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:

USING DATA SCIENCE FOR PLANT GENOMICS AND PHENOMICS

Friday, December 6, 2019

Confirm your local time: http://bit.ly/32PxcP6

8:00-9:30 am US Central Time

Register: http://bit.ly/336C1nc

Onsite: ISU Curtiss Hall | 0009 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
Organizer

Dr. Carolyn LAWRENCE-DILL, Professor, Iowa State University — @IAcornflake
Moderator: welcome and overview - 3 minutes

Dr. Arne BERRE, Chief Scientist, SINTEF — @SINTEF
Introduction - Open and Shared Data for Genomics and Phenomics - 3-5 minutes

Dr. Malia GEHAN, Assistant Member and PI, Donald Danforth Plant Science Center — @maliagehan
Image-based Phenotyping - 10 minutes

Dr. Ephrem HABYARIMANA, Chief Scientist and Project Dissemination Manager at CREA — @DataBio_eu
Using data science for genomics and phenomics - 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.

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.

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.

Melia Gehan is an Assistant Member and Principal Investigator at the Donald Danforth Plant Science Center, who focuses on understanding mechanisms of crop resilience under temperature stress. To study temperature stress and natural variation, her lab develops high-throughput and high-resolution image-based phenotyping technologies. She co-developed and maintains the open-source open-development suite of image analysis tools, PlantCV (https://plantcv.danforthcenter.org/).

Ephrem Habyarimana is a Research Scientist and Chief Scientist at CREA Research Center for Cereal and Industrial Crops, in Italy, European Union. He has documented skills, expertise and experience in agricultural genetics, breeding, genomics, plant biochemistry, agronomy. Crops of interest: grain and biomass sorghum & other agroindustrial crops for several purposes (food, feed, & biofuels). He applies genomic prediction and selection, genome-wide association studies and marker-assisted selection models in plant breeding. Genomic selection and GWAS modelling are being implemented in sorghum for genetic improvement of: 1) antioxidant concentration in grains that can be used to manufacture specialty foods, and 2) biomass yields for several purposes including fuel, fiber, and other carbohydrates for industrial uses. He developed and implements big data-driven modeling in support for crop monitoring with satellite constellations and Internet of Things (IoT), early within-season yield prediction and disease detection. He is implementing 5G connectivity to improve efficiency of big data analytics and the dependability of the advices to the end user. In 2019, his genomic modelling analytics and machine learning technologies were classified, respectively, as promising Deep Tech by the European Commission's Innovation Radar, and as one of the best technical advances in the field of Data Science and Artificial Intelligence by the European Data Science Awards 2019. His academic titles include but are not limited to Engineer in Agronomy, MS in Crop Science., MS in Biotechnology Studies, Master of Advanced Studies in Plant Biology, PhD Agricultural Genetics, and several other specialized studies. He trained in Europe, Africa, Asia, North America, and Latin America. He is fluent in more than five languages.