Name Badges & Registration

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

The registration desk is open:

- **Tuesday, July 23**: 7:00am - 6:00pm
- **Wednesday, July 24**: 7:00am - 6:00pm
- **Thursday, July 25**: 7:00am - 12:00pm

Hotel

All sessions and exhibits for InfoAg 2019 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 InfoAg Registration Includes

- Registration packet
- Tuesday & Wednesday lunch
- Wednesday and Thursday breakfasts
- Refreshment breaks
- Reception Tuesday & Wednesday evenings

*Single-day registrants receive the registration packet and associated food and refreshments.*

PrecisionAg Professional Tech Center Receptions

- **Tuesday, July 23**: 5:40pm - 7:30pm
- **Wednesday, July 24**: 5:20pm - 7:00pm

Exhibits

Exhibits are in the PrecisionAg Professional 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.

InfoAg Website & App

**InfoAg.org** features additional program details including presentation descriptions, speaker bios, and contact information for speakers and exhibitors. Access complete InfoAg conference details, create and manage your personal conference itinerary, and search speakers, exhibitors, and presentations with the InfoAg Conference App.

Certified Crop Adviser CEU Credits

Attendees may earn a possible sixteen CEUs through the program, and 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. Use the Certified Crop Advisers app to scan the QR codes on the CEU sign-in sheets to record your attendance.

Proceedings Online & Conference Survey

Conference proceedings in the form of PDF slide sets from participating speakers will be posted to the website after the conference. If you have specific questions, contact: info@infoag.org. Post Conference Survey: infoag.org/survey.

The InfoAg Pre-Conference Tour will be Monday, July 22, 2019. The tour will leave Union Station at 9:00am and return by approximately 5:00pm. Check-in for the tour will be in the Hotel Atrium (inside the west door of the north side of the building). **Check-in will open at 7:30am Monday.** The tour will leave the hotel promptly at 9:00am. Please check in early.

**Internet Access**

SSID: **InfoAg Wifi**
Passcode: **2019**
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<th>Activity</th>
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<tr>
<td>7:30am - 8:55am</td>
<td>Pre-Conference Tour Check-in</td>
<td>Atrium</td>
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<td>9:00am - 5:00pm</td>
<td>Pre-Conference Tour</td>
<td>Departs from Atrium</td>
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<tr>
<td>1:00pm - 5:00pm</td>
<td>Exhibitor Setup</td>
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**Monday, July 22**

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<tr>
<td>7:00am - 6:00pm</td>
<td>On-site registration</td>
<td>Foyer C</td>
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<td>8:00am - 12:00pm</td>
<td>Exhibitor Setup</td>
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<tr>
<td>9:00am - 11:00am</td>
<td><a href="#">Opening Plenary Session</a> sponsored by THE FERTILIZER INSTITUTE</td>
<td>Grand Ballroom DEF</td>
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<tr>
<td>11:00am - 1:00pm</td>
<td>Luncheon sponsored by THE FERTILIZER INSTITUTE</td>
<td>Union Station Mall</td>
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<td>1:00pm - 3:00pm</td>
<td>Concurrent Sessions</td>
<td>Breakout Rooms</td>
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<td>3:00pm - 3:40pm</td>
<td>Break in Exhibit Hall</td>
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<td>3:40pm - 5:40pm</td>
<td>Concurrent Sessions</td>
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<td>5:40pm - 7:30pm</td>
<td>Reception in Exhibit Hall</td>
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**Tuesday, July 23**

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<td>Break in Exhibit Hall</td>
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<td><a href="#">PrecisionAg Professional Plenary Session</a> sponsored by Proagrica RAVEN</td>
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<td>12:00pm - 1:20pm</td>
<td>PrecisionAg Professional Lunch sponsored by Proagrica RAVEN</td>
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<td>4:00pm - 5:20pm</td>
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<td>5:20pm - 7:00pm</td>
<td>Reception in Exhibit Hall</td>
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**Wednesday, July 24**

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<td>7:00am - 9:00am</td>
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<td>9:00am - 11:00am</td>
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<td>11:00am - 12:00pm</td>
<td><a href="#">Closing Plenary Session</a> sponsored by THE FERTILIZER INSTITUTE</td>
<td>Regency AB</td>
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<td>12:00pm - 3:00pm</td>
<td>Ag Data Coalition Luncheon - OPTIONAL TICKET REQUIRED</td>
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**Thursday, July 25**

