Fully-supported PhD student(s) at UIUC in crop/ecosystem modeling and remote sensing

Dr. Kaiyu Guan’s lab has 1-2 openings for full-funded PhD students this year and also in the coming years through the Department of Natural Resources and Environmental Sciences at the University of Illinois at Urbana-Champaign. Five-year funding for PhD is guaranteed for well-qualified candidates through competitive fellowship, research-assistant, and/or teaching-assistant.

Information about the Dr. Guan’s lab can be found at: http://faculty.nres.illinois.edu/~kaiyuguan/. Dr. Guan is an Assistant Professor in ecohydrology and geoinformatics in the Department of Natural Resources and Environmental Sciences. He is also a Blue Water Professor with the National Center for Supercomputing Applications (NCSA), which provides accessibility to all members in Dr. Guan’s lab to the Blue Waters, the most powerful supercomputer in US that is devoted for scientific research. Dr. Guan’s lab currently has the following four major research directions:

(1) Using novel satellite data (e.g. solar-induced fluorescence, thermal remote sensing, microwave and optical data) to estimate crop yield and crop water uses from field level to continental scales using process-based and machine learning approaches;
(2) Linking field-measured spectrum and fluorescence information with eddy-covariance flux information to model vegetation photosynthesis and fluorescence;
(3) Modeling crop responses to drought, heat stress and nitrogen deficiency by integrating empirical, agronomy and earth system models;
(4) Quantifying climate change impact on agriculture productivity and sustainability, and assessing viable adaptation pathways.

The admitted students should have flexibility to work on the above topics upon the guidance and supervision of Dr. Guan. Quantitative and programming skills are strongly preferred for successful candidates. Applicants should have a degree in Environmental Sciences/Engineering, Earth and Atmospheric Sciences, Hydrology, Ecology, Geography or closely related fields, and be highly motivated by scientific research/questions. The project will involve intense data processing/analysis, large-scale model simulation and field work. Proficiency in spoken/written English is mandatory.

All applicants should meet the minimum requirements of GPA and GRE by the graduate admission (http://www.grad.illinois.edu/admissions/apply/requirements). Information for applying to NRES can be found here: https://nres.illinois.edu/graduate/apply. International students should also meet the minimum requirements of Toefl (the same link above). The enrollment time is relatively flexible, both spring and fall semester of the following years can be considered.

Prospective graduate students are encouraged to contact Dr. Guan (kaiyug@illinois.edu) first to discuss potential research projects and opportunity before applying. When contacting by email, please include the following items: unofficial transcripts, curriculum vitae, GRE score, names and contact information of three references, and a brief personal statement that highlights skills relevant to the position as described above to Dr. Kaiyu Guan. International students should also include recent TOEFL scores.

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