Post-doctoral position

Information systems and agroecological transitions
12 months, from January 2024

Context and scientific challenges

Agroecology is emerging as a concept that integrates the repositioning of agriculture in the national social metabolism. It refers to a profound transformation of food systems, favouring a redesign of agro-ecosystems and a rapprochement between producers and consumers (FAO 2018; Gliessman, 2016). Collective intelligence is needed to understand and monitor such complex agroecological agroecosystems. Agroecology therefore requires a renewal of knowledge generation and validation processes (Hall et al. 2005).
Digital technologies offer new capacities for modelling and anticipation, potentially expanding human agency. However, by limiting our representations and encouraging the automation of decisions, it threatens the sensitive dimension of human decision-making (Damasio, 2021) and risks locking us in (Salles et al., 2020).
The intersections and tensions between digital and agro-ecological transitions are emerging as a scientific frontier. It is at the heart of the proposed postdoctoral research. We assume that innovative numerical information systems are essential for managing actions at multiple nested scales, congruent with the reproduction of ecosystems and social communities. At the same time, we believe that a critical approach to digital technologies is needed to enable a dialogue between scientific knowledge and endogenous knowledge (place-based knowledge transmitted from generation to generation within a society).

Aims and main activities of the post-doctorate

Our ENSFEA-LEREPS team wishes to reinforce its strengths in the critical analysis of information systems and the production of spatialised statistical analyses of food systems, in order to identify the drivers and scope of agroecological transitions.
The postdoctoral researcher will document the processes, organisations and information systems elaborated by the stakeholders to validate knowledge relevant for agroecological food systems in two contrasting contexts: dairy systems in France and farming systems in India.
In particular, he/she will contribute his or her skills in quantitative economics, database management and statistical analysis. Information systems and numeric information systems developed by the stakeholders (public, private and collective) of food systems in transition will be considered in articulation and characterised. 3 complementary types of digital databases are targeted: national census data, numeric information systems supporting the stakeholders' actions, data collected in the field through interviews.

More specifically, the candidate will be able to contribute to the two projects through the following missions:

- Literature review on the interactions between digital and agro-ecological transitions
- Interviews with stakeholders in the transitions to characterise the processes involved in structuring their information systems and their digital information systems
- Using a variety of statistical approaches, including: Structuring and restructuring of administrative databases, investigation of the complementarity between stakeholders' information systems, national census and data collected through interviews.
- Organisation of a two days' workshop supporting the stakeholders in the exchange and structuring of their information systems and digital information systems
- Statistical analysis (PCA, clustering, regression) of the datas included in the stakeholders' digital information systems so as to identify the spatial determinants and scope of the transitions.
- Scientific communication and articles writing: taking the lead for one being associated to others.

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Interest of the position

The postdoctoral researcher will produce innovative scientific analyses of the cognitive and organisational drivers of agro-ecological transitions, leading to high quality scientific publications.

He.She will be part of a dynamic team specialising in the analysis of social transitions in the North and South and developing mixed methods research (https://lereps.sciencespo-toulouse.fr/). In the context of the two projects, the postdoctorate fellow will have the opportunity to interact with colleagues from all the agricultural research institutes in Occitanie (ENSAT, INRAE, INP Purpan, ENVT, Montpellier SupAgro) and to participate in their various scientific events.

A mission to India is also planned to collect data and gain a good understanding of the Indian context.

Salary will be linked to experience.

Profile sought for

PhD in socio-economics, econometrics, complexity science or computer science.
- Interest in agricultural and food issues, especially complex socio-ecological systems
- Strong knowledge and training in econometrics, socio-ecological modelling, database management.
- Good level of English (international environment)
- Good writing skills
- Proficiency in Word, Excel and programming software (in particular R)
- Experience of secure data access centre (CASD)
- Ensure quality and relevance of analytical tools and results
- Design and implementation of a quality assurance system
- Project monitoring
- Ability to work collaboratively, experience of participatory research
- Critical thinking skills

Working conditions

- The employer: ENSFEA-Castanet Tolosan.

- Duration of the contract: 12 months

- Start date: 1 January 2024

- Type of contract: full-time contract

- Special Conditions: The candidate will be based at the LEREPS laboratory (The Laboratory of Study and Research in Economics, Policies and Social Systems) in Toulouse centre. He.she will also benefit from the partnership established with the National School of Veterinary Medicine of Toulouse (ENVT) to analyse the dynamics of livestock farming access to the French secure data access centre (CASD). The candidate will also carry out a mission in India for which he/she will benefit from the partnership with the Shiv Nadar University and with the Center of Human Sciences in New Delhi.

Information - Contact

If you are interested: please send your CV + covering letter by e-mail before 8 December 2023 to Marie Dervillé (marie.derville@ensfea.fr) & Sylvie Fernandes (sylvie.fernandes@ensfea.fr).
Recruitment date: from January 2024, depending on the availability of candidates.
Interviews will be offered on a rolling basis from 11 December.

References

Dervillé, M., et al. (2017). "Internal and contextual drivers of dairy restructuring: evidence from French mountainous areas and post-quota prospects." Agricultural Economics **48**(1): 91-103. ; Dervillé, M., et al. (2019). Construction de la compétitivité des exploitations laitières : les enseignements d'une comparaison entre la France et l'Allemagne. Analyse. Paris, Centre d'étude et de la Prospective. **N° 138:** 4. ; Raboisson, D., et al. (2020). "An Econometric Analysis of Contracts between Pharmaceutical Firms and French Veterinarians: A Principal-Agency Theory Approach in the Context of Oligopolies.". ; Dervillé, M., et al. (2023). "Scaling inclusive business: 20 years of statistical insights into the success of Indian dairy cooperatives." World Developpement **170**(C).; Hall, A., et al. (2005). "Institutional learning and change: a review of concepts and principles." **Raina**, R. S. and D. Dey (2020). "How we know biodiversity: institutions and knowledge-policy relationships." Sustainability Science **15**(3): 975-984; **Salles,** M., et al. (2020). "Systèmes d'information numériques: supports ou entraves à la démocratie dans les organisations?" Revue Ouverte de l'Ingénierie des Systèmes d'Information (ROISI) 2.

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