

PRECISION AGRICULTURE FIELD

August 19, 2021 - Harvey Farms Kinston, NC

Harvey Farms, Bill Smith Road, Kinston, N.C.
Thursday, August 19th: 9:30 am– 3 pm EST

- 9:30 am** **Arrival and check in at tent.**
- 9:45 -10:00 am** **Welcome remarks by USDA Enabling Precision Agriculture in North Carolina project lead Professor Nicholas Didow**
- Jack McNairy, Executive Vice President of Harvey Farms: welcome remarks and overview of connectivity challenges facing the agriculture sector in North Carolina and Harvey Farms experience adopting precision agriculture applications.
 - Jessica Zufolo, Project Coordinator and Co-Team lead: background and objectives of the USDA Enabling Precision Agriculture in North Carolina project
 - Professor Didow will provide an overview of the agriculture technology field demonstrations throughout the morning and logistics
- 10 - 11:30 am** **Field demonstrations and rotations to all 5 stations**
- Each group will spend 15 minutes at each station then rotate to the next one
Precision agriculture field demonstration site stations led by the following experts
1. CBRS spectrum led innovations in agriculture using RTK towers– Alex Freylekman, Telrad Networks
 2. Precision Agriculture mobile classroom – Steven Swain, Quality Equipment/John Deere
 3. HOBO greenhouse and UAV – Jason Ward, North Carolina State University
Harvey Farms drone – Travis Daniels, Harvey Farms
 4. Arable Mark 2 plus soil sensor
 5. Real time field data collection and analysis with robotics – Chinmay Soman, EarthSense
- 11:30 am** **Return to the main tent for lunch and Tent Talks (speaker bios on back)**
- 11:45 - 1:15 pm** **Lunch will be served (Kings BBQ and ice cream)**
- 12:15 pm** **Tent Talks (5 minutes per speaker)**
- Jeremy Collins, NCDIT and Hometown Strong Office of Digital Equity and Literacy
 - Alex Freylekhman – Telrad Networks
 - Chinmay Soman – EarthSense
 - Natalie Rivera – Internet Connectivity Project Coordinator, NC Farmworker Health Program, NC DHHS, “Digital Inclusion and Farmworker Health”
 - Steven Swain – Quality Equipment/ John Deere
 - Kenneth Sherin – Broadband Access and Education Coordinator, NC State
 - Conclusion remarks: Jason Ward- Project Team Member and NCSU & Ag Extension
- 1:15 pm** **You are invited to revisit any of the demonstration sites and/or talk with any of the exhibitors and speakers**

SPEAKER BIO'S

Nicholas Didow, PhD, Kenan-Flagler Business School, University of North Carolina, Chapel Hill, nick_didow@unc.edu

Professor Didow teaches marketing strategy and market research at UNC Chapel Hill. He also has led many economic development projects in rural North Carolina including: the Golden LEAF Rural Broadband Initiative -- the \$144M middle mile fiber optic broadband deployment from 2009-2013 serving 67 NC counties and now managed by MCNC; last mile Internet service provider projects in Elizabeth City, Franklinton County, Person County, and Union County; projects for the NC Department of Commerce, NC Christmas Tree Association, and the NC Sweet Potato Commission; and several tourism-based economic development projects for the five historic waterfront towns located in the Albemarle Sound Inner Banks (IBX) region. He also played a role in launching cellular service and wireless text messaging in US market locations.

Jack McNairy, Executive Vice President, Harvey & Gas jhmcnairy@lharveys.com

Founded in 1871, Harvey Fertilizer & Gas Company provides agricultural products and services to growers across eastern North Carolina through its ag retail locations, cotton gins, a seed conditioner, and Tidewater Energy retail propane outlets. Harvey Fertilizer & Gas prides itself on hard work, knowledge, progressiveness, and strategic planning to put our customers first. Jack received his both his undergraduate degree and MBA from the University of North Carolina at Chapel Hill

Jessica Zufolo, jazindc@gmail.com

Jessica has served numerous senior leadership roles throughout federal government and non-profit sectors for over 25 years. Jessica previously served as the Deputy Administrator for the Rural Utilities Service (RUS) at the U.S. Department of Agriculture where she helped oversee a \$65 billion federal loan/ grant portfolio that finances rural broadband networks, precision agriculture, electric utility, smart grid projects. Jessica also serves as a founding member of the FCC's Precision Agriculture Task force. Jessica earned her MBA with Honors from the University of North Carolina at Chapel Hill.

