

## **Postdoctoral Position in Agricultural & Biological Engineering at Mississippi State University**

### **Position Description**

The Department of Agricultural and Biological Engineering at Mississippi State University is seeking applications for a postdoctoral position to work on a USDA funded research project. This project focuses on the utilization of low altitude remote sensing platforms such as uncrewed aerial systems (UAS) and hyperspectral imaging (HSI) for estimation of crop canopy nutrients. The objective of this project is to identify region-specific environmental health indicators for emissions, soil biology, and nutrient uptake by utilizing high throughput sequencing, infrared greenhouse gas analyzers, and unmanned remote sensing systems. The postdoctoral associate will support team of scientists working on individual and team research that falls under this broad umbrella. The role of the postdoctoral associate will be to research and implement the algorithms, assist with field data collection, experimental design and data analysis related to these research efforts. As such, the postdoctoral associate is expected to have a strong background in hyperspectral image analysis, machine learning and proficiency in rapidly writing scripts using Python, R or Matlab. The successful candidate should be self-motivated, creative, and has a desire to collaborate under a multidisciplinary environment under following PIs.

Duration: 1 year with the possibility of extension up to 5 years contingent upon satisfactory performance.

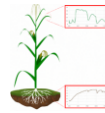
Approximate Start Date: Aug 2023

### **Project Team:**

- Dr Nuwan Wijewardane (<https://www.abe.msstate.edu/people/faculty/nuwan-wijewardane/>): Advanced Plant & Soil Sensing Lab (<https://apsslabs.abe.msstate.edu/>)
- Dr. Xin Zhang (<https://www.abe.msstate.edu/people/faculty/xin-zhang/>): Sensing and Automation in Agro-System (SAAS) Lab (<https://sites.google.com/view/xin-zhang-lab/home>)
- Dr. Sathish Samiappan (<https://www.hpc.msstate.edu/directory/?d=1995>)

### **Essential Duties and Responsibilities:**

- 1) Support interdisciplinary teams to develop study questions to address the high throughput early diagnosis of nutrient deficiencies in row crops using UAV hyperspectral imaging
- 2) Develop methodologies and establish data analysis pipelines to meet the needs of research in collaboration with USDA Agricultural Research Services (ARS) scientists
- 3) Participate in oral and written communications, as needed, to interface with the participating scientists and stakeholders to obtain clarity in requirements
- 4) Other duties as assigned



### Minimum qualifications

- PhD in Agricultural and Biological Engineering, Biosystem Engineering, or any other related field.
- Professional proficiency in English writing and communication
- Motivation to advance personal and group knowledge
- Positive attitude

### Knowledge, Skills, and Abilities:

The ideal candidate for this job will (listed in order of importance):

- 1) Have a strong background in hyperspectral remote sensing
- 2) Demonstrated proficiency in programming languages like Python, R or Matlab.
- 3) Work well in an interdisciplinary collaborative team environment

### Application procedure

Interested applicants are encouraged to apply through <https://forms.gle/v8nugNFPNP8cGd588>  
Applicants should provide a single PDF containing:

1. Cover letter with research goals and description of previous related experience
2. Updated CV including complete publications list
3. Contact information for three references

Review of applications will begin immediately until the position is filled. The anticipated start date is fall 2023. All qualified applicants will receive consideration for employment regardless of race, color, religion, sex, sexual orientation, gender identity, national origin, citizenship, age, disability or protected veteran status.