2 year post-doctoral position

Starting date: As soon as possible.

The project: funded by I-SITE Clermont (Challenge 3 de CAP 2025)

The project aims at investigating the impact of physical activity on autophagy, a central process for the maintenance of intestinal homeostasis, and the underlying mechanisms.

Eligibility:

Post-doctoral candidates from graduate schools at Clermont-Ferrand will only be eligible after 2 years of post-doctoral training abroad.

Postdocs already in the relevant research units of the site (University of Clermont Auvergne) are eligible only if they have previously completed 2 years of post-doctoral training abroad.

The cumulative duration of their post-doctoral contracts (contract with the University of Clermont Auvergne and the “I-SITE” contract) cannot exceed 4 years.

Qualifications

We are looking for a highly motivated and enthusiastic candidate with the following qualifications:

A PhD degree in cellular biology, biochemistry or cellular microbiology.

Strong experiences in cellular biology, host-pathogen interactions, or intestinal physiopathology are most expected. Additional experience in the field of physical activity would be a definite asset.

Certificate of animal experimentation training is highly expected.

Knowledge about autophagy and physical activity impact would be an advantage.

The candidate should have good understanding and written skills in English.

Good publication record in the related fields.

The application should contain:

A motivation letter

Curriculum vitae (including education, research experience, publications, language skills and other relevant information for the position).

A copy of the PhD diploma (or the intended day of PhD defense).

Letters of recommendation (at least 2).

CENTRE BIOMEDICAL DE RECHERCHE ET VALORISATION

28 Place Henri-Dunant, 63000 Clermont-Ferrand, France

The application should be written in English and must be submitted electronically to: hang.nguyen@uca.fr and nathalie.boisseau@uca.fr.

Deadline: 15/09/2022. The selected candidates will be invited for a personal interview (virtual interview is possible).

The successful candidate will work under the supervision of Dr. Hang Nguyen (Laboratory M2iSH (Microbe, intestine, inflammation and Susceptibility of the Host), UMR1071 Inserm, University of Clermont Auvergne) and Prof. Nathalie Boisseau (Laboratory of Metabolic Adaptations to Exercise in Physiological and Pathological Conditions, University of Clermont Auvergne, Clermont-Ferrand, France).

Websites:

http://cfatg.org/microbes-intestin-inflammation-and-susceptibilite-de-lhote-nov-2020/
https://m2ish.uca.fr/
https://ame2p.uca.fr/membres/enseignants-chercheurs/nathalie-boisseau
https://ame2p.uca.fr/

Selected recent publications: #equal contribution; *corresponding author.

1. Dupuit, M., V. Chavanelle, B. Chassaing, F. Perriere, M. Etienne, C. Plissonneau, A. Boscaro, N. Barnich, V. Pialoux, T. Maugard, F. Le Joubioux, S. Peltier, P. Sirvent, Y. F. Otero and **N. Boisseau** (2021). "The TOTUM-63 Supplement and High-Intensity Interval Training Combination Limits Weight Gain, Improves Glycemic Control, and Influences the Composition of Gut Mucosa-Associated Bacteria in Rats on a High Fat Diet." Nutrients13(5).

2. Dupuit, M., M. Rance, C. Morel, P. Bouillon, A. Boscaro, V. Martin, E. Vazeille, N. Barnich, B. Chassaing and **N. Boisseau** (2021). "Impact of Concurrent Training on Body Composition and Gut Microbiota in Postmenopausal Women with Overweight or Obesity." Med Sci Sports Exerc.

3. Groussard, C., C. Plissonneau, L. Josset, F. Capel, M. Mura, E. Gouraud, G. Mairesse, G. Chesneau, N. Barnich, V. Pialoux and **N. Boisseau** (2021). "Beneficial Effects of High Intensity Interval Training and/or Linseed Oil Supplementation to Limit Obesity-Induced Oxidative Stress in High Fat Diet-Fed Rats." Nutrients13(10).

4. Isacco, L., G. Ennequin and **N. Boisseau** (2021). "Influence of the different hormonal status changes during their life on fat mass localisation in women: a narrative review." Arch Physiol Biochem: 1-6.

5. Plissonneau, C., F. Capel, B. Chassaing, M. Dupuit, F. Maillard, I. Wawrzyniak, L. Combaret, F. Dutheil, M. Etienne, G. Mairesse, G. Chesneau, N. Barnich and **N. Boisseau** (2021). "High-Intensity Interval Training and α-Linolenic Acid Supplementation Improve DHA Conversion and Increase the Abundance of Gut Mucosa-Associated." Nutrients13(3).

