Call for applications
PhD position in Food science / Sensory science / Health science

Somesthesia in cancer patients: variability and influence on eating experience

CONTEXT AND OBJECTIVES
In the context of cancer patients’ malnutrition, enhancing food liking and eating pleasure is a crucial and a well-known way to contribute to patients’ quality of life. Previous research results showed that chemotherapy-induced olfactory and gustatory modifications influence food behavior of cancer patients. However, food perception is a multi-sensory phenomenon that also involves the sense of touch or somesthesia. Somesthesia includes various sensations: tact (perception of roughness), mechanics (perception of consistency, firmness), temperature and the trigeminal system (irritating or pungent sensations). These kinesthetic sensory characteristics constitute food somesthetic properties. Evidence showed that chemotherapy induced side effects includes mouth dryness and mouth sores, which could further impact cancer patients’ food choices and preferences. Somesthesia is linked with food texture, yet the importance of it in relation to the overall food perception remains unexplored in cancer patients.

It is hypothesized that modifying the food physical properties would improve the appreciation and intake of foods that could help cancer patients who encounter somesthesia related side effects. The overall objective of this PhD project is to explore the role of somesthesia in the food liking and its cross-link with taste and smell perception in cancer patients.

PhD SUPERVISION
The thesis co-supervisors will be:
- Prof. Wender Bredie, Head of Future Consumer Lab, University of Copenhagen, Denmark.
- Dr. Agnès Giboreau, Research Center Dir. Institut Paul Bocuse / University Lyon 1 (P2S), Lyon, France.
- Dr. Sandra Stolzenbach Wæhrens, Department of Food Science, University of Copenhagen, Denmark.
- Dr. Anestis Dougkas, Institut Paul Bocuse Research Center (IPBR), Lyon, France.

MAIN MISSIONS
The PhD candidate is expected to:
- Review the existing literature on cancer patients’ somesthetic sensitivity in relation to the physical properties of food and beverages.
- Learn standard self-reported and instrumental methodologies including running questionnaires, interviews and focus groups, and psychophysical sensory tests.
- Formulate original research hypotheses and contribute to the design of the experiments and to the ethical file.
- Conduct /coordinate the clinical intervention studies. Conduct the statistical analyses.
- Write scientific papers targeting top ranked international journals.
- Attend congresses, workshops, meetings, media events in order to disseminate research results.
- Work on the compensation of the alterations observed in patients and formulate recommendations about personalised healthcare and support tools for patients.
PROFILE AND ELIGIBILITY

The candidates must have obtained a Master’s level degree in food sciences, behavioral neurosciences, sensory sciences or related fields. A strong interest in the field of cancerology would be appreciated.

Additional skills are required, such as:

- Strong skills in statistics
- Interest in both theoretical and empirical questions
- Excellent communication skills
- Real interest for translating scientific results and methodologies into deliverables directly exploitable in the clinical field
- International mobility
- Advanced level in both oral and written English
- Knowledge of French would be appreciated

CONDITIONS

- October 2020 - September 2023: 36-month PhD position at University Lyon 1/University of Copenhagen/Institut Paul Bocuse Research Center
- Salary: PhD position 25k€ gross/year (based on French ANRT recommendations for CIFRE)
- Travel expenses to be added for secondments in Denmark

LOCATION

The PhD student will be mainly based at IPBR (in Ecully, near Lyon) as part of the Nutrition and Eating Behaviour Group with frequent interactions with University Claude Bernard Lyon 1 (easily accessible from Institut Paul Bocuse). Planning and length of secondments at the Department of Food Science at the University of Copenhagen in Denmark will be defined according to the project and candidates’ profile.

Occasional trips to attend congresses, conferences, workshops and meetings with external collaborators are expected as part of the usual researcher’s life.

APPLICATION PROCEDURE AND TIMELINE

Candidates are requested to submit the following application materials in a single PDF file to raphaelle.mouillefarine@institutpaulbocuse.com:

- CV
- motivation letter
- at least one letter of recommendation

The deadline for application is April 30, 2020.
First series of interviews will be held by visioconference beginning of May. On-site interviews for shortlisted candidates will be organized by the end of May. Decision by mid-June.
The candidate is expected to start in October 2020.
The University of Copenhagen (Copenhagen, Denmark)

Driven by intellectual creativity and critical thinking since 1479, researchers and students at the University of Copenhagen have expanded horizons and contributed to moving the world forward. With its 5,000 researchers and 39,000 students, the University boasts an international research and study environment and is highly ranked on the leading ranking lists of the world's best universities. The University offers researchers and students the opportunity to develop their talent and launches ambitious interdisciplinary initiatives to support its strong academic communities. Through research-based teaching – and by involving them in research – students are equipped to address society's challenges and needs.

Claude Bernard Lyon 1 University (Lyon, France)

A university at the cutting edge of innovation, the University Claude Bernard Lyon 1 delivers high-quality education and research excellence within an attractive environment. Its international reach extends through the fields of science, technology, health and sport. With 65 laboratories and more than 5,500 publications per year, Lyon 1 contributes to scientific progress in numerous fields: health, mathematics, IT, physics, chemistry, earth and space sciences, life sciences, etc. Encouraging student mobility, the University is committed to reinforcing the international dimension of its programmes and providing genuine opportunities for students wishing to study abroad. The Systemic Health Pathway (P2S in French) laboratory of Lyon 1 contributes to the elaboration of care pathways in a pluridisciplinary approach, with the help of medical doctors, dentists, pharmacists, psychologists, jurists, economists, sociologists, administrators, etc.

Institut Paul Bocuse Research Center (Lyon, France)

The Institut Paul Bocuse Research Center (IPBR, Lyon, France) is a non-profit research unit dedicated to the scientific investigation of the various factors (social, economic, cognitive and physiological) that underlie and influence human eating behaviors. The Center stands out for its strong roots in societal and industrial contemporary challenges. The Nutrition and Eating Behaviour Group into which the selected candidate will be integrated focuses on appetite, obesity, satiety, protein enrichment, and eating disturbances in relation to cancer.

Hospices Civils de Lyon (Lyon, France)

Hospices Civils de Lyon is France's second University Hospital Centre (CHU). More specifically, it is one of the major cancer centres in the region with 14,000 patients including 8500 new cases every year. As an integrated research, treatment and teaching centre, the Lyon university hospital centre provides care for patients suffering from all types of cancer, of all ages, and is an authority in the treatment of rare and complex tumours. Institut de Cancérologie (oncology institute) at Hospices Civils de Lyon federates all the departments of the university hospital centre providing care for cancer patients, distributed geographically between different hospitals. 250 cancer care staff (oncologists, organ specialists, surgeons, radiotherapists, biologists, pharmacists, imaging technicians, researchers) are brought together to define the best therapeutic strategy for each patient.