesse Vollmar	
	Scan DSS For Side-Dressed N Rate in Corn [2:50 pm]- Nicolas Tremblay	**Husch-Blackwell** [2:40 pm]	**UAS: Systems** [2:40 pm] - Jorge Fernandez
		MapShots [3:00 pm]	
3:20 PM	**BREAK IN THE EXHIBIT HALL**		
4:00 PM to 5:20 PM	**Seeding Decisions** Room: Regency C	**Sponsor Showcase** Room: Regency AB	**Managing Nutrients** Room: Grand ABC
	Seed Selection : Making Choices with Technology, or Not? [4:00 pm] - Kerry Knuth	**Encirca** [4:00 pm]	**Suites of 4R N Management Practices for Improved Production and Environmental Outcomes** [4:00 pm] - Cliff Snyder
		Planet [4:20 pm]	
	Consultant Perspective [4:40 pm] - Dan Frieberg	**Climate Corp** [4:40 pm]	**Nitrogen Recommendation Systems** [4:40 pm] - Newell Kitchen
		Power Your Ag Data Analysis with ClearAg [5:00 pm] - Jeff Keiser	
5:20 PM to 7:00 PM	**RECEPTION IN PRECISIONAG TECH CENTER**		

TRACK 4	TRACK 5	TRACK 6
International Perspectives Room: Grand D	**Precision People** Room: Grand E	**Data Standards** Room: Grand F
Precision Agriculture for Food Security and Sustainable Development in China [1:20 pm] - Yuxin Miao	**People: On-the-Job-Training** [1:20 pm] - Dwight Koops, Nathan Woydziak	**ADAPT** [1:20 pm] - Mark Stelford
PA in New Zealand [2:00 pm] - Ian Yule	**Top 10 Experience Pitfalls** [2:00 pm] - Brian Henze	**AgGateway Core Documents** [2:00 pm] - Jeremy Wilson
A View of PA in some Latin American Countries [2:40 pm] - Jose Molin	**Community College PA Technician Programs** [2:40 pm] - Jenni Fridgen, Darin Kohlmeyer	**The Open Ag Data Alliance: Real-Time Connections** [2:40 pm] - Aaron Ault
		Reference Data [3:00 pm] - Andres Ferreyra
BREAK IN THE EXHIBIT HALL		
On-Farm Research Room: Grand D	**Cool Tech** Room: Grand E	**Data Coops** Room: Grand F
On-Farm Research: Guidelines for a Successful Experience [4:00 pm]	**From the internet of fields to the internet of plants** [4:00 pm] - David Ball	**GISC** [4:00 pm]
		Farmer Data Cooperative [4:20]
Benefits of an On-Farm Data Sharing Community [4:40 pm] - Tom Morris, Nicolas Tremblay	**Nebraska Irrigation Project** [4:40 pm] - John Heaston	**Ag Data Coalition** [4:40 pm] - Matt Bechdol
RECEPTION IN PRECISIONAG TECH CENTER		

THUR, AUG. 4 7:00 AM TO 9:00 AM	**BREAKFAST IN PRECISIONAG TECH CENTER**		
	TRACK 1	**TRACK 2**	**TRACK 3**
9:00 AM to 11:00 AM	**Crop Protection Decisions** Room: Regency C	**Precision Conservation** Room: Regency AB	**Data & Data Projects** Room: Grand ABC
	Precision Pathology [9:00 am] - Terry Spurlock	**Use the Newest Tech Tools to Enhance Your Yields AND Soil Health** [9:00 am]	**Soil Test Levels in North America** [9:00 am] - Scott Murrell
	Herbicide [9:40 am] - Angela Post	**Remote Sensing for Residue Management** [9:40 am]	**Better Fertilizer Decisions from Soil Test Calibration Data** [9:40 am] - Tom Bruulsema
			How to Evaluate Data [10:00 am] - Randy Barker, Neal Horrom, KC Ting
	MyField App [10:20 am] - Brian McCornack	**How Wildlife Habitat Needs and Precision Agriculture can fit within Agricultural Land Business Models** [10:20 am] - Peter Berthelsen	
11:00 AM to 12:00 PM	**InfoAg Closing Plenary Session,** Room: Regency AB		