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<td>Breakfast in Exhibit Hall</td>
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<td>9:00am - 12:00pm</td>
<td>Exhibitor Tear Down</td>
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<td>Ag Data Coalition Luncheon - OPTIONAL TICKET REQUIRED</td>
<td>Grand Ballroom C</td>
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## Tuesday, July 23

### 9:00 am to 11:00 am

**Opening Plenary Session** sponsored by The Fertilizer Institute, Room: Grand DEF, Moderator: Sally Fils

Welcome to InfoAg, Chris Jahn

FarmBeats: Empowering Farmers with Affordable Digital Agriculture Solutions, Ranveer Chandra

PrecisionAg Awards of Excellence, Paul Schrimpf

### 11:00 am to 1:00 pm

#### Lunch – Midway East

### 1:00 pm to 3:00 pm

#### Precision Conservation

- Moderator: Brian Arnall
- Precision Ag for Conservation - Jason Weller
- Talking to Farmers About Conservation - Todd Peterson
- Leveraging Sustainability Insights to Maximize Agronomic Advice - Paul Hishmeh
- FieldWatch: Communication Through Mapping - Bob Walters
- Rice Stewardship – Precision Agriculture in Action - Scott Manley

#### Sponsor Showcase 1

- Moderator: Liz Magill
- Transforming Precision Agriculture through Full-Scope Connectivity - Matt Waits
- Find Your 20 - Paul Welbig
- Improving Your Farmgate Conversations - Jeremy W. Wilson

#### Workshop 1

- Moderator: Ben Gist
- Yield Data Management - Scott Drummond, Elizabeth Hawkins, Jacob Maurer, Jason Ward

#### 10 Things

- Moderator: Casey Niemann
- What End Users Disliked About AgTech in 2018 - Aaron Bobeck
- AgTech Group Therapy - Nathan Faleide
- Questions Before Precision Purchase: Sniffing Out Digital Snake Oil - Terry Griffin

#### Traceability

- Moderator: Sally Fils
- Tyson Foods Sustainability Journey: Raising the World’s Expectations for How Much Good Food Can Do - Jamie Burr
- Blockchain for Commodity Crops - Luis Macias
- Traceability of Cotton in the Supply Chain - Mark Pryor

### 3:00 to 3:40 pm

#### Break in PrecisionAg Professional Tech Center

### 3:40 pm to 5:40 pm

#### On-Farm Research

- Moderator: Brian Arnall
- A Grass-Roots Approach to Organized On-Farm Research, The Story of KARTA - Lucas Haag
- TAPS Program: Grower Competition for Efficient and Profitable Crop Production - Daran Rudnick
- The Data-Intensive Farm Management Project: Using Precision Technology to Get the Information Needed to Use Precision Technology Profitably - David Bullock

#### Sponsor Showcase 2

- Moderator: Scott Manley
- The Power of Independence - Nish Majarian
- Your Key to Data Integration - Travis Hammer
- Innovations to Increase Productivity - Clint Ingram

#### Workshop 2

- Moderator: Terry Griffin
- Yield Data Cleaning & Editing - Scott Drummond, Terry Griffin, Elizabeth Hawkins, Jacob Maurer, Jason Ward

#### Robotics in Agriculture Today

- Moderator: Paul Hishmeh
- Automated Row Crop Operations - Kyler Laird, Tim Norris, Drew Schumacher, Steve Sweet
- From Field to Barn: What We Have Learned 40k Robots Later - Steve Sweet
- Autonomous Tractors Are in the Fields Today! - Tim Norris

#### IOT: AG Sensors

- Moderator: Christopher Boomsma
- 2M Acre AgTech Testbed: Developing the Wabash Heartland as a Global Epicenter of Digital Agriculture - Johnny Park
- The Real-Life Case for IoT. Get ROI in One Crop Cycle - How Smart Soil Moisture Data Helps Farmers Grow More, with Less - Jurriaan Ruys
- Value Examples of IoT - Brady Bjornson, Michael Gomes
- The Real-Life Case for IoT. How Smart Data Integration Improves Crop Understanding & Yield - Matt Murray