Jason K. Ward, PhD, PE, Assistant Professor, Biological and Agricultural Engineering - N.C. State University jason.ward@ncsu.edu

Jason Ward is an assistant professor and Extension specialist in the Department of Biological and Agricultural Engineering at NC State University where he leads the Advanced Ag Lab. His research and Extension program focus on advancing agricultural technology, sensors, equipment, robotics, and data management, and making precision agriculture technologies more accessible and valuable.

Chinmay Soman, Co-Founder, CEO and Co-Inventor of Core Technologies - EarthSense Inc. chinmay@earthsense.com

EarthSense is leading the creation of a robotics and machine learning platform for healing our planet. Chinmay co-founded EarthSense while he was a National Science Foundation Postdoctoral Fellow researching ways of improving agricultural sustainability. He was previously also the Lead Engineer and co-inventor of key technologies at Soil Diagnostics, Inc. and founder and CEO of Movable Objects, Inc. - a mobile sensing and computation startup.

Steven Swain - Integrated Solutions Manager, Quality Equipment/ John Deere sswain@qualityequip.com

Stephen Swain grew up and still lives on Century Farms in Tyrrell County (Columbia NC). Attended The College of Albemarle for computer engineering until beginning his career with a John Deere dealer in Fairfield as field service technician, achieving master level status. In 2010, Stephen moved to full time Precision Ag consultant with the same dealership, where he grew the department to now 7 employees that support the entire Precision Ag portfolio while also looking for new trends to bring more productivity to Central and Eastern N.C. farms.

Alex Freylekhman, Vice President of Sales, Telrad Networks, alex.freylekhman@telrad.com

Alex is a 20 year wireless industry veteran whose life mission is to make the world faster and more connected one network at a time. Alex oversees sales for Telrad throughout North America and works closely with the entire wireless ISP sector in North Carolina and nationally. He holds a bachelor's degree in computer science and spends most of his time helping rural communities solve their broadband challenges.

Kenneth Sherin, Ph.D, Broadband Access and Education Coordinator, County Extension Director, Kenneth_Sherin@ncsu.edu

Kenny Sherin is a North Carolina native. He was born and raised on a family farm in Union County. He attended NC State University in the early nineties where he earned two degrees in natural resources and forestry. After working as a consultant, he attended Campbell University where he earned a Master of Divinity Degree. In pursuing their love of rural communities, Kenny and Karen moved to Columbia, MO where Kenny earned a doctoral degree in Rural Sociology and Community Development from the University of Missouri. That degree took him to South Dakota State University Extension where he was the SDSU Extension state program leader for the Community Vitality Program. Prior to 2019, Kenny lived outside of NC for 12 years and he is glad to back home serving as the County Extension Director for Randolph County and the Broadband Access and Education Coordinator for N.C. Cooperative Extension. Kenny has served on the National Digital Education Extension Team (NDEET) of the Southern Rural Development Center for 5 years.

Natalie D. Rivera, Internet Connectivity Project Coordinator, N.C. Farmworker Health Program with DHHS/Office of Rural Health, Natalie.Rivera@dhhs.nc.gov

Natalie coordinates a sustainable initiative to bring internet to migrant farmworker housing across North Carolina. The goal is to support the well-being of farmworkers by bridging access to telemedicine, social outlets, emergency communication and educational resources through internet connectivity. Prior to working with NCFHP, she launched one of their grant-funded farmworker health outreach sites in Eastern North Carolina, where she served as the program director/outreach coordinator for over 7 years. She has experience working at Latina lead nonprofits through both AmeriCorps ACCESS and Student Action with Farmworkers. Natalie completed her undergraduate degree at the University of North Carolina Wilmington and her Master's in Public Health from the University of North Carolina Chapel Hill.