

Summer School on *Land Use and Ecosystem Change*

1-8 August 2023, Garmisch-Partenkirchen, Germany



Overview: Food and bioenergy demands of a growing global population and societies' changing lifestyles are increasing the pressures on land and ecosystems. Further pressures arise from the demands on land resources for other ecosystem services, and the variable (often negative) impacts of climate change on plant productivity. These multiple, often seemingly conflicting demands on land and ecosystems are a considerable stumbling-block for achieving sustainability goals. The Karlsruhe Institute of Technology (KIT) will run an international Summer School at its 'Campus Alpin' in Garmisch-Partenkirchen, Germany, on the topic of *land use and ecosystem change* during August 2023. The summer school will introduce students to a wide range of issues related to land use change, socio-ecological systems, and ecosystem functioning by covering:

1. Different aspects of land use change processes across geographic scales in response to past, present and future drivers of change. This includes, for example, land abandonment, extensification vs intensification, deforestation, and the role of social networks and knowledge diffusion for land management. There will be a focus on land use change assessment methods, including the use of observational data (e.g. from remote sensing and other sources) and land use modelling approaches using interactive exercises and case studies.



2. Both the biophysical and human processes and concepts needed to understand the broader issues within socio-ecological systems. This includes, amongst others, ecosystem functioning,



biodiversity, ecosystem services, resilience, vulnerability, risk management, tipping-points, sustainability and related concepts. We will also explore current understanding of how environmental change (both physical and human changes in the environment) will affect socio-ecological systems. This will include content on international assessment processes such as the IPCC and IPBES.

Format: The summer school will include a mix of webinars, group and individual exercises and student presentations. The course is open to students currently studying for an MSc or PhD degree with backgrounds in environmental sciences, geography, environmental economics, geo-ecology, meteorology and ecology. There is a maximum of 35 student places available in 2023.

Teaching team: Prof. Dr. Almut Arneht, Prof. Dr. Mark Rounsevell, Dr. Daniel Bampoh, Dr. Richard Fuchs, Dr. David Martin Belda, Dr. Valeria Mazzola, Dr. Reinhard Prestele, Dr. Ankita Saxena, and Dr. Karina Winkler. For more information on us see: <https://lemg.imk-ifu.kit.edu/>; <https://landchange.imk-ifu.kit.edu/>

Location: KIT/Atmospheric Environmental Research, Kreuzeckbahnstr. 19, 82467 Garmisch-Partenkirchen

Applications: Applications are open **until Monday 15 May 2023**. Please send your CV and a letter of motivation (limited to one page) in one PDF document, signed by your supervisor, to: sylvia.kratz@kit.edu



This summer school contributes to the objectives of the Future Earth Global Land Programme (GLP) and the Analysis & Integrated Modelling of the Earth System (AIMES).

