


Dr Jonathan BRETON (PhD, MCU)

Date of birth : 01/03/1988

Speaking : 

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CURRENT POSITION

2021-now Associate Professor in Physiology at U1073 INSERM Laboratory - ADEN
"Nutrition, Inflammation & Microbiota-Gut-Brain axis" - Rouen University, France



UNIVERSITY DIPLOMAS

2016 Ph.D. in Cellular Biology from Rouen University, France
2013 Master's degree in systems Physiology (with honors) from Rouen University, France
2012 Bachelor degree in cellular biology and physiology from Rouen University, France



OTHER DIPLOMAS

2016 Animal surgery certificate – Lille 2 University, Lille, France
2014 Animal experimentation certificate (level 1) – Pasteur institute of Lille, Lille, France



WORK EXPERIENCES

2021 Research mobility at VIB-UGent Center for Medical Biotechnology, Proteomics Cores (PRC)
Ghent, Belgium (**Head of the PRC : Pr Impens**)
2019 University Hospital Assistant (AHU) at Rouen University Hospital /U1073 INSERM Laboratory
(**Head of the Nutrition Department : Pr Déchelotte**)
2018 Post doctoral position at U1073 INSERM Laboratory, Rouen, France
(**Director : Pr Déchelotte / Supervisor: Dr Ribet**)
2017 Post doctoral position at department of Surgery & Cancer, Imperial College London, London, UK
(**Director : Pr Nicholson / Supervisor: Pr Swann**)
2016 PhD at nutrition, gut & brain axis U1073 INSERM Laboratory, Rouen, France
(**Director: Pr Déchelotte / Supervisor: Pr Fetissov**)



TEACHING & EXPERTISE ACTIVITIES

2019-now "Physiology and Pathophysiology in Nutrition" at the Health faculty (Rouen, France), the
Sciences and Technical faculty (Mont Saint Aignan, France) and the Technological University
Institute (Evreux, France).
2020 Expert for ANSES: Research project evaluator
2023-Now Course instructor for UniLaSalle (Mont saint Aignan) and Le CNAM (Paris)

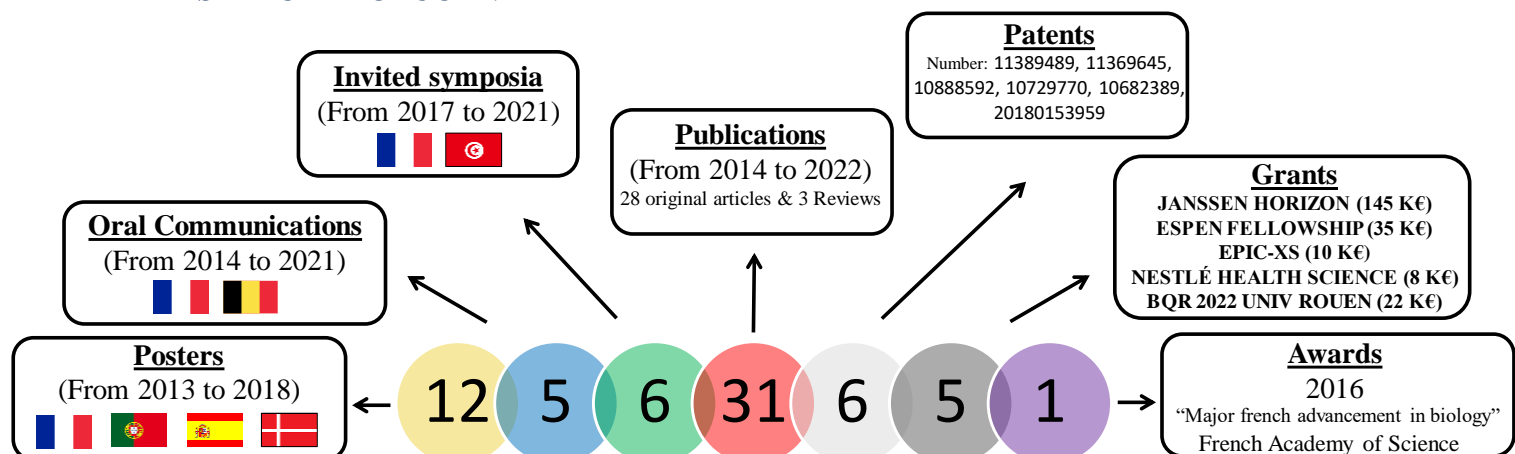


OTHER RESPONSABILITIES

2015 Official representative from Rouen in Normandy Doctoral School (EdN BISE 497)
Technical supervision of 4 Master students
2019-now Scientific editor for the Microbiome Foundation