BREAKFAST IN PRECISIONAG TECH CENTER

TRACK 4	TRACK 5	TRACK 6
Economics of PA Room: Grand D	**VR Turf/Robotics** Room: Grand E	**Data Issues** Room: Grand F
Measuring ROI on Precision Agriculture [9:00 am] - Jim Minert	**Data Fusion for Precision Turf Management** [9:00 am] - Kirk Stueve	**Ag Data Transparency Evaluator** [9:00 am] - Mary Kay Thatcher
	Practical Application of High Resolution Prescription Maps for the Turf industry [9:20 am] - Ken Rost	**Why We Did the ADT Evaluator** [9:20 am] - Mark Hubbard
VC Perspective: Monsanto Ventures [9:40 am] - Ryan Rakestraw	**University of Regina** [9:40 am] - Sam Dietrich, Caleb Friedrick, Joshua Friedrick, Dean Kertai	**Ag Data Legal Issues for the Ag Retailer** [9:40 am] - Todd Janzen
VC - EY PoV [10:20 am]	**South Newton/Purdue AgBot** [10:20 am] - Lucas Clifford, Kurt Vissering, Alex Vitous	
AgVoice [11:00 am]		

InfoAg Closing Plenary Session, Room: Regency AB

Tuesday, August 2, 2016

1:00 pm
SST Showcase
Matt Waits

SST Software
Manage Data. Harvest Information.

1:40 pm
John Deere Showcase
Patrick Sikora

John Deere Ag Management Solutions

2:20 pm
Raven Industries Showcase

Raven

3:40 pm
Agrian Showcase
The Five Pillars of Modern Agriculture
Nish Magarian

Agrian

4:20 pm
EFC Systems Showcase
Dawn of a New Era
Alan Brady, Ernie Chappell

EFC Systems

5:00 pm
Trimble Showcase
Trimble's Software Dev Leaders Discuss What Is & What Is NOT Working in Ag Software Today
Kevin Pattison, Bob Wold

Trimble

Wednesday, August 3, 2016

8:00 am
Delivering on the Promise of Decision Ag
Patrick Crampton

FarmersEdge

8:20 am
From Pixels to Profits
Max Bruner

mavrx

8:40 am
CropMetrics Precision Solutions in Water
Kylen Hunt

CropMetrics
Yield Optimization Technology

9:00 am
When Did Farming Become Paper Pushing?
Jonathan Sherrill

CropTrak

9:20 am
Digital Farming; Harvesting the New Hybrid of Data
Charlie Magruder

esri

1:20 pm
NovAtel and PrecisionHawk: Delivering Accurate, Actionable Drone Data
Thomas Haun, Gordon Ryley

PRECISIONHAWK

1:40 pm
The Weather Company

The Weather Company
An IBM Business

2:00 pm
AGCO

FUSE Technologies

2:20 pm
Accelerating The Adoption of Precision Ag by Making it Easier
Jesse Vollmar

