



What is the ExposUM Doctoral Nexus?

PhD funding opportunities in Montpellier, France : ExposUM Doctoral Nexus

A Doctoral Nexus, as proposed by the [ExposUM Institute](#), brings together networks of three to four PhD students from diverse disciplinary backgrounds, affiliated with at least two distinct research units.

Unlike traditional PhD programmes, a Doctoral Nexus is designed to enhance collaborative skills and the ability to develop transdisciplinary projects, while allowing students to deepen their own field of expertise.

Nexus doctoral students will benefit from a dedicated training programme and will have the opportunity to organise seminars within their Nexus network.

The ExposUM Institute provides full funding for four years, covering both the PhD students' salaries and an environmental allowance.

Summary of the Nexus project SENS-ALIM

Food choices play a key role in human health and lie at the intersection of nutritional, environmental, psychological, and social issues. Despite the widespread dissemination of recommendations promoting healthy and environmentally sustainable eating practices, a gap persists between intentions and actual dietary behaviours, particularly among young adults. This discrepancy highlights the limitations of approaches based on a strictly rational view of decision-making, as emotions, cognitive biases, and psychological states strongly influence eating behaviours.

In this context, the Nexus project SENS-ALIM pursues three complementary objectives:

1. To understand the influence of emotions, particularly negative emotions, on eating behaviours.
2. To identify potential levers for modulation and prevention by analysing educational, psychosocial, and communication-based interventions that may mitigate the negative effects of these emotions on food choices.
3. **To analyse the effects of food choices on other decision-making processes that are crucial for health and well-being, in order to better understand medium- and long-term health trajectories.**

The third objective of the SENS-ALIM Nexus project constitutes the core focus of the PhD project presented here.



The context of the thesis

The contemporary nutrition transition is characterised by a marked increase in the consumption of refined carbohydrates and ultra-processed foods, in sharp contrast with the dietary patterns that predominated throughout most of human evolutionary history (Eaton & Konner, 1985; Mann, 2000; Cordain et al., 2005). While the metabolic consequences of this transition are well documented (Jellinger, 2007; Johnson et al., 2007), its effects on individual decision-making processes remain insufficiently explored.

Yet economic, social, and motivational decisions, such as risk attitudes, time preferences, cooperation, or persistence in effort, play a central role in health, educational, and well-being trajectories (Camerer & Fehr, 2006; Dohmen et al., 2010; Falk et al., 2018). Understanding how immediate and chronic nutritional factors influence these dimensions therefore represents a major scientific and societal challenge.

Among young adults, a key life stage during which long-term preferences are formed and stabilised (Moffitt et al., 2011), the mechanisms linking diet, physiological state, emotions, and decision-making remain largely unexplored, particularly with regard to differences related to sex and socio-economic context.

References

- Camerer, C.F., Fehr, E. (2006). When Does "Economic Man" Dominate Social Behavior? *Science* 311,47-52.
- Cordain, L., Eaton, S. B., Sebastian, A., Mann, N., Lindeberg, S., Watkins, B. A., O'Keefe, J. H., & Miller, J. B. (2005). Origins and evolution of the Western diet: Health implications for the 21st century. *The American Journal of Clinical Nutrition*, 81(2), 341-354.
- Dohmen, T., Falk, A., Huffman, D., and Sunde, U. (2010). Are Risk Aversion and Impatience Related to Cognitive Ability? *American Economic Review* 100 (3), 1238-60.
- Eaton, S. B., & Konner, M. (1985). Paleolithic nutrition: A consideration of its nature and current implications. *New England Journal of Medicine*, 312(5), 283-289.
- Falk, A., Becker, A., Dohmen, T., Huffman, D., & Sunde, U. (2018). Global evidence on economic preferences. *Quarterly Journal of Economics*, 133(4), 1645-1692.
- Jellinger, P. S. (2007). Metabolic consequences of hyperglycemia and insulin resistance. *Clinical Cornerstone*, 8(Suppl 1), S30-S42.
- Johnson, R. J., Segal, M. S., Sautin, Y., Nakagawa, T., Feig, D. I., Kang, D. H., Gersch, M. S., Benner, S., & Sánchez-Lozada, L. G. (2007). Potential role of sugar (fructose) in the epidemic of hypertension, obesity and the metabolic syndrome, diabetes, kidney disease, and cardiovascular disease. *The American Journal of Clinical Nutrition*, 86(4), 899-906.
- Mann, N. (2000). Dietary lean red meat and human evolution. *European Journal of Nutrition*, 39(2), 71-79.
- Moffitt, T. E., et al. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, 108(7), 2693-2698.

Objectives

Main objective

To analyse the extent to which the consumption of refined carbohydrates influences decision-making processes among healthy young adults.

