



**RÉPUBLIQUE
FRANÇAISE**

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Date: 12/04/2024

OFFER	Ph.D. scholarship in Food analytical chemistry
DURATION	3 years
PERIOD	~01 October 2024 to ~30 September 2027

WORKPLACE

The Ph.D. project will be completed at the French Agency for Food, Environmental and Occupational Health & Safety (ANSES) in collaboration with the National Food Institute at the Technical University of Denmark (DTU Food), where an external research stay will take part.

- French Agency for Food, Environmental and Occupational Health & Safety (ANSES)
14 Pierre & Marie Curie street, F-94701 Maisons-Alfort, France: Time period: ~01/10/2024-31/03/2026

- National Food Institute, Technical University of Denmark (DTU)

Lyngby Campus; DK-2800 Kgs Lyngby: Time period: ~01/04/2026-31/09/2027 (tentative period)

The candidate will be registered at The Université Paris-Est (ComUE), in relation with the Doctoral School ABIES (Agriculture Food Biology Environment Health) with registered offices at Palaiseau, France.

ANSES - brief description

The National Agency for Food, Environmental and Occupational Health & Safety (ANSES) carries out monitoring, expertise, research and reference missions covering human health, health and animal welfare, and plant health. Its assessments are based on scientific expert appraisal work undertaken by independent expert committees and based on the most recent global knowledge. The Agency also ensures that the human, economic and social sciences are incorporated into its expert appraisals.

The Laboratory for Food Safety (Maisons-Alfort site) deals primarily with the biological and chemical hazards that can affect food safety and quality. The laboratory's scientific activities aim to enrich knowledge on the types of contaminants or "hazards" found in food, understand their mechanisms of action and effects on health, and help improve policies for protecting consumer health.

The "Trace metals and minerals" unit deals with the inorganic contaminants (trace elements & their species including nanoparticles) in foods. The main mission consists of research activities, such as development and validation of analytical tools for total elements determination, speciation analysis, nanoparticles characterisation, bio-accessibility, exposure studies, etc. but also scientific and technical support activities for the (French) Directorate General for Food (DGAI).

DTU - brief description

DTU is a technical university providing internationally leading research, education, innovation and scientific advice. Our staff of 5,800 advance science and technology to create innovative solutions that meet the demands of society; and our 10,600 students are being educated to address the technological challenges of the future. DTU is an independent academic university collaborating globally with business, industry, government, and public agencies. At DTU, the project will be conducted at the National Food Institute (DTU FOOD) in the research group of Analytical food chemistry. The research group has a dynamic staff with high international visibility, many research collaborations with leading international universities and industry partners and the group has a successful track record of national and international research projects.

DTU Food (The National Food Institute, Technical University of Denmark) works within six technical focus areas: Biotechnology, nutrition, food quality, food safety, food technology and environment & human health. Activities cover a wide range of food products throughout the entire food chain from farm to table, comprising both research activities and research-based consulting and teaching.

BRIEF DESCRIPTION OF THE DOCTORAL PROJECT

The Ph.D. project aims to contribute to a better understanding of the impact of food cooking on the fate of potentially toxic trace elements (PTTE) and the speciation analysis of As and Hg (in both cases, inorganic and organic species will be studied). In order to accurately assess the impact of food cooking on the balance risk/benefit, the variation in levels of the most important inorganic nutrients as well as total proteins and amino-acids, lipids and omega 3 & 6 will also be investigated.

The second part of the study will be devoted to in vitro simulated digestion study to get an insight into the bio-accessibility of PTTE as well as of the species of As and Hg for gut absorption. The data obtained in this study both in terms of cooking impact on the fate of potentially toxic trace elements and Hg & As species and their bio-accessibility, in relation to raw and cooked foodstuffs, will be used to evaluate the risk associated to these contaminants via dietary exposure.

To achieve the project's goals, a panel of analytical techniques will be employed, such as inductively coupled plasma – mass spectrometry (ICP-MS) for the determination of (total level) trace elements, the coupling HPLC-ICP-MS for the speciation analysis of As and Hg and HPLC-MS/MS for proteins determination.

We offer an interesting and challenging doctoral position in an international environment focusing on education, research, scientific advice and innovation, which contributes to enhancing the economy and improving social welfare.

We strive for academic excellence, collegial respect and freedom tempered by responsibility.

ANSES and DTU are leading research institutes in Europe in the field of Food chemistry and benchmark with the best universities in the world.

QUALIFICATIONS AND SKILLS

- Candidates should have a master degree in Analytical Chemistry, Instrumental methods of (chemical) analysis or a similar degree with an academic level equivalent to the master's degree in engineering (equivalent Master 2 in France)
- The successful candidate is expected to have experience in analytical chemistry with emphasis on elemental determination at trace levels. Preferably, the candidate should also have prior knowledge related to trace element speciation analysis in foodstuffs and other biological materials.
- Relational and teamwork skills
- Ability to analyse and synthesize information from analytical data
- Good/excellent English levels, and especially ability to write reports in English

SALARY AND APPOINTMENT TERMS

- The salary and appointment terms are consistent with the current rules for Ph.D. degree students in France.
- The period of employment is 3 years.

FURTHER INFORMATION

Further information may be obtained from: Petru Jitaru (ANSES): petru.jitaru@anses.fr; Tel.: +33.1.49.77.28.43

You can read more about ANSES and DTU Food at www.anses.fr and www.food.dtu.dk

APPLICATION

Please submit your online application no later than 30 April 2024 by e-mail at petru.jitaru@anses.fr

Applications must be submitted as one pdf file containing all materials to be given consideration. The file must include at least a letter motivating the application (cover letter) and the Curriculum vitae.