FarmLogs

2:40 pm
Husch-Blackwell

HB
Husch Blackwell

3:00 pm
MapShots

MapShots

4:00 pm
Encirca

encirca℠

4:20 pm
Planet

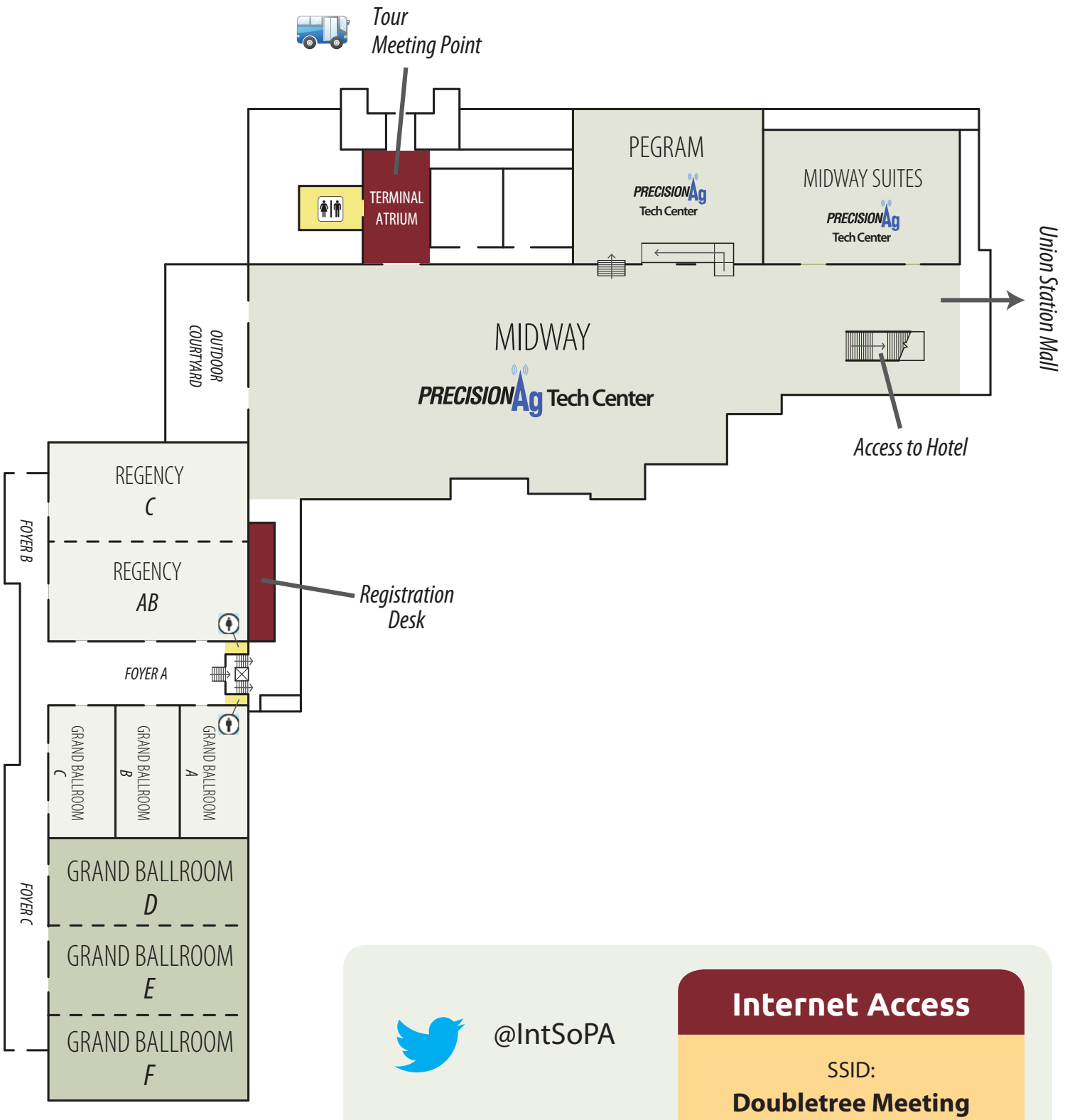
planet.

4:40 pm
Climate Corp.

The Climate Corporation

5:00 pm
Power Your Ag Data Analysis with ClearAg
Jeff Keiser

ClearAg



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ABOUT

13th INTERNATIONAL CONFERENCE ON PRECISION AGRICULTURE

Organized by: ISPA International Society of Precision Agriculture

ISPA Board Members

The ISPA is governed by an international Board of Directors consisting of elected officers (President, President-Elect, Immediate Past-President, Secretary and Treasurer). Candidates for officers will be nominated by the ISPA Board of Directors and elected by the society members.

Dr. Ken Sudduth
President
Research Agricultural Engineer
USDA-ARS
president@ispag.org

Dr. Nicolas Tremblay
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Plant Nutrition and Crop Management Specialist
Horticultural R&D Center, Agriculture and Agri-Food Canada
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Mr. Tyrell Fickenscher
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Owner
Upward Ag Systems, LLC
treasurer@ispag.org

Dr. John Stafford
Past President
Consultant in Precision Agriculture and Computing
Silsoe Solutions
past-president@ispag.org

The 13th International Conference on Precision Agriculture will highlight significant research and its applications in precision agriculture and showcase emerging technologies and information manage for agriculture. It offers oral and poster presentations as well as time for networking and discussion on how precision agriculture is being implemented around the world. Sessions offer information on key topics for scientists, crop consultants, advisors, extension personnel, agronomists, producers, and others working with technology in the production of food, fuel, and fiber.

ISPA Basics

ICPA is brought to you by the International Society of Precision Agriculture. The ISPA is a non-profit professional scientific organization. The mission of ISPA is to advance the science of precision agriculture globally.

The purpose of ISPA is to:

- Organize and conduct international conferences related to precision agriculture, such as International Conference on Precision Agriculture and work with other related conferences.
- Develop and maintain a web-portal to communicate the latest developments in precision agriculture with the world, and maintain a member directory and interactive website to communicate among society members.
- Publish a periodic ISPA enewsletter for members and other subscribers.
- Provide members an opportunity for publication of original scientific research in the society sponsored peer-reviewed journal, *Precision Agriculture*.

