

Profile of the PROFESSOR

Institution: Institut Agro Dijon

Department of Food Science and Nutrition

Discipline: Toxicology (CNU 64)

General background

The National Institute of Higher Education for Agriculture, Food and Environment (Institut Agro) is classified as a Grand Etablissement under the EPSCP (Etablissement Public à caractère Scientifique, Culturel et Professionnel - Public Institution in the Field of Science, Culture and Professional Education) system. 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 within the Institut Agro Dijon, 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 local level, it is a member of the COMUE Burgundy Franche-Comté (UBFC) and, at the national level, a member of the Agreenium Alliance. It mainly trains engineers who go on to work in the agriculture and food industries and provides Master's courses co-accredited with the University. It carries out its research work in Joint Research Units. Last but not least, it 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. Background: 770 engineering students – 7 co-accredited Master's degrees – 4 professional licences – 100 teacher/researchers – 400 technical staff members. The Professor (PF) to be recruited will carry out her/his teaching activities in the Department of Food Science and Nutrition of the Institut Agro Dijon and more specifically, in the Nutrition and Food Toxicology Teaching Unit (UP NTA). For the research activities, the candidate will belong to the Team-Nutritional Physiology & Toxicology (NBUTox) which is a part of INSERM/UB UMR1231, "Center for Translational & Molecular medicine (CTM)".

Training

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 assignments 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 (MI 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

Background: The candidate will join the NUTox Team of the INSERM/UB UMR “CTM”. The main focus of the NUTox Team comprises of the detection of lipids along the oro-intestinal axis 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 axis. The Team has demonstrated the obesogenic nature of food contaminants at low doses (dioxin, bisphenols, epoxiconazole, etc.) in rodents with trigger 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 a “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. An innovative approach is proposed using rapid, sensitive and specific biomarkers enabling companies to determine the safety of their products in their finished state and to identify undesirable and unpredictable substances in order to guarantee their innovation.

Mission: The future professor is supposed to be 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. 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 good knowledge of endocrine disruptors, “New Alternative Methods” and metabolic physiology. 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.

Contacts

For more information on the position profile

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