

## PhD Position in Multisensory Evaluation of brain activity in Anorexia Nervosa

**Project background:** We are seeking a highly motivated candidate to join our multidisciplinary research team at the Eating-Disorder Laboratory of Jean Monnet University, Saint-Étienne (TAPE). Led by Professor Bogdan Galusca, the TAPE team is renowned for its expertise in eating disorder research, spanning endocrinology, nutrition, psychiatry, and medical imaging. Our team takes a comprehensive approach to understanding the biological, psychological, and social mechanisms of eating disorders, with the goal of identifying biomarkers, therapeutic targets, and developing innovative, personalized treatments. A major focus of our research is anorexia nervosa, a chronic and deadly psychiatric disorder characterized by excessive dietary control and aversion to fats, which complicates nutritional recovery. This project aims to investigate the brain mechanisms behind the multisensory perception (vision, smell, taste) of fats, a poorly understood phenomenon. Altered perception of lipids in anorexia nervosa contributes to fat rejection and may perpetuate the disorder.

### Research Objectives:

- Study the role of multisensory perception in aversion to fats.
- Explore how sensory interdependence affects treatment approaches.
- Conduct functional MRI experiments (3T) with olfactory, gustatory, and visual stimuli on patients and healthy individuals.

**Potential Impact:** The findings of this project could influence diagnostic, therapeutic, and preventive strategies for eating disorders, particularly anorexia nervosa, which remains inadequately addressed despite alarming rates of incidence, chronicity, and mortality. This research aims to develop innovative tools for treating and desensitizing food-related phobias, with a focus on fatty foods, and to improve long-term prevention and care.

### Requirements:

- Strong interest in neuroscience and image processing.
- Excellent oral and written English skills; knowledge of French is a plus.
- Proficiency in Matlab and SPM, or prior experience with olfactory or taste experiments, is advantageous.
- A master's degree in Neuroscience, Biomedical Engineering, Image Processing, Psychology, or a related field.
- Mobility: the project may involve a 6-months period in Montreal.

**Environment:** The Campus Santé at Jean Monnet Saint-Étienne University (Saint-Priest-en-Jarez, France) brings together eight research laboratories and technical platforms within the Faculty of Medicine. It serves as a hub for innovation and scientific research, leveraging state-of-the-art resources to promote seamless collaboration between academic and clinical settings.

**Salary:** ~2100€/month (before taxes).

**Start date:** October 2025 with a duration of three years

**Application:** Please send us the following documents by email to [fabien.schneider@univ-st-etienne.fr](mailto:fabien.schneider@univ-st-etienne.fr) by **March 30th, 2025**: a cover letter outlining your research interests and specific interest in this project, your CV, two recommendation letters, including the referees' contact information. Make sure the email subject includes "Multisensory PhD Position".