Chorotega Biological Corridor-Hojancha Team

PhD Assistantship Announcements

Interdisciplinary PhD Research Assistantships in Landscape Ecology and Ecosystem Service Science, Entomology, Regional Planning and Sustainable Communities, Social Systems and Resilient Livelihoods, and Environmental and Natural Resource Economics of the Chorotega Biological Corridor, a crucially important Mesoamerican landscape.

Up to five Ph.D. research assistantships will be available to join a collaborative team working on ecological, socio-economic, and institutional aspects of sustainable production, conservation, and sustainable rural livelihoods within the Hojancha region of Costa Rica. The linked dissertation projects will work in a region that faces a variety of natural resource management problems and where landuse changes affect, positively or negatively, the provision of ecosystem services for which increasing demand exists. With funding from the National Science Foundation's Integrative Graduate Education and Research Traineeship program (IGERT), fellows will pursue disciplinary research important for the overall theme, and work together to identify and address interdisciplinary issues critical for effective policy development, institution building, management planning, and implementation. The team will interact with members of five other IGERT-funded student/faculty teams pursuing similar objectives in other ecosystems in Costa Rica and Idaho in which sustainability and conservation in the face of changing conditions and pressures are desired. This opportunity is especially appropriate for students seeking to develop skills for interdisciplinary collaboration and team-based research that addresses complex problems involving interacting human and natural systems.

PhD Assistantship in Landscape Ecology and Ecosystem Service Science. Seeking a highly motivated and qualified student to study the integration of landscape ecology in landuse planning, with a special focus on spatially explicit ecosystem services. Conservation in Latin America is increasingly being driven by social-ecological drivers. Forest restoration and conservation in the Chorotega Biological Corridor has largely been driven by a strong desire by local stakeholders to reduce system vulnerability to annual droughts and severe storm events. However, a concurrent objective of the corridor is to ensure functional biological connectivity between reserves and protected areas in the region. For example, recent studies suggest that pollination and pest control services at the local scale are spatially dependent on broader scales. With a landscape ecology and ecosystem services approach, the successful candidate will work with local communities, as well as other team members, to prioritize ecosystem services are in the region. The project will include GIS analyses to determine how landuse, including conservation units, can be spatially arranged to maximize the provisioning of bundled ecosystem services. The successful candidate will have a strong background in landscape ecology, GIS and modeling. The candidate must also demonstrate the ability to work in a team setting, integrating both the human and ecological dimensions of ecosystem services. In addition, the student will conduct collaborative research to examine interdisciplinary aspects of ecological and social resilience in the dynamic, human-dominated

landscape that constitutes the Hojancha region with team members in fields such as entomology, landscape ecology, regional planning, rural sociology, and environmental and natural resource economics. Contact Alex Fremier (afremier@uidaho.edu) and Fabrice De Clerck (fdeclerck@catie.ac.cr).

PhD Assistantship in Entomology and Landscape Ecology. Seeking a highly motivated and qualified student to pursue studies on communities of arthropods in diverse landuses, including forest and pastures within the Chorotega Biological Corridor. Arthropods are excellent indicators of ecosystem health, but have been studied minimally following conservation efforts in the region. Research will focus on a combination of the following or related topics: 1) assessment of ecosystem services such as pollination, pest control, and nutrient cycling provided by arthropods, 2) examination of the impact of diverse landuses including pastures, forest lands and edges on arthropod diversity, richness, abundance, and dispersal, and 3) determination of the effect of land management practices and landscape factors including spatial scales, on arthropod conservation and biodiversity. In addition, the student will conduct collaborative research to examine interdisciplinary aspects of ecological and social resilience in the dynamic, human-dominated landscape that constitutes the Hojancha region with team members in fields such as ecosystem service science, landscape ecology, regional planning, rural sociology, and environmental and natural resource economics. Contact Nilsa Bosque-Pérez (nbosque@uidaho.edu), Steve Cook (stephenc@uidaho.edu), and Fabrice De Clerck (fdeclerck@catie.ac.cr).