6. Maillard F, Pereira B, **Boisseau N***. Effect of high-intensity interval training on total, abdominal and visceral fat mass: a meta-analysis. *Sports Medicine*. 2018, 48:269–288, PMID: 29127602.

7. Isacco I, Ennequin G, **Boisseau N***. Effect of fat mass localization on fat oxidation during endurance exercise in women. *Frontiers in Physiology*. 2020, 11:585137. PMID: 33192597.
8. Maillard F, Vazeille E, Sauvanet P, Sirvent P, Bonnet R, Combaret L, Chausse P, Chevarin C, Otero YF, Delcros G, Chavanelle V, **Boisseau N**[#], Barnich N*,[#]. Preventive effect of spontaneous physical activity on the gut-adipose tissue in a mouse model that mimics Crohn's disease susceptibility. *Cells*. 2019, 9: 8(1). pii: E33. PMID: 30634469.
9. Maillard F, Vazeille E, Sauvannet P, Sirvent P, Combaret L, Sourdille A, Chavannelle V, Bonnet R, Otero YF, Delcros G, Barnich N[#], **Boisseau N[#],***. High intensity interval training promotes total and visceral fat mass loss in obese Zucker rats without modulating gut microbiota. *PloS One*. 2019, 14(4):e0214660. PMID: 30964881.
10. Salesse L, Lucas C, Hoang MHT, Sauvanet P, Rezard A, Rosenstiel P, Damon-Soubeyrand C, Barnich N, Godfraind C, Dalmasso G, **Nguyen HTT***. Colibactin-producing *Escherichia coli* induce the formation of invasive carcinomas in a chronic inflammation-associated mouse model. *Cancers*. 2021, 13(9):2060. PMID: 33923277.
11. Lucas C, Salesse L, Hoang MHT, Bonnet M, Sauvanet P, Larabi A, Godfraind C, Gagnière J, Pezet D, Rosenstiel P, Barnich N, Bonnet R, Dalmasso G, **Nguyen HTT***. Autophagy of intestinal epithelial cells inhibits colorectal carcinogenesis induced by colibactin-producing *Escherichia coli* in *Apc*$^{Min/+}$ mice. *Gastroenterology*. 2020, 158(5):1373-1388. PMID: 31917256.
12. Larabi A, Dalmasso G, Delmas J, Barnich N, **Nguyen HTT***. Exosomes transfer miRNAs from cell-to-cell to inhibit autophagy during infection with Crohn's disease-associated adherent-invasive *E. coli*. *Gut Microbes*. 2020, 1; 11(6):1677-1694. PMID: 32583714.
13. Larabi A, Barnich N, **Nguyen HTT***. New insights into the interplay between autophagy, gut microbiota and inflammatory responses in IBD. *Autophagy*. 2019; 9:1-14. PMID: 31286804.
14. Dalmasso G[#], **Nguyen HTT**[#], Faïs T, Massier S, Barnich N, Delmas J, Bonnet R. Crohn's disease-associated adherent-invasive *Escherichia coli* manipulate host autophagy by impairing SUMOylation. *Cells*. 2019; 9; 8(1). PMID: 30634511.
15. Bretin A, Lucas C, Larabi A, Dalmasso G, Billard E, Barnich N, Bonnet R, **Nguyen HT***. AIEC infection triggers modification of gut microbiota composition in genetically predisposed mice, contributing to intestinal inflammation. *Scientific Reports*. 2018; 8:12301. PMID: 30120269.
16. Carrière J, Bretin A, Darfeuille-Michaud A, Barnich N, **Nguyen HT***. Exosomes released from cells infected with Crohn's disease-associated adherent-invasive *Escherichia coli* activate host innate immune responses and enhance bacterial intracellular replication. *Inflammatory Bowel Disease*. 2016, 22(3):516-28.
17. Bretin A, Carrière J, Dalmasso G, Bergougnoux A, B'chir W, Maurin AC, Müller S, Seibold F, Barnich N, Bruhat A, Darfeuille-Michaud A, **Nguyen HT***. Activation of the EIF2AK4-EIF2A/eIF2α-ATF4 pathway triggers autophagy response to Crohn disease-associated adherent-invasive Escherichia coli infection. *Autophagy*. 2016, 12(5):770-83. PMID: 26986695.
18. **Nguyen HT***, Dalmasso G, Mueller S, Carriere J, Seibold F, Darfeuille-Michaud A. Crohn's disease-associated adherent-invasive *Escherichia coli* affect levels of microRNAs in intestinal epithelial cells to reduce autophagy. *Gastroenterology*. 2014, 146(2):508-19. PMID: 24148619.