### 5:40 to 7:30 pm

#### Reception in PrecisionAg Professional Tech Center
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<th>Time</th>
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<td>7:00 am - 8:00 am</td>
<td>REGENCY C</td>
<td>Continental Breakfast in PrecisionAg Professional Tech Center</td>
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<td>8:00 am - 10:00 am</td>
<td>REGENCY C</td>
<td>REMOTE SENSING CASE STUDIES</td>
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<td>Moderator: Christopher Boomsma</td>
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<td>Computer Vision, Data Science, and Deep Learning Algorithms</td>
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<td>- Ayal Karmi</td>
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<td>Satellite Imagery: The New Table Stake for Information on Crop Conditions?</td>
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<td>- Damien Lepoutre</td>
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<td>Integrating Simplified Tools and Low-Hanging Data for Useful Remote Sensing Applications</td>
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<td>- Reagan Noland</td>
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<td>Remote Sensing - What Can This Technology Do for Me, and What Can’t It Do?</td>
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<td>- Kevin Price</td>
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<td>REGENCY AB</td>
<td>SPONSOR SHOWCASE 3</td>
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<td>How Agribusinesses Leverage Big Data Insights to Better Serve the American Farmer</td>
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<td>- Steve Rao</td>
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<td>Paving a Data Highway as an Ag OEM</td>
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<td>- Matt Wong</td>
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<td>Climate FieldView and Farmers Mutual Hail Insurance: A Roadmap to Creating Value Through Industry Partnership</td>
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<td>- Clint Chaffer</td>
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<td>GRAND BC</td>
<td>WORKSHOP 3</td>
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<td>Critical Conversations: How to Talk to Farmers about Conservation</td>
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<td>- Todd Peterson</td>
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<td>GRAND D</td>
<td>THE AUTONOMOUS ACRE: ROBOTICS OF THE FUTURE</td>
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<td>Economic Feasibility of Autonomous Vehicles</td>
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<td>- Jordan Shockley</td>
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<td>Open Source Ag Robotics</td>
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<td>- Matt Droter</td>
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<td>Cross-Collaboration in Advancing Technology and Educational Engagements for Agriculture</td>
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<td>- Rachel Gerrish</td>
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<td>Swarm Farming: The Economic Argument for and Design Constraints of the Tractor of the Future</td>
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<td>- Zack James</td>
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<td>GRAND E</td>
<td>DATA INTEROPERABILITY</td>
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<td>Moderator: Michael Gomes</td>
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<td>Get Your Data Together: The Value of Storing All Farm Data in a Neutral Repository and Sharing with Others</td>
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<td>- Ben Crauger</td>
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<td>Adapting to the Reality of Today’s Digital Agriculture</td>
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<td>- Jacob Maurer</td>
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<td>Data Interoperability - Key to Industry Success</td>
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<td>- Jeremy W. Wilson</td>
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<td>Panel Discussion - Data Interoperability</td>
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<td>- Ben Crauger, Jacob Maurer, Jason Ward, Jeremy W. Wilson</td>
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<td>10:00 am - 10:40 am</td>
<td>PrecisionAg Professional Tech Center</td>
<td>Break in PrecisionAg Professional Tech Center</td>
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<td>10:40 am - 12:00 pm</td>
<td>PrecisionAg Professional Plenary Session sponsored by Proagrica, Raven, and The Fertilizer Institute</td>
<td>Future of Agriculture - Soon to Become the Coolest Profession on Earth</td>
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<td>Lunch in Union Station Mall sponsored by Proagrica, Raven, and The Fertilizer Institute</td>
<td>Luncheon in Union Station Mall</td>
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<td>1:20 pm - 3:20 pm</td>
<td>REGENCY C</td>
<td>UAVS IN ACTION</td>
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<td>Moderator: Kevin Price</td>
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<td>Practical Uses and Limitations of UAV Technology</td>
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<td>- John Scott</td>
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<td>Oklahoma State UAV Swarms &amp; Agriculture: Technological Foundations and Business Needs</td>
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<td>- Imraan Faruque</td>
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<td>Multi-Layered Sensing with sUAS in Agriculture</td>
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<td>- Scott Shearer</td>
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<td>REGENCY AB</td>
<td>SPONSOR SHOWCASE 4</td>
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<td>Why Offline and In-Field Drone Mapping is the Key to Digital Farming</td>
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<td>- Jorge Fernandez, Nathan Stein</td>
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<td>Co-Creation – Building Better Remote Sensing Products Together for Agriculture</td>
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<td>- Eric Johnson, Sky Rubin</td>
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<td>Why Financial Advisors and CPAs Are Working with Agronomists in a New Way</td>
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<td>- Ron Osborne</td>
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<td>- Jason Tatge</td>
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<td>- Craig Rogers</td>
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<td>- David Dyson, Craig Rogers, Clint Sires, Jeff Wessels</td>
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<td>REGENCY AB</td>
<td>AGGREGATED DATA OPPORTUNITIES</td>
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<td>Importance of Data Quality for Data Aggregation</td>
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<td>- Elizabeth Hawkins</td>
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<td>Encouraging Adoption of BMP’s Through Innovative Extension Programming</td>
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<td>- Chuck Burr</td>
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<td>Data Aggregation for On-Farm Precision Experimentation</td>
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<td>- Rodrigo Trevisan</td>
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<td>Creating Value from Agronomic Data Aggregation</td>
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<td>- Mike Manning</td>
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<td>3:20 pm - 4:00 pm</td>
<td>PrecisionAg Professional Tech Center</td>
<td>Break in PrecisionAg Professional Tech Center</td>
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Wednesday, July 24