PhD Assistantship in Regional Planning and Sustainable Communities. Seeking a highly motivated and qualified student with a background in urban and regional planning, anthropology, geography, law or political science to pursue the study of how the social, cultural, economic and/or political-legal and institutional frameworks affect rural livelihood and landuse dynamics and how public and private decision-making affect sustainable forms of regional and local development. Research will focus on a combination of the following or related topics: 1) understanding how complex contextual cultural, economic, social, institutional, and/or governance variables affect landuse decisions and political dynamics; and 2) evaluating the feasibility and appropriateness of alternative regional planning and governance approaches to shift the trajectory of decisions to meet both conservation and socio-economic development goals at multiple local and regional scales. Familiarity with case study design, mixed methods, and geospatial applications for scenario-building and NVIVO will assist the team address multiple resource values while responding to economic and climate change scenarios at various rural to urban and regional scales. The student will closely collaborate with the student working on Social Systems and Resilient Livelihoods (see below). In addition, the student will conduct collaborative research to examine interdisciplinary aspects of ecological and social resilience in the dynamic, human-dominated landscape that constitutes the Hojancha region with team members in fields such as entomology, landscape ecology, ecosystem service science, rural sociology, and environmental and natural resource economics. Contact Sandra Pinel (spinel@uidaho.edu), Dietmar Stoian (stoian@catie.ac.cr), and Roger Villalobos (rvillalo@catie.ac.cr).

PhD Assistantship in Social Systems and Resilient Livelihoods. Seeking a highly motivated and qualified student with a background in anthropology, rural sociology, or agricultural economics, to study how rural livelihoods and social/cultural systems respond to demographic, economic, environmental, institutional, and/or climate change. Emphasis will be on how related drivers interact and induce change in terms of vulnerability and resilience at household, community, territorial, and national level. Research may also analyze the impacts of emerging socio-political-economic systems and conservation policy alternatives on rural

livelihoods and communities. A strong theoretical background in social resilience and experience with livelihoods frameworks in general, and qualitative case study, participatory, ethnographic, and mixed methods research design in particular, will be important to understand and address interactive economic and social variables and to evaluate the outcomes and impacts of market forces and policy alternatives on social equity and community systems. Research will include empirical analysis involving social and economic factors including conducting focus groups and interviews among rural households and key informants. In addition, the student will conduct collaborative research to examine interdisciplinary aspects of ecological and social resilience in the dynamic, human-dominated landscape that constitutes the Hojancha region with team members in fields such as regional planning, entomology, landscape ecology, ecosystem service science, and environmental and natural resource economics. Contact Sandra Pinel (spinel@uidaho.edu), Levan Elbakidze (lelbakidze@uidaho.edu), Patrick Gilham (gillham@uidaho.edu) and Dietmar Stoian (stoian@catie.ac.cr).

PhD Assistantship in Environmental and Natural Resource Economics. Seeking a highly motivated and qualified student with strong quantitative skills to study any of the following or related topics: 1) economic efficiency of allocating resources across ecosystem services and production goods originating from forestry and other competing landuses in the biological corridor, 2) the role of communities' preference structures and tradeoffs in addressing forest tenure and other use rights in policy processes, 3) transaction costs for achieving good governance of riparian protection areas in private lands within the corridor, 4) economic valuation of willingness to pay for ecosystem's services and natural resources, 5) incentive compatibility of natural resource management alternatives, 6) economics of water resources management, 7) economic efficiency in invasive species management. The research will be conducted using a variety of empirical approaches including but not limited to survey methodologies, experimental economics, game theory, econometric analysis and mathematical optimization frameworks. In addition, the student will conduct collaborative research to examine interdisciplinary aspects of ecological and social resilience in the dynamic, human-dominated landscape that constitutes the corridor with team members in fields such as regional planning, rural sociology, entomology, landscape ecology, and ecosystem service science. Contact Levan Elbakidze (lelbakidze@uidaho.edu), Guillermo Navarro (gnavarro@catie.ac.cr), Francisco Alpizar (falpizar@catie.ac.cr).

This unique graduate education program will provide students:

- Team-based interdisciplinary education
- International perspective
- Broad geographic and ecological exposure
- Participation in integrated interdisciplinary teams
- Cross-cultural experience
- Mentoring by faculty from multiple disciplines and institutions

Requirements: Applicants must be American citizens or permanent residents of the USA. Successful applicants must have obtained a research-based M.S. degree in a discipline of relevance to the project or equivalent experience during or after a B.S. degree, and demonstrate interest and/or experience in team-based projects. Prior Spanish language skills are desirable but not required. Students will join the program to begin course work at the end of July 2011.

Review of applications will begin November 1st 2010. Earlier applications are highly

encouraged. Interviews of top applicants will be conducted at the University of Idaho campus in early February 2011.

For project and application information visit our web site: http://www.cals.uidaho.edu/igert2/

For information on the University of Idaho College of Graduate Studies see: http://www.uidaho.edu/cogs/

For information on the Joint Doctoral Program between UI and CATIE go to: http://www.uiweb.uidaho.edu/catie/

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