KANSAS STATE
U N I V E R S I T Y

Fellow (Post Doc Res)—Global Land Use Modeling

Description: The Department of Agricultural Economics at Kansas State University seeks to fill a 12-month postdoctoral, full-time, non-tenure track appointment in Agricultural Economics. This will be an annual appointment, renewable for up to two years. The expected starting date is July 1st, 2023. The Department has a reputation for excellence in all three functions of the University's land grant mission (teaching, research, and extension).

The candidate will lead the creation of a new spatially explicit global database of subnational land use at the grid-cell level that can be aggregated to different climatic and/or biogeographical regions to allow for greater spatial flexibility in the analysis of policies that affect global land use. The new land use dataset will be coupled with a dataset of soil carbon, biomass, and land-cover-specific emission factors that will be developed by collaborators at the University of Wisconsin-Madison. Both the newly created land use dataset and associated emission factors will be embedded in an applied general equilibrium model based on the GTAP-AEZ framework. The candidate is expected to lead research analyzing the effects of relevant policies (e.g., supply chain or international trade policies) with potential effects on global land use and associated greenhouse gas emissions. The candidate will work under the supervision of Prof. Nelson Villoria (nvilloria@ksu.edu), and in close collaboration with researchers at the USDA Economic Research Service and the University of Wisconsin-Madison.

Activities include:
1. Collect global gridded land cover, agricultural production, and area data.
2. Develop aggregation routines of gridded data to larger geographical units, such as for example, biomes or ecoregions.
3. Ensure consistency of dataset and aggregation routines with the emission factor dataset that will be built by collaborators at the University of Wisconsin-Madison in parallel with the land use database.
4. Ensure the underlying data can be used to calibrate the GTAP-AEZ model.
5. Define research questions and empirical approaches, draft papers, present in conferences, and see articles through the publication process---in close collaboration with collaborators at the University of Wisconsin-Madison, and the USDA Economic Research Service.

Minimum Qualifications:
- Earned doctoral degree in agricultural economics, environmental economics, or a closely related field by start date.
- Research experience and a conceptual foundation in economic and/or quantitative modeling using spatially explicit data.
- Skilled in the use of Geographic Information Systems (GIS) software.
- Software carpentry skills and good knowledge of R.
- Willingness to learn GEMPACK.
- Excellent written communication skills, as evidenced by written application materials.

Preferred Qualifications:
- Experience with applied general equilibrium model.
- Advanced GEMPACK knowledge.
- Formal coursework and research experience using Geographic Information Systems (GIS) software.

Review of applications will begin immediately and continues until the position is filled.
To apply, visit https://careers.k-state.edu/cw/en-us/job/514497/fellow-post-doc-res

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