Plant Science & Technology
University of Missouri

Division of Plant Science and Technology
College of Agriculture, Food and Natural Resources
211 Agricultural Engineering Building
Columbia, MO 65211

Postdoctoral Fellow – Digital Agriculture

Job description: Conduct research and extension activities in digital agriculture to advance smart farming technologies and improve soil health, crop production, and agricultural sustainability. The position locates in the Agricultural Systems Technology (AST) program of the Division of Plant Science and Technology at University of Missouri (MU), in collaboration with the USDA-ARS Cropping Systems and Water Quality Research Unit in Columbia, MO.

Duties: Responsibilities of the position include development, evaluation, and deployment of sensing, decision-support, and machine control technology to enable digital agriculture systems focused on soil health, crop nitrogen management, and advanced planting technology. The candidate will work with a multidisciplinary research team consisting of university research and extension faculty, USDA-ARS scientists and engineers, and graduate and undergraduate students. The candidate is expected to lead the research activities of digital agricultural technology development, field evaluation, data collection and analysis and publication. Some potential activities include but are not limited to:

- Collect and analyze proximal soil sensor (planter sensor, soil electrical conductivity, soil spectra) and remote crop sensor (UAV and vehicle mounted) data in field-scale experiments with an emphasis on refining spatial decision support for nitrogen management.
- Collect and analyze soil sensor data to estimate soil health in field-scale experiments.
- Document planter-sensor performance in estimating seed-zone soil properties and investigate hardware and calibration changes to improve estimates.

Minimum Qualifications: Ph.D. degree in Agricultural and Biological Engineering and other related fields by the time of appointment.

Candidates will be evaluated on: Experience in digital agriculture, precision agriculture or research using digital technologies, such as remote sensing, internet of things, sensors, robotics and artificial intelligence. A strong background in developing sensor systems, analyzing agricultural big data with machine learning and deep learning algorithms is desired. The successful candidate will need the ability to maintain a good working relationship with other research fellows working in a large research group and lab and research management experience. Excellent communication skills, potential for collaborative research, ability to work independently and cooperatively, advising students on the research team, and strong writing skills for grant proposals and journal articles are all important aspects of the position.

Application Deadline*:* The position is expected to start as early as August 2024. Candidate screening will begin in August 2024, but applications will be accepted until the position is filled.

Application Procedure: Apply online (https://hr.missouri.edu/job-openings. Job ID 52499). Be prepared to upload: 1) a cover letter addressing the candidate's experience, scholarly research interests and professional goals, and qualifications pertinent to the responsibilities of the position; 2) a resume; and 3) the contact information for three references.

Contact: Questions regarding the position should be directed to Dr. Jianfeng Zhou at zhoujianf@missouri.edu, 573-882-2495, or Dr. Ken Sudduth at ken.sudduth@usda.gov, 573-882-4090.