



Sustainability, Agriculture
& Technology Laboratory

西湖大學
WESTLAKE UNIVERSITY

Two Funded PhD positions – Agroecology & Technology

The ‘Sustainability, Agriculture, and Technology’ (<https://www.sat-lab.tomcwanger.com>; **SAT**) lab aims to contribute towards solving one of the main global challenges: to provide food, fibre, and energy sustainably in existing and new agricultural production systems. As an international team striving for excellence, our work is global, we embrace new technologies and methods, and collaborate openly across disciplines ranging from (agro)ecology to artificial intelligence, and economics just to name a few. We have and encourage collaborations in China and internationally.

The SAT lab is currently expanding a network of projects to assess landscape-level effects of different crop production systems (e.g., cocoa and rice) on the environment and people. Besides new ways of automated ecosystem monitoring, we are interested in how agricultural management affects human health and ecosystems services under climate change. We also want to use sensors, renewable energy technology, and artificial intelligence to address the food-energy nexus.

Job Openings for two funded PhD Positions

Combining new analytical approaches and technology to investigate biological pest control and pollination in a landscape context

The growing demands for agricultural yields to secure the required food, fibre, and bioenergy leads to benefits for the involved stakeholders, but also environmental degradation. The trade-offs between socioeconomic and ecological factors are affected by climate change and are critical determinants of crop production strategies. For example, the choice of agricultural inputs such as fertilizers and pesticides determines the amount of pests present in a system, resulting crop yields, but also the effect on biodiversity and ecosystem services such as biocontrol and pollination.

We have opportunities to work broadly on landscape level effects on pollination and biocontrol in different cropping systems. The project could build on technology to facilitate automated biodiversity monitoring approaches, toxicological effects, spatially explicit modelling or ways to address the food-energy nexus. **These positions will be based in the [SAT Lab](#), Westlake University, China and research can be conducted across China or internationally.** There are ample opportunities for collaborations in China and internationally.

Job Responsibilities

- Develop a comprehensive research project
- Identify and set up project sites/experimental facilities

- Develop suitable analytical methods
- Produce high impact research articles
- Be a pro-active member of the SAT lab

Job Requirements

We are looking for highly motivated PhD students with

1. a MSc in (agro)ecology, economics, biodiversity, or technology (AI, big data, pattern recognition), and willing to substantially broaden their scope of work.
2. skills in one or more of the following areas: experimental field research (e.g. insect, bat, and bird ecology and identification), practical skills in working with farmers, Google Earth Engine, and (Bayesian) data analysis (preferably in R or Python).
3. very good language skills in English are required.
4. ideally publications in scientific journals.

The candidate is expected to work well individually, in a team, and to integrate in an interdisciplinary and international group.

Compensation and Benefits

Competitive PhD Salary. **Start date: 1st of September 2021. Ideally, candidates can join the lab immediately as payed visiting students.** The planned duration of the project is three years. The doctoral thesis will be done as a series of English manuscripts. We offer the membership in an international research team and modern facilities.

How to apply

Please use the online-portal (https://en.westlake.edu.cn/admissions_aid/graduate/) to submit your application in English **latest by 1st of March 2021**. Application document must include a cover letter, a short summary of research interests, CV, complete certificates, and the names (with email addresses) of two potential referees. Interviews of invited candidates will be held in March/April 2021.

For questions please contact **Prof. Thomas Cherico Wanger** (tomcwanger@westlake.edu.cn).