RESEARCH PRODUCTIVITY



1. Lucas N, Legrand R, Ouelaa W, **Breton J**, Tennoune N, Bole-Feysot C, Déchelotte P, Fetissov SO. Effects of rabbit anti- α -melanocyte-stimulating hormone (α -MSH) immunoglobulins on α -MSH signaling related to food intake control. **Neuropeptides**. 2014
2. Tennoune N, Chan P, **Breton J**, Legrand R, Chabane YN, Akkermann K, Järv A, Ouelaa W, Takagi K, Ghouzali I, Francois M, Lucas N, Bole-Feysot C, Pestel-Caron M, do Rego JC, Vaudry D, Harro J, Dé E, Déchelotte P, Fetissov SO. Bacterial ClpB heat-shock protein, an antigen-mimetic of the anorexigenic peptide α -MSH, at the origin of eating disorders. **Transl Psychiatry**. 2014
3. Tennoune N, Legrand R, Ouelaa W, **Breton J**, Lucas N, Bole-Feysot C, do Rego JC, Déchelotte P, Fetissov SO. Sex-related effects of nutritional supplementation of *E.coli*. Relevance to eating disorders. **Nutrition**. 2015
4. **Breton J**#, Legrand R.#, Akkermann K., Järv A., Harro J., Déchelotte P., Fetissov S.O. Elevated plasma concentrations of bacterial ClpB protein in patients with eating disorders. **International Journal of Eating Disorders** 2015
5. Lucas N, Legrand R, **Breton J**, Déchelotte P, Edwards-Lévy F, Fetissov SO. Chronic delivery of α -melanocyte-stimulating hormone in rat hypothalamus using albumin-alginate microparticles: Effects on food intake and body weight. **Neuroscience**. 2015
6. François M, Barde S, Achamrah N, **Breton J**, do Rego JC, Coëffier M, Hökfelt T, Déchelotte P, Fetissov SO. The number of preproghrelin mRNA expressing cells is increased in mice with activity-based anorexia. **Neuropeptides**. 2015
7. Legrand R, Lucas N, **Breton J**, Déchelotte P, Fetissov SO. Dopamine release in the lateral hypothalamus is stimulated by α -MSH in both the anticipatory and consummatory phases of feeding. **Psychoneuroendocrinology**. 2015
8. Achamrah N., Nobis S., **Breton J**., Jésus P. Belmonte L., Maurer B., Legrand R., Bôle-Feysot C., Do Rego J.-L., Goichon A., Do Rego J.-C., Déchelotte P., Fetissov S.O., Claeysens S., Coëffier M. Maintaining physical activity during refeeding improves body composition, intestinal hyperpermeability and behavior in anorectic mice. **SCI REP**. 2016
9. Legrand R, Lucas N, **Breton J**, Azhar S. Do Rego JC, Déchelotte P, Coëffier M., Fetissov SO. Ghrelin treatment prevents development of activity based anorexia in mice. **European Neuropsychopharmacology**. 2016
10. Achamrah N, Nobis S, Goichon A, **Breton J**, Legrand R, do Rego JL, do Rego JC, Déchelotte P, Fetissov SO, Belmonte L, Coëffier M. Sex differences in response to activity-based anorexia model in C57Bl/6 mice. **Physiol Behav**. 2016
11. Lucas N, Legrand R, **Breton J**, Déchelotte P, Fetissov SO. Increased affinity of ghrelin-reactive immunoglobulins in obese Zucker rats **Nutrition**. 2016
12. **Breton J**, Tennoune N, Lucas N., Francois M., Legrand R., Jacquemot J., Goichon A., Guérin C., Peltier J., Pestel-Caron M., Chan P., Vaudry D., Do Rego J.-C., Liénard F., Pénicaud L., Fioramonti X., Ebenezer I. S., Hökfelt T., Déchelotte P., Fetissov S.O. Gut Commensal *E. coli* Proteins Activate Host Satiety Pathways following Nutrient-Induced Bacterial Growth. **Cell Metab**. 2016
13. Værøy H, Adori C, Legrand R, Lucas N, **Breton J**, Cottard C, do Rego JC, Duparc C, Louiset E, Lefebvre H, Déchelotte P, Western E, Andersson S, Hökfelt T, Fetissov SO. Autoantibodies reactive to adrenocorticotrophic hormone can alter cortisol secretion in both aggressive and nonaggressive humans. **Proc Natl Acad Sci U S A**. 2018
14. Lucas N, Legrand R, Bole-Feysot C, **Breton J**, Coëffier M, Akkermann K, Harro J, Järv A, Déchelotte P, Fetissov SO., Immunoglobulin G modulation of the melanocortin 4 receptor signaling in obesity and eating disorders **Transl Psychiatry**. 2019