Secondary objectives

- To distinguish the immediate and chronic effects of refined carbohydrate consumption on: (i) risk attitudes, (ii) time preferences, (iii) social preferences, (iv) motivation and persistence in effort.
- To examine the moderating role of: (i) sex, (ii) socio-economic status, (iii) emotional states (stress, anxiety).
- To identify decision-making profiles that may inform targeted public health interventions.



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Proposed methodology

The project relies on a controlled intervention-based approach, combining behavioural economics, nutrition, and psychology.

Participants will be exposed to different dietary conditions in terms of glycaemic load, allowing the causal identification of the immediate effects of refined carbohydrates on decision-making processes. Chronic effects will be assessed indirectly through dietary habits, which will be used to define nutritional profiles and analyse their interaction with the immediate effects of the experimental exposure. Behaviour will be measured using incentivised behavioural tasks and validated questionnaires covering the main dimensions of decision-making.

Particular attention will be paid to the balance of the sample by sex, to hormonal and emotional variables known to interact with carbohydrate consumption, as well as to socio-economic determinants. Statistical analyses will rely on models adapted to the data (e.g., mixed models, mediation analyses), following a pre-registered analysis plan.

The PhD project will be conducted at the Institute of Evolutionary Sciences of Montpellier (ISEM), while experimental sessions will take place at the Montpellier Laboratory for Experimental Economics (LEE-M). The supervisory team brings together complementary expertise in evolutionary biology, nutrition, and behavioural economics.

Planned start date

1 October 2026

The title of the doctoral student's position

Impact of refined carbohydrate consumption on decision-making in young adults

Main mission

The main mission will be to analyse how the consumption of refined carbohydrates influences decision-making processes in young adults, using an experimental approach combining behavioural economics, nutrition, and psychology.

Activities

The PhD candidate will:

- design and implement a controlled experimental protocol investigating the impact of dietary conditions differing in glycaemic load,
- conduct incentivised behavioural experiments measuring different dimensions of decision-making (risk attitudes, time preferences, social preferences, motivation, and persistence in effort),
- collect and analyse behavioural and psychometric data, as well as information on dietary habits and emotional states,
- examine the moderating role of individual variables such as sex, socio-economic status, and emotional states (stress, anxiety),
- perform statistical analyses adapted to the data (e.g., mixed models or mediation analyses),
- disseminate results through scientific publications and conference presentations.



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Expected skills and qualifications

The candidate should demonstrate:

- interest in the interactions between diet, cognition, and decision-making behaviour
- strong quantitative and statistical analysis skills
- familiarity with experimental methods in behavioural sciences or experimental economics
- organisational skills, autonomy, and scientific rigour
- ability to work in an interdisciplinary environment
- proficiency in data analysis software (e.g., R or Python)

Diploma/field required

Master's degree (or equivalent) in one of the following fields: evolutionary biology, cognitive science, behavioural or experimental economics, nutrition, life sciences.

Key words

Biology, Nutritional sciences, Behavioural sciences, Cognitive science, Applied economics

CNU section

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Application procedure

The application must include the following

- A CV
- A letter of motivation
- A copy of the diploma required for enrollment or, if unavailable, the most recent transcripts from Master 2 (semester 1 and/or semester 2)
- Any specific elements **possibly** required by the Doctoral School GAIA <https://gaia.umontpellier.fr/>

If you would like to apply for this position, please send an e-mail to the thesis director, Bernard GODELLE (bernard.godelle@umontpellier.fr) and co-directors, Claire BERTICAT (claire.berticat@umontpellier.fr) and Dimitri DUBOIS (dimitri.dubois@umontpellier.fr), with a CC to the project initiator, Marie-Christine LICHTLE (marie-christine.lichtle@umontpellier.fr), and exposum-aap@umontpellier.fr to inform them of your interest.

Application deadline

20 May 2026 CET



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KEY FIGURES



RESEARCH CENTERS

From space exploration and robotics to ecological engineering and chronic diseases, UM researchers are inventing tomorrow's solutions for mankind and the environment.

Dynamic research, conducted in close collaboration with research organizations and benefiting from high-level technological platforms to meet the needs of 21st century society.

The UM is committed to promoting its cutting-edge research by forging close links with local industry, particularly in the biomedical and new technologies sectors.

More Information: <https://www.umontpellier.fr/en/recherche/unites-de-recherche>

SCIENTIFIC APPEAL

Open to the world, the University of Montpellier contributes to the structuring of the European higher education area, and strengthens its international positioning and attractiveness, in close collaboration with its partners in the I-SITE Program of Excellence, through programs adapted to the major scientific challenges it faces.

More Information: <https://www.umontpellier.fr/en/international/attractivite-scientifique>



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