**4:00 pm to 5:20 pm**

- **4RS THRU PRECISION AG**
  - Moderator: Peyton Harper
  - Farming Smarter, Not Harder
    - John Peters
  - Economic Benefits of a PA Based 4R System
    - Grant Strom
  - The Economics of Conservation Practices
    - Travis Deppe
  - Panel Discussion – 4Rs Thru PA
    - Travis Deppe, John Peters, Grant Strom

- **SPONSOR SHOWCASE 5**
  - Moderator: Reagan Noland
  - AI Meets Agriculture: Harvesting Actionable Insights with Machine Learning
    - Jason Bull, Tonya Ehlimann
  - Accelerating Adoption
    - Randall Barker
  - How Real-Time Analytics and Insights Drive Agronomic and Economic Value
    - Erik Taipale
  - The Reality of AI, Machine and Deep Learning, and Blockchain in Agriculture
    - Craig Ganssle

- **WORKSHOP 5**
  - Moderator: Ben Craker
  - Making Use of Data, How Ag Data Coalition Benefits Diversified Stakeholders
    - John Fulton, Daniel Mullentix

- **VALUING DATA AND ANALYTICS**
  - Moderator: Debasis Dan
  - Microsoft Agriculture Engineering
    - Debasis Dan
  - FarmBeats
    - Andrew Nelson
  - AI for Earth Partner: Ag-Analytics
    - Joshua Woodard
  - Rural Digital Transformation for Small Hold Farmers
    - Kevin Connolly
  - Last Mile Digital Services for Smallholder Farmers
    - Stewart Collis
  - Microsoft Panel
    - Debasis Dan, Andrew Nelson, Joshua Woodard, Kevin Connolly, Stewart Collis

- **DATUM UPDATE**
  - Moderator: Damien Lepoutre
  - 2022 Datum Changes, Nation Spatial Reference System Modernization
    - Scott Lokken
  - Spatial Information Overview and Impact of Datum Update on Spatial Data Providers and Consumers
    - Towfique Ahmed

**5:20 to 7:00 pm**

Reception in PrecisionAg Professional Tech Center

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Thursday, July 25

**7:00 to 9:00 am**

Continental Breakfast in PrecisionAg Professional Tech Center

**9:00 am to 11:00 am**

- **CULTIVATING AG TECH**
  - Moderator: Adam Bergman
  - Fireside Chat: Illinois Soybean Association on Midwest AgTech and Farmer Adoption
    - Linda Kull, Elliott Uphoff
  - Building a Digital Agriculture Innovation Cluster
    - Laura Frerichs
  - Thinking Bigger: What’s Emerging at Purdue
    - Scott Henderson
  - The Farm Centric Innovation Model: Farmers in the Middle of AgTech Development
    - Schuyler Dalton
  - Building Early Adopter Grower Innovation Community — Keeping Midwest Growers Globally Competitive
    - Vijay Chauhan
  - Cultivating Ag Tech Panel Discussion
    - Vijay Chauhan, Schuyler Dalton, Laura Frerichs, Scott Henderson, Linda Kull, Elliott Uphoff