ISPA Membership & Benefits

Membership Includes:

- ❍ Membership directory access and opportunities to network with Precision Agriculture professionals from around the world
- ❍ Electronic space to post your resume, pictures, etc., for greater networking and professional opportunities
- ❍ Digital access to the society's journal, *Precision Agriculture*
- ❍ Opportunities to publish research and review articles in *Precision Agriculture*
- ❍ Opportunities to present oral and poster papers at society-sponsored events such as the International Conference on Precision Agriculture, Asian Conference on Precision Agriculture, European Conference on Precision Agriculture, etc.
- ❍ Discount on ISPA-sponsored conference registration fees
- ❍ Periodic newsletter that provides information from around the world related to Precision Agriculture research activities and industry updates
- ❍ Opportunities to nominate and be nominated by other members for ISPA sponsored awards and recognition at society events.

The InfoAg Conference

InfoAg is the premier conference on the practical application of precision agriculture. It features an educational program that includes plenary and breakout sessions along with an extensive exhibit hall of leading hardware, software, and services vendors to precision agriculture.

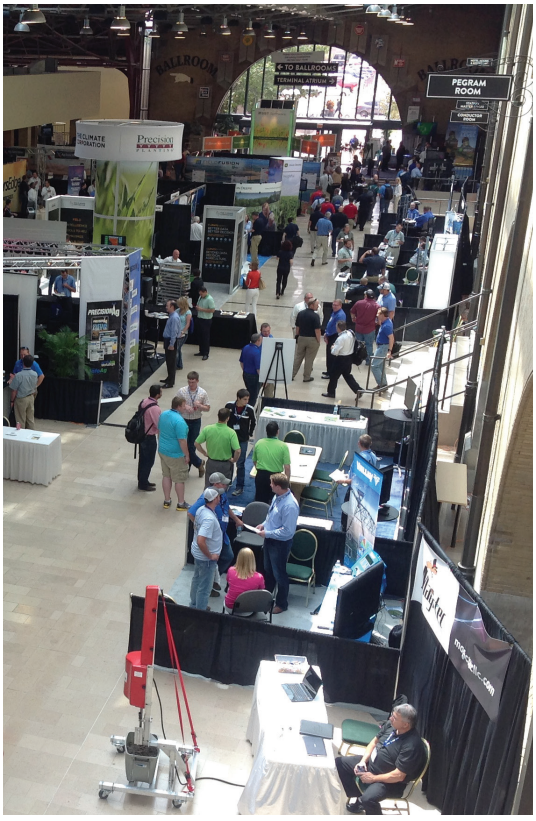
Organized by: IPNI International Plant Nutrition Institute

InfoAg is designed for people in agriculture who apply technology to the work of production agriculture.

The educational programs are perfect for learning new perspectives about how to put technology to work in the field and hearing more about new products and services as well as the unique perspective on the global research efforts in testing and creating new technologies. No matter your point of view, you are bound to learn something new that will help you with your use of precision agriculture.

The PrecisionAg Tech Center (include a small tech center logo) offers a wonderful opportunity to talk directly with the inventors and technical specialists in a variety of hardware, software, and precision services. Meet face to face with people who can help you use the technology and share ideas.

The networking opportunity is probably the best reason to attend. The conferences will offer breaks, meals, receptions, and free time to meet other people with related interests. Have your business cards handy and introduce yourself to at least 10 people a day. You will make some terrific contacts, visit with old friends, and make some new connections that you will communicate with in the years to come.



IPNI International Plant Nutrition Institute

The International Plant Nutrition Institute (IPNI) is a not-for-profit, science-based organization dedicated to the responsible management of plant nutrition for the benefit of the human family. IPNI began operating in January of 2007 and now has active programs in Africa, Australia/New Zealand, Brazil, China, Eastern Europe/Central Asia and Middle East, Latin America-Southern Cone, Mexico and Central America, Northern Latin America, North America (Canada and U.S.A.), South Asia, and Southeast Asia.

As a global organization, IPNI has initiatives addressing the world's growing need for food, fuel, fiber, and feed. There is widespread concern for issues such as food security and the relationship of crop production to the environment and ecosystems. IPNI programs are achieving positive results in many areas. The program coordinators and IPNI regional directors are Ph.D. scientists. Through cooperation and partnering with respected institutions around the world, IPNI adds its strengths to agronomic research, education, demonstrations, training, and other endeavors. Best management practices for nutrient stewardship encourage the concept of applying the right product (source), at the right rate, at the right time, and in the right place.

✔ To Do

CONTACTS

EXHIBITORS

PRESENTATIONS

Notes

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