Guan's group at UIUC is recruiting <u>Research Scientists</u>, <u>Postdocs</u>, & <u>PhD Students</u> on <u>Ecosystem Modeling and Remote Sensing</u>

The newly founded **Agroecosystem Sustainability Center (ASC)** led by **Dr. Kaiyu Guan** at University of Illinois Urbana-Champaign (UIUC) is recruiting multiple research scientists, postdoctoral scholars and PhD students on ecosystem modeling and sensing. **ASC** is a new research center aiming to be a world leading innovation powerhouse in advanced monitoring and modeling of agroecosystems for improving sustainability under climate change. ASC gathers leading researchers from across the UIUC campus and collaborators worldwide in the subject areas of biophysical and biochemical research in agroecosystems, leveraging cutting-edge computational technologies and Artificial Intelligence (AI), primarily focusing on whole-plant and landscape-level studies to regional and global applications. The research is driven by co-founding and affiliated faculty members, professional staff scientists, postdocs and graduate students to advance science goals and technological innovations, with clear motivation to generate real-world solutions and impacts. ASC also has plans to work closely with industry partners and bring truly interdisciplinary educational opportunities for aspiring students at UIUC.

Research Topics: Climate change and human activities are continuously affecting the ecosystem functions and services across multiple scales. To better manage the ecosystem in the anthropocene, we need to have a better mechanistic understanding of the ecosystem dynamics and a better monitoring and modeling capability to track and predict the ecosystem changes. Research topics for these positions at ASC include:

1) Advancing ecosystem modeling for coupled water, carbon and nutrient cycles in managed ecosystems, particular agroecosystems. The candidates will work on improving existing ecosystem models or develop new modules with new theories and observational evidence.

2) Advancing ecosystem sensing by integrating ground, airborne, and satellite data streams. The candidates will work on generating new insights and data products from geospatial big data with radiative transfer modeling, computer vision, and deep learning.

3) Advancing model-data fusion by integrating advanced ecosystem modeling with high-quality sensing data to improve the quantification of changes in various ecosystem services. The candidates will work on building effective, scalable and efficient model-data fusion solutions by leveraging advanced computation techniques and artificial intelligence.

The candidates will work with an interdisciplinary team led by **Prof. Kaiyu Guan**, Founding Director of ASC and Blue Waters Associate Professor at UIUC Department of Natural Resources and Environmental Sciences (http://faculty.nres.illinois.edu/~kaiyuguan/), National Center for Supercomputing Applications (https://www.ncsa.illinois.edu/ncsa-supercomputers-aid-in-fighting-climate-change/), and Department of Computer Science ((https://cs.illinois.edu/news/kaiyu-guan-charts-the-course-from-blue-waters-to-delta).

Research Scientists & Postdocs: Compensation and Qualifications
- **Research Scientist: <u>$70-$100K/year with full benefits</u>, pending on experience. <u>This is a long-term position with 5+years support guaranteed.</u>**
- **Postdocs: <u>$50-$70K/year with full benefits</u>, pending on experience.**

- **Qualifications:** (1) Applicants should have a Ph.D. in earth and environmental science, hydrology, remote sensing, environmental engineering, atmospheric sciences, geography, mathematics, or a closely related field. Candidates will be considered if graduation with a Ph.D. is expected by the targeted starting date. (2) Prior research experiences in process-based modeling and/or remote sensing are highly preferred. (3) Strong programming skills (e.g., Python, Fortran, and/or C/C++ in the Linux environment) and prior experience in supercomputing or big data analytical systems is required, as the applicant will be working routinely in the supercomputer environment. (4) Excellent writing skills, demonstrated by publication records.
- To ensure full consideration, qualified candidates must send a cover letter, CV, and contact information of three references via email with the subject **"Prospective Research Scientist"**, or **"Prospective Postdoc"** to **Dr. Xiang Zhu** (xzh@illinois.edu). All requested information must be submitted to the above email in order for your application to be considered. Incomplete applications will not be reviewed. Qualified applicants will be immediately reviewed upon receiving the application while the search may continue until the position is filled. We greatly appreciate all the interested applications, but advise that only candidates shortlisted for interview will be notified of the application results. The appointment is renewed annually, contingent upon the performance. Salary is competitive and commensurate with experience in relevant research.

PhD students: Compensation and Qualifications
- **Stipend: $32K/year with benefits, plus full tuition waiver (~$30K/year).**
- **Qualifications:** Strong quantitative programming skills and domain science (such as hydrology, plant physiology, biogeochemistry, remote sensing, and electronics) knowledge are required for successful PhD student candidates. Proficiency in spoken/written English is mandatory. All applicants should meet the minimum requirements of GPA by graduate admission (http://www.grad.illinois.edu/admissions/apply/requirement). Information for applying to NRES can be found here: https://nres.illinois.edu/graduate/apply, NRES admission can be year around. Information for applying to Computer Science can be found here: http://faculty.nres.illinois.edu/~kaiyuguan/CS_Job_Ad.pdf. International students should also meet the minimum requirements of TOEFL (the same link above).
- Prospective graduate students are encouraged to contact **Dr. Xiang Zhu (xzh@illinois.edu)** first via email with the subject "**Prospective PhD student**" or "**Prospective Master student**" to share potential research projects and opportunities before applying. In emails, please include the following items: unofficial transcripts, curriculum vitae, GRE score, names and contact information of three references, and a brief personal statement. We greatly appreciate all the interested applications, but advise that only candidates shortlisted for interview will be notified of the application results. **Starting Date**: We accept students at any time of the year, not confined to only the fall semester. Therefore, the enrollment time is **flexible**.

More about the University of Illinois Urbana-Champaign (UIUC): UIUC is a world leader in research, teaching and public engagement, distinguished by the breadth of its programs, broad academic excellence, and internationally renowned faculty and alumni. Illinois serves the world by creating knowledge, preparing students for lives of impact, and finding solutions to critical societal needs. UIUC ranks top worldwide in Agricultural Science, Computer Science, and Environmental Science. The University of Illinois is an Affirmative Action/Equal Opportunity Employer. The administration, faculty, and staff embrace diversity and are committed to attracting qualified candidates who also embrace and value diversity and inclusivity. Visit www.inclusiveillinois.illinois.edu. International students have the flexibility to study remotely considering the COVID-19 situation.