15. Salameh E, Meleine M, Gourcerol G, do-Rego JC, do Rego JL, Legrand R, **Breton J**, Aziz M, Guérin C, Coeffier M, Savoye G, and Marion-Letellier R. Chronic colitis-induced visceral pain is associated with increased anxiety during quiescent phase. **Am J Physiol Gastrointest Liver Physiol**. 2019
16. **Breton J**, Legrand R, Achamrah N, Chan P, do Rego JL, do Rego JC, Coëffier M, Déchelotte P, Fetissov SO. Proteome modifications of gut microbiota in mice with activity-based anorexia and starvation – role in ATP production. **Nutrition**. 2019
17. Dominique M, **Breton J**, Guérin C, Bole-Feysot C, Lambert G, Déchelotte P and Fetissov SO. Effects of Macronutrients on the In Vitro Production of ClpB, a Bacterial Mimetic Protein of α -MSH and Its Possible Role in Satiety Signaling. **Nutrients** 2019
18. Bailey, JR, **Breton J**, Panic G, Cogan TA, Bailey M, Swann JR and Lee MRF. The Mycotoxin Deoxynivalenol Significantly Alters the Function and Metabolism of Bovine Kidney Epithelial Cells In Vitro. **Toxins**. 2019
19. **Breton J**, Giallourou N, Nobis N, Morin A, Achamrah N, Goichon A, Belmonte L, Dechelotte P, do Rego JL, Coëffier M, Swann JR. Characterizing the metabolic perturbations induced by activity-based anorexia in the C57Bl/6 mouse using ¹H NMR spectroscopy. **Clinical Nutrition**. 2019
21. **Breton J**, Jacquemot J, Yaker L, Leclerc C, Connil N, Feuilloley M, Déchelotte P, and Fetissov SO, Host starvation and female sex influence enterobacterial ClpB production – possible link to the etiology of eating disorders. **microorganisms**. 2020
22. Lucas N, Azhar S ,Procida A, Deroissart C, Dominique M, Nobis S, Guérin C Léon F, do Rego JC, **Breton J**, Coëffier M, Legrand R Intestinal lymphatic alteration in mouse models of energy imbalance. **Nutrition**. 2020
23. Bahlouli W, **Breton J**, Lelouard M, L'Huillier C, Tirelle P, Salameh E, Amamou A, Atmani K, Goichon A, Bôle-Feysot C, Ducrotté P, Ribet D, Déchelotte P, Coëffier M. Stress-induced intestinal barrier dysfunction is exacerbated during diet-induced obesity. **Journal of Nutritional Biochemistry**. 2020
24. **Breton J**, Tirelle P, Hasanat S, Pernot A, L'Huillier C, Déchelotte P, Bindels L, Coëffier M, and Ribet D. Gut microbiota alteration in a mouse model of Anorexia Nervosa. **Clinical Nutrition**. 2020
25. Tirelle P*, **Breton J***, Riou G, Déchelotte P, Coëffier M and Ribet D. Comparison of different modes of antibiotic delivery on gut microbiota depletion efficiency and body composition in mouse. **BMC Microbiology**.2020
26. Tirelle P, **Breton J**, Kauffmann A, Bahlouli W, L'Huillier C, Salameh E, Amamou A, Jarbeau M, Guérin C, Goichon A, do Rego J-C, Déchelotte P, Ribet D, Coëffier M. Gut microbiota depletion affects nutritional and behavioral responses to activity-based anorexia model in a sex-dependent manner. **Clinical Nutrition**. 2021
27. Déchelotte P, **Breton J**, Trotin-Piccolo C, Grube B, Erlenbeck C, Bothe G, Fetissov S.O. and Lambert G. The probiotic strain H. alvei HA4597® improves weight loss in overweight subjects under moderate hypocaloric diet: a proof-of-concept, multicenter randomized, double-blind placebo-controlled study. **Nutrients**. 2021
28. Tirelle P, Salaün C, Kauffmann A, Bôle-Feysot C, Guérin C, Huré M, Goichon A, Amamou A, **Breton J**, Do Rego JL, Déchelotte P, Achamrah N, Coëffier M. Intestinal Epithelial Toll-like Receptor 4 Deficiency Modifies the Response to the Activity-Based Anorexia Model in a Sex-Dependent Manner: A Preliminary Study. **Nutrients**. 2022
29. Louail R, Florin F, Bernard S, Michaud JB, **Breton J**, Achamrah N, Tavolacci MP, Coëffier M, Ribet D. Invasion of intestinal cells by *Staphylococcus warneri*, a member of the human gut microbiota. **Gut Pathogens**. 2023