- **PRECISION TRENDS**
  - Moderator: Brian Arnall
  - Growing Your Career with the CCA Precision Agriculture Specialty Certification
    - Christopher Boomser
  - Midwest Precision Ag Center
    - Jenni Fridgen
  - 2019 CropLife/Purdue Precision Agriculture Dealer Survey: More Moves Toward Decision Agriculture
    - Bruce Erickson

**11:00 am to 12:00 pm**

**Closing Plenary Session sponsored by The Fertilizer Institute**

- Moderator: Sally Fils
- Precision Agriculture and NRCS Conservation Programs — Cracking the Code so They Can Work Together
  - Ivan Dozier

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FarmBeats: Empowering Farmers with Affordable Digital Agriculture Solutions

Ranveer Chandra, Chief Scientist, Microsoft

Ranveer Chandra is the Chief Scientist at Microsoft Azure Global. His research has shipped in multiple Microsoft products, including Windows, Visual Studio, XBOX, and Azure. Ranveer is leading the FarmBeats, battery research, and TV white space research projects at Microsoft. His work on FarmBeats was featured by Bill Gates on GatesNotes, and he has been invited to present his research on FarmBeats to the Secretary of Agriculture, and on TV White Spaces to the FCC Chairman. Ranveer has published over 90 research papers, and has over 100 patents that have been granted by the USPTO. He has won several awards, including best paper awards, and the MIT Technology Review’s Top Innovators Under 35. Ranveer has an undergraduate degree from IIT Kharagpur, India and a PhD from Cornell University.

Future of Agriculture - Soon to Become the Coolest Profession on Earth

Thomas Frey, Futurist, DaVinci Institute

Over the past decade, Futurist Thomas Frey has built an enormous following around the world based on his ability to develop accurate visions of the future and describe the opportunities ahead. Having started seventeen businesses himself and assisting on the development of hundreds more, the understanding he brings to his audiences is a rare blend of reality-based thinking coupled with a clear-headed visualization of the world ahead. Predicting the future has little value without understanding the driving forces behind the trends, subtle nuances that can be leveraged, and implications for both the people directly affected in the industry as well as others farther down the technological food chain.

Precision Agriculture and NRCS Conservation Programs – Cracking the Code so They Can Work Together

Ivan Dozier, State Conservationist, Natural Resources Conservation Service

Ivan Dozier has been the USDA-Natural Resources Conservation Service’s State Conservationist for Illinois since April of 2012. He was raised on his family’s farm in Southern Illinois where they produced grain and cattle.

Ivan’s educational background includes a B. S. in Agriculture from the University of Illinois (’83) and an M.A. in Environmental Studies from the U of I Springfield (’92). He started work with SCS/NRCS in 1983 as a part-time Soil Conservation Aide and was converted to a career Soil Conservationist position in 1984. Ivan’s previous body of work with NRCS includes experience as a County Soil Scientist, Soil Conservationist, District Conservationist, American Indian Liaison and Assistant State Conservationist for Programs.

Ivan is a past-President of the Illinois Chapter of the Soil and Water Conservation Society (SWCS). He served on the Illinois NRCS State Civil Rights Committee and on the National Civil Rights Committee as the America Indian Male representative. He is a former officer with the American Indian Council of Illinois and the past-President of the National American Indian Alaska Native Employee Association for NRCS. Ivan is also a veteran of the US Army Reserve. He graduated with honors from both Basic and Advanced Training. While in the Reserves he served as a medical lab specialist.
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81. PAQ Interactive
82. Farmwave
83. SGS North America, Inc
84. Deveron UAS & A&L Labs
85. Farmers Mutual Hail Insurance
86. Object Computing
InfoAg Workshops provide the opportunity to go in-depth on a variety of topics.

