

# Postdoctoral position

**Qualomics:** Development of an untargeted metabolomic approach for the identification of food quality markers.



## Host institution

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**JRU:** Paris-Saclay Food & Bioproduct Engineering (SayFood) – Paris Area

**Team:** Product Engineering - Génie des produits (GéPro)

**Supervisors:** Pr. Valérie Camel and Dr. Mathieu Cladière



## Presentation

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In the frame of the Qualomics project funded by the French National Research Agency ANR, a 18-month postdoctoral position is proposed by the Joint Research Unit Paris-Saclay Food & Bioproduct Engineering (SayFood) in Paris Area – France.

An untargeted metabolomic approach for the identification of food product contaminants has been developed by our team on a specific food matrix<sup>1</sup>. Later developments consisted in UHPLC-HRMS based on both QToF and QOrbitrap technologies and data treatments such as signal extraction by XC-MS (W4M platform) and chemometrics for data analysis using Matlab<sup>2</sup> (Delaporte et al., 2019b).

### **Postdoctoral position objectives:**

The aim of the project is to extend the existing method by the following approach :

1. Scale-up the extraction method in order to ensure the extraction of a large range of food quality markers (contaminants, antioxidants, process and sensory related compounds) from two very different food matrices.
2. Set-up an untargeted UHPLC-HRMS method and explore the untargeted UHPLC-HMRS/MS approach for the identification of the quality markers.
3. Scale-up the data treatment method in order to comply with the new datasets generated by untargeted UHPLC-HRMS or UHPLC-HRMS/MS, using XC-MS (W4M) for data extraction and Matlab or R for data analysis.

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<sup>1</sup> Delaporte, G., Cladière, M., Camel, V., 2019a. Untargeted food chemical safety assessment: A proof-of-concept on two analytical platforms and contamination scenarios of tea. Food Control 98, 510–519. <https://doi.org/10.1016/j.foodcont.2018.12.004>

<sup>2</sup> Delaporte, G., Cladière, M., Camel, V., 2019b. Missing value imputation and data cleaning in untargeted food chemical safety assessment by LC-HRMS. Chemometrics and Intelligent Laboratory Systems 188, 54–62. <https://doi.org/10.1016/j.chemolab.2019.03.005>



## Job Offer

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- An attractive postdoctoral position up to 18 months in France
- Enrollment in a research program funded by the National Research Agency
- Opportunity to co-advise ph.D and/or MSc. Students
- Training in complementary skills *via* the participation to workshops and conferences



## We are looking for

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A dynamic candidate with a Ph.D in analytical chemistry and with experience in metabolomics approaches

### Expertize & Skills



- Untargeted UHPLC-HRMS or UHPLC-HRMS/MS analysis
- Metabolomic data treatment
- Matlab or R for statistical analysis
- Knowledge in food chemistry is a *plus*



- Good communication in English
- Autonomy, organization
- Abilities to work in team
- Communication skills in French is a *plus*



## Salary and advantages

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**Gross salary:** ranging from 2364€ to 2799€ depending on the post-doctoral experience of the candidate.

**Other advantages:** French social security and healthcare system and 50% reimbursement of public transports. You will experience the Parisian way of life.



## How to apply

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Send the requested documents to [mathieu.cladiere@agroparistech.fr](mailto:mathieu.cladiere@agroparistech.fr):

- Complete CV with publication list (2 pages maximum)
- Motivation letter
- Copy of relevant diploma (Ph.D)
- Short statement from a former supervisor
- Contact information for two relevant references