



1 PhD Position available in Global Land-Use Change and Telecoupling

- Are you interested in land-use change?
- Would you like to be trained in the telecoupling framework and be on the forefront of understanding processes and actors that influence land-use in an interconnected world?
- Would you like to become an expert in trans- and interdisciplinary concepts and methodologies?
- Are you interested in moving between science and practice in order to qualify for a successful career in research, consulting, industry or governance?
- Are you in the first four years of your research career, or will you graduate soon?

If yes, apply now for a PhD position in the research network “COUPLED – Operationalising telecouplings for sustainability challenges related to land use”!

The Institute of Social Ecology Vienna (SEC) at Alpen-Adria University Klagenfurt (UNI-KLU) seeks highly qualified and motivated candidates for

1 PhD position (3 years) in Socio-ecological metabolism approaches to analyse telecoupling related to international trade

starting from 01 September 2018 or earlier. Funded by the European Commission under the Horizon 2020 Marie Skłodowska-Curie ITN Programme, GA agreement 765408.

+++ Closing date 16th of March, 2018 +++

Topic

International trade of land-based products is one major process behind telecouplings. Trade is growing exponentially, much faster than aggregate global production and consumption of land-based resources, thereby resulting in growing challenges with managing telecouplings for sustainability.

However, the relation between traded products flows and impacts of land is all but straightforward. Land is a hugely heterogeneous resource due to its vastly differing quality (e.g. soil fertility, ruggedness, accessibility, precipitation or temperature) and land-use intensity. Empirically tracing telecouplings associated with flows of traded products needs to take these differences into account, while still generating indicators facilitating quantitative assessments.

This ESR will be focused on using and expanding the social metabolism framework to develop robust biophysical indicators to quantify the extent, magnitude, and dynamics of telecouplings due to biomass trade (e.g., embodied land demand, HANPP, nitrogen use, agricultural labor, changes in ecosystem carbon stocks, or biodiversity impacts.) These indicators will be used to quantify and analyze the global to regional effects of telecouplings on land-use efficiency, resource-use intensity and trade-offs for the period 2000-2015. One

major task will be to establish consistent global databases allowing to trace and account for global trade flows on a high level of disaggregation using bilateral (country-by-country) trade matrices for all countries with a high product resolution (dozens to hundreds of products), including an assessment of uncertainties and variability of patterns over time. The developed framework will be applied to Leuphana University of Lüneburg's trade-related cases, in order to explore analytical usefulness in the context of governance analysis at different scales.

Expected results are a global database on telecouplings resulting from biomass trade, the development of indicators tracing how telecouplings affect resource efficiency and environmental impacts, and insights into the trade-offs and synergies of different strategies to manage and govern telecouplings.

Location

The Institute of Social Ecology Vienna (SEC) is a subdivision of the Faculty of Interdisciplinary Studies (IFF) at Alpen-Adria University Klagenfurt (UNI-KLU). Research and teaching at the Institute of Social Ecology deals with the interrelationship of social and natural systems in the context of sustainable development. The institute's staff comprises 25 researchers and 6 administrative staff members as well as a number of PhD students. Researchers come from interdisciplinary backgrounds such as biology, ecology, sociology, anthropology, political and technical sciences. SEC's methodological spectrum includes material and energy flow analysis (MEFA), geographic information systems (GIS) and remote sensing methods, systemic actor-oriented and organizational analyses, and the use of historical sources. SEC researchers make increasing use of modelling techniques for data simulation, a synthetic presentation of results and as a basis for scenarios. SEC offers a doctoral program on Social Ecology and a master program on Social and Human Ecology.

We seek

A candidate with an above-average MSc (or equivalent degree) in interdisciplinary environmental sciences such as Ecological Economics, Social Ecology, Human Ecology, Geography or related fields. We expect strong interest in land use and land system science and sustainability problems and interdisciplinary work. Required skills include a sound background in quantitative methods, handling of large databases, proficiency in database management software, programming ability and strong analytic skills. GIS expertise is welcome.

Contact

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www.aau.at/sec

Do you consider applying? Please go to <http://coupled-itn.eu/recruitment/>. Download and carefully read the [Guide for Applicants](#) for all specific information on the application and selection procedure.

We look forward to receiving your application!