

Institut Agro Dijon (IAD) recruits
PROFESSOR
Discipline: Toxicology (CNU 64)
Department of Food Science and Nutrition

General background

The National Institute of Higher Education for Agriculture, Food and Environment (Institut Agro) is classified as a Grand Etablissement. It brings together 1200 agents and 4500 students. The Institut Agro is structured into three schools: Institut Agro Dijon, Institut Agro Montpellier and Institut Agro Rennes-Angers.

The position is vacant at the Institut Agro Dijon (IAD), a public education and research establishment in the fields of agronomy and agri-food, under the dual supervision of the Ministry of Agriculture and Food Sovereignty (MASA) and the Ministry of Higher Education, and Research (MESRI). At the regional level, it is a member of the COMUE Burgundy Franche-Comté (UBFC) and, at the national level, a member of the Agreenium Alliance. IAD mainly trains engineers for agriculture and food industries and delivers Master degree courses co-accredited with the University. The research work is carried out in Joint Research Units. Last but not the least, IAD has a specific mission to support the agricultural education system, and is involved in the training of officials in the Ministry in charge of Agriculture. In a nut shell, the IAD boasts 770 engineering students, 7 co-accredited Master's degrees, 4 professional licences, 100 teacher/researchers and 400 technical staff members.

The Professor to be recruited will carry out her/his teaching activities in the Nutrition and Food Toxicology Teaching Unit (UP NTA of the Department of Food Science and Nutrition). For the research activities, the candidate will belong to the Team-Nutritional Physiology & Toxicology (NUTox) which is a part of INSERM/UB UMR1231, "Center for Translational & Molecular medicine (CTM)".

Training / teaching assignments:

Background: Food safety must be guaranteed throughout the life cycle of the foodstuff, "from the pitchfork to the table fork", which must also include the packaging. To ensure food safety and protect the consumer, a risk assessment must be performed, which also supports innovation by guaranteeing the quality and safety of new ingredients, foodstuffs or new packaging (Safe by Design).

Mission: The future professor will be responsible for teaching in the three-years of initial training for engineers: basic training in IA, case studies in 2A and innovation management and strategy in 3A (NutriSenSas and FoodPack, Procidé majors). The professor will also be involved in apprenticeship training as well as in the optional study unit 2A for engineers co-led with an agronomy professor in environment, emerging risks and food. The candidate will have an additional duty to co-lead the FoodPack major, focusing on knowledge of packaging materials in contact with foodstuffs, and be involved in co-accredited specialised training (M1 and M2NS, M2BIIEPMI) and an international master's course, MP2. It is expected that future professor will play a key role in setting up and coordinating new cross-disciplinary courses within the three affiliated-schools under the umbrella of Institut Agro, with a particular focus on the environment and "One Health" eco-toxicology in order to prepare and adapt our future agricultural and agri-food engineers to guarantee food safety in connection with these developments against a background of climate change and ecological transition.

Research assignments:

Background: The candidate will join the NUTox Team of the INSERM/UB UMR 1231 "CTM". The main focus of the NUTox Team comprises of the detection of lipids along the oro-intestinal loop and its role in the ingestion, digestion, absorption and fate of dietary lipids. The Team has identified two receptors (CD36 and GPR120) that act as lipid "sensors" with an impact on eating behaviour and health (metabolic diseases, obesity, etc.). From a toxicological point of view, the research will focus on the impact of endocrine disrupting contaminants (EDCs) on the detection of lipids along the oro-intestinal loop. The Team has demonstrated the obesogenic nature of food contaminants at low doses (dioxin, bisphenols, epoxiconazole, etc.) in rodents with an increase in fat mass, hepatic steatosis, disrupted lipid homeostasis and decreased insulin sensitivity. The NUTOX team manages the Derttech "Packtox" (www.packtox.fr), an autonomous structure recently labelled as "BFC research platform" by the COS BFC, offering producers a range of in vitro biotests to identify a hazard (an endocrine disrupter, cytotoxic or genotoxic effects) and to specify an appropriate mode of action for a content-container interaction in terms of packaging safety.

Mission: The future professor is supposed to be future Leader/Head of the NUTox Team, with skills and expertise to strengthen the interaction of food toxicology with oro-intestinal physiology. The candidate will study the impact of PE in the regulation of gut (oro-intestinal) physiology via lipid sensors (CD36, GPR120). A particular strength will be given on the "cross talk" or "inter-play" between fatty acid sensors/receptors and PE in order to better understand the molecular and cellular events of gustatory and sensory detection dietary fatty acids. In order to evaluate the health risk, and as part of developing alternative in vitro methods intended to reduce animal experimentation in accordance with European regulations (2010/63/UE), the future professor will focus her/his activities on highlighting the modes of action of food contaminants in order to identify biomarkers of the energy metabolism.

Required skills:

Toxicologist specialized in food with a sound knowledge of endocrine disruptors, "New Alternative Methods" and metabolic physiology and pathophysiology. The candidate must have a scientific reputation and a demonstrated scientific competitiveness, being involved in research projects. The candidate will be responsible for boosting the Institute's research in the field of toxicology, interacting with the other themes of the NUTox team, as well as leading the NUTox team and preparing the next INSERM contract, all missions which require a keen understanding of communication and scientific leadership with a fund gathering skills from reputed organisations.

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