

The EU Big Data Value Association and the Midwest Big Data Hub, in collaboration with Iowa State University, University of Wisconsin-Madison, SINTEF, and Intrasoft Intl., proudly present:

# UAVs AND SATELLITES FOR AGRICULTURE

**Thursday, November 21, 2019**

**Confirm your local time: <http://bit.ly/2CHbgLu>**

**8:00-9:30 am US Central Time**

Onsite: ISU Curtiss Hall | 0013 Brenton Center

Online: <https://zoom.us/j/101827635>

scan to join



## Schedule



**Dr. Lea SHANLEY** Senior Fellow, Nelson Institute, University of Wisconsin Madison

@Lea\_Shanley

Welcome and overview - 3 minutes



**Dr. Arne BERRE**, Chief Scientist, SINTEF

@SINTEF

Moderator



**Dr. Carolyn LAWRENCE-DILL**, Professor, Iowa State University

@IAcornflake

Introduction to Crop Phenomics - 3-5 minutes



**Dr. Jesse POLAND**, Associate Professor, Kansas State University

@WheatLab

Unmanned Aerial Vehicles and Crop Level Phenomics - 10 minutes



**Dr. José-Fernán MARTÍNEZ-ORTEGA**, Universidad Politécnica de Madrid

@La\_UPM

- 10 minutes



**Mrs. Isabelle PICCARD**, Senior Researcher, VITO Remote Sensing

@VITO\_RS\_

Crop Monitoring and Satellite Data - 10 minutes

**Panel Discussion to follow - 45 minutes**

**Lea Shanley** is a Senior Fellow in the Nelson Institute at the University of Wisconsin Madison. Her research interests focus on the intersection of open science, technology, policy and law. Previously, Lea served as the co-Executive Director of the NSF South Big Data Hub, a White House Presidential Innovation Fellow at NASA (2014-2015), and founding director of the Commons Lab at the Wilson Center in Washington, DC.

**Arne Berre** is the Chief Scientist at SINTEF Digital, Department for Software and Service Innovation, Group for Smart Data. Arne is the Leader of BDVA (Big Data Value Association) TF6 Technical Priorities, GEMINI Center for Big Data with SINTEF, NTNU and UiO and SINTEF BigLearn on Big Data and Machine Learning. Arne works with digital platforms and systems interoperability, with focus on big data and processing support for Analytics/AI/Machine Learning.

**Carolyn Lawrence-Dill** is a Professor at Iowa State University. Her research interests have grown from plant biology to genomics to phenomics. Carolyn served as the Director of the Maize Genetics and Genomics Database for nearly ten years, was a founding member of the North American Plant Phenotyping Network, and serves as a co-chair for the International Plant Phenotyping Network. Current research in her lab group focuses on the analysis of language-based phenotypes for association genetics and novel candidate gene prediction.

**Jesse Poland** is an Associate Professor at Kansas State University, Director of the Feed the Future Innovation Lab for Applied Wheat Genomics, and Director of the Wheat Genetic and Genomic Resource Center. Research in Jesse's group is focused on wheat genetics, genomics, and germplasm improvement. Jesse's research group is currently developing new approaches in quantitative genetics, genomics and high-throughput phenotyping for use in breeding, diversity studies, and association genetics. In collaboration with public breeding programs, Jesse implements the use of genomic selection methods to accelerate wheat breeding. In the area of germplasm development, Jesse's group focuses on developing new breeding lines with resistance to the major pests of wheat including stem rust, stripe rust, leaf rust, and Hessian Fly and seeks to understand the genetic basis of these traits. To complement advances in genomics, Jesse's lab develops high-throughput phenotyping approaches for field-based evaluation of breeding lines, focused primarily on genetic characterization of heat and drought tolerance and development of improved germplasm.

**José-Fernán Martínez-Ortega** received his Ph.D. degree in Telematics Engineering from the Technical University of Madrid (UPM) Spain in 2001. His main interest areas and expertise are ubiquitous computing and Internet of things, underwater cooperating robots, smart cities, new advanced services for WSN and high performance and fault tolerant for resilient systems. He has participated in several International and European Research Projects, as a responsible, such as: I3RES, e-GOTHAM, DEMANES, ACCUS, WoO, uSWN, SODA, ESNA, DiYSE, LIFEWEAR. Moreover, he has been the coordinator of the European Research Project SWARMs and is right now the coordinator of AFarCloud (Aggregate Farming in the Cloud). PhD. Martínez is working as a guest professor at Mälardalen University Sweden (MDH) at the School of Innovation, Design and Engineering (IDT), in the area of Robotics and Avionics since August 2013. One of the most important scientific institution in China, the Beijing Institute of Technology (BIT), invited him as a foreign research expert in 2011.

**Mrs. Isabelle Piccard** is a senior researcher at VITO Remote Sensing. After graduating from KULeuven as a Bio-Engineer, Isabelle started her professional career working as pea breeder for a Belgian-Dutch seed company. She joined VITO Remote Sensing in 2001, where she has been involved in many national and international projects – both as a scientist and project manager. Over the years, Isabelle has built up extensive expertise in the use of satellite images for crop mapping, crop monitoring, damage and risk assessment, including agricultural insurances. Currently, Isabelle mainly focuses on developing products and services for crop monitoring based on time series of high-resolution satellite data. She is one of the founders of "WatchITgrow", an online platform to support farmers to monitor arable crops and vegetables in view of increasing yields, both qualitatively and quantitatively. WatchITgrow combines satellite data with weather, soil, IoT and field data using new technologies such as big data analytics and machine learning, to provide growers with more timely and personalized advice.