REVIEWS

1. **Breton J**, Déchelotte P, Ribet D. Intestinal microbiota and Anorexia Nervosa. **Clinical Nutrition Experimental**. 2019
2. Galmiche M, Achamrah N, Déchelotte P, Ribet D and **Breton J**. Role of microbiota-gut-brain axis dysfunctions induced by infections in the onset of anorexia nervosa. **Nutrition reviews**. 2021
3. **Breton J**, Galmiche M, Déchelotte P. Dysbiotic Gut Bacteria in Obesity: An Overview of the Metabolic Mechanisms and Therapeutic Perspectives of Next-Generation Probiotics. **Microorganisms**.2022

INVITED SYMPOSIA

- **Oral Glutamine Supplementation during obesity: pre-clinical data in rodents**
45th ESPEN congress, Lyon, France, 12th sept 2023
- **Rôle fonctionnel et métabolique du microbiote intestinal dans l'Anorexie**
Symposium AVIESAN- 12th Oct 2021, Paris, France
- **Microbiote-intestin-cerveau : un partenariat fonctionnel symbiotique**
17th Nutrition French Days (JFN) (JFN) – 27 Nov 2019, Rennes, FRANCE
- **Interaction microbiote-cerveau dans l'anorexie et l'hyperphagie**
16th Nutrition French Days (JFN) – 29 Nov 2018, Nice, FRANCE
- **Le microbiote intestinal : du tube digestif au cerveau**
Symposium Association Autrement – 19 oct 2017, Dijon, FRANCE
- **Régulation de la prise alimentaire : quoi de neuf ?**
The first African Nutrition Congress – 6 oct 2017, Hammamet, TUNISIE
- **Dialogue microbiote-nutriments-cerveau - Approche métabolomique**
Symposium- 5th symposium of Multidisciplinary Research for Eating Disorders (AFDAS-TCA), 18th May 2017, Rouen, FRANCE

ORAL COMMUNICATIONS

- **"Dysbiose intestinale induite dans un modèle murin d'anorexie et impact sur le protéome intestinal, hépatique et sanguin"**
AMICAL group, 23rd May 2023 Paris, France
- **« La souche probiotique H. alvei HA4597[®] améliore la perte de poids de sujets en surpoids sous régime hypocalorique modéré: une étude randomisée, multicentrique, contrôlé versus placebo »**
37th AFERO scientific days, 28th Janvier 2021, Nice, France (Virtual)
- **« Le rôle des bactéries intestinales dans la régulation du comportement alimentaire »**
Public meeting at the French Academy of Science, 21st Jun 2016, Paris, FRANCE
- **Proteins of commensal E. coli signal satiety to the host after nutrient-induced bacterial growth**
19th meeting of LARC Neurosciences, 13 Nov 2015, Amiens, FRANCE
- **Effects of commensal E. coli K12 proteins depend on bacterial growth phase**
3rd International Congress of Translational Research