Tuesday, July 23

**Yield Data Management**

An overview of yield data management will be provided from practitioners and scientists from their unique perspectives. Penalties from utilizing improperly processed yield data for precision agricultural uses will be demonstrated as well as proper processes of handling that data. Participants will learn how to process data from proprietary file formats (from specific manufacturers of combine and yield monitors). Data processed from this session will be suitable to be cleaned using USDA ARS Yield Editor software in the following session. Participants will learn how operation of combine harvester impacts overall yield data quality, and how to increase data quality by considering best harvesting practices. Participants should bring a laptop computer (PC preferred, Mac if can boot in Windows).

*Elizabeth Hawkins, Extension Field Specialist, Agronomic Systems, The Ohio State University; Jason Ward, Assistant Professor, Biological and Agricultural Engineering, NC State University; Jacob Maurer, Agronomist, RDO Equipment Co.; Scott Drummond, Information Technology Specialist, USDA-ARS Cropping Systems and Water Quality Research Unit*

Tuesday, July 23

**Yield Data Cleaning & Editing**

Picking up where the previous session left off, participants will learn how operator behavior impacts yield monitor data quality and how that data can be “cleaned” using the freely available USDA ARS Yield Editor software. After a brief introduction of why yield data cleaning is crucial to obtaining high-quality data, participants will follow along in hands-on fashion as instructors demonstrate the use of Yield Editor. Participants should bring a laptop computer (PC preferred, Mac if can boot in Windows).

*Terry Griffin, Cropping Systems Economist, Kansas State University; Scott Drummond, Information Technology Specialist, USDA-ARS Cropping Systems and Water Quality Research Unit; Jacob Maurer, Agronomist, RDO Equipment Co.; Jason Ward, Assistant Professor, Biological and Agricultural Engineering, NC State University; Elizabeth Hawkins, Extension Field Specialist, Agronomic Systems, The Ohio State University*

Wednesday, July 24

**Critical Conversations: How to Talk to Farmers about Conservation**

This workshop is designed to educate professional agronomists on how to have a more effective conversation with farmers about conservation in their operation. The Nature Conservancy (TNC) along with the American Society of Agronomy (ASA) and the Certified Crop Adviser (CCA) program developed this training to teach in-field advisers how to have a better “conservation conversation” with growers about practices that build soil health and reduce nutrient losses. The workshop discusses technical aspects of implementing these practices, but the bulk of the workshop focuses on improving adviser communication in ways that lead to a deeper discussion of long-term goals. This workshop also delves into who to target for this conversation, how to stage and initiate it, and what techniques to use to engage growers about their farming priorities and legacy.

*Todd Peterson, Agribusiness Specialist, The Nature Conservancy*

Wednesday, July 24

**IoT WORKSHOP**

This workshop is divided into 3 sections with presentations from Sensoterra, Senet, and Teralytic.

*Presentation by Sensoterra: What are the biggest problems in agriculture that LoRaWAN can help with; Biggest barriers to feeling the benefits; ROI, connectivity, sensors, availability, skills, costs, data management, integration..*

*Presentation by Senet: LoRa/LoRaWAN technology and its benefits for smart agriculture; General use cases on smart agriculture; In depth on one particular project*

*Presentation by Teralytic: Overview of Teralytic pilots in Smart Agriculture; Lessons learned and early field data; Customer use cases and feedback*

*Jurriaan Ruys, CEO, Sensoterra; Noelani McGadden, VP of IoT, Senet; Jason Steffen, Agronomist/Senior Field Technician, Teralytic*

Wednesday, July 24

**Making Use of Data, How Ag Data Coalition Benefits Diversified Stakeholders**

This session is planned to outline the benefits of the Ag Data Coalition (ADC) cloud-based platform enables connecting to multiple users and ag cloud platforms to organize and share data within or outside an organization. Speakers with cover use of the ADC platform within a retailer and academic settings that will include demonstrating use and value examples for Growers, Ag Retailers, Application Service Providers, Precision Ag Product & Service providers and others.

*John Fulton, Associate Professor, The Ohio State University; Daniel Mullenix, Ag Technologies Manager, Agri-AFC, LLC*
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