Postdoctoral position on "Trade-offs among ecosystem services across scales"

Labex BASC – Biodiversity, Agroecosystems, Societies, Climate

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Applications are invited for a postdoctoral position at the French National Institute for Agricultural Research (INRA). The successful candidate will be part of an interdisciplinary research project on the trade-offs among ecosystem services across scales, financed by the flagship project 3 "Biodiversity enhancement and management for sustainable social-ecological systems" of the Labex BASC (www.inra.fr/basc). This project involves two research units UMR0210 INRA-AgroParisTech Economie Publique and UMR1048 INRA-AgroParisTech SAD-APT.

The research program is related to two ongoing research programs (French ANR Peerless and EraNet Trustee) which will provide financial support for research costs, including interns, conference fees and travelling expenditures. The postdoc will be conducted in close interaction with a PhD student starting her research on a closely related topic.

The objective of the postdoc will be to examine the trade-offs between food production and the provision of different ecosystem services at multiple spatial scales. It aims at contributing to the land-sparing versus land-sharing debate [3] in a multi-service context.

First, the post-doc will develop a conceptual approach to describe the trade-offs among ecosystem services when different agents and principals have interests in multiple services at different scales. The proposed framework should account both for the spatial heterogeneity of land use and its influence on the provision of ecosystem services at different scales, as well as for the heterogeneity of the preferences of the agents.

Second, the post-doc will propose regulation instruments to reach particular spatial patterns of ecosystem service provision, given the characteristics of the economic system (asymmetric information, spatial externalities) [2,4].

Finally, the post-doc will apply the proposed instruments to stylized agroecosystems to assess the effects of the instruments and describe the trade-offs among different ecosystem services. This application builds on existing spatially explicit models of agricultural land use and ecological dynamics [1,5].

[1] Barraquand F., Martinet V. (2011) Biological conservation in dynamic agricultural landscapes: Effectiveness of public policies and trade-offs with agricultural production, *Ecological Economics*.

[2] Costello C., Quérou N., Tomin A. (2014) The private provision of mobile public bads. Mimeo.

[3] Green et al. (2005) Farming and the Fate of Wild Nature, *Science*.

[4] Polasky et al. (2014) Implementing the optimal provision of ecosystem services, *PNAS*.

[5] Sabatier R, Doyen L, Tichit M (2014), Heterogeneity and the trade-off between ecological and productive functions of agro-landscapes: a model of cattle-bird interactions in a grassland, *Agricultural Systems*.

Required expertise: The successful candidate should have a PhD in economics (economic theory, public economics, or environmental economics), theoretical ecology or applied mathematics. The candidate is expected to have good writing skills, basic programming skills as well as a strong interest for multidisciplinary researches and teamwork. He/She will be supervised by Vincent Martinet
http://www6.versailles-grignon.inra.fr/economie_publique_eng/PersonalPages2/Vincent-Martinet
and Rodolphe Sabatier
https://www6.versailles-grignon.inra.fr/sadapt/Equipe-Concepts/Membres-concepts/Fiches/Sabatier-presentation

Salary: The postdoctoral position is funded for 18 months, with a gross monthly salary between 2400 and 2600€ (depending on experience). The position is available from November 2014 (or later, depending on the laureate availability).

Contact details: Applications, including a CV, a cover letter and a list of references with contact details, should be sent by email (subject: "BASC postdoc application") to Vincent Martinet (vincent.martinet@grignon.inra.fr) and Rodolphe Sabatier (rodolphe.sabatier@agroparistech.fr) before the 1st of October, 2014. Later applications may be considered if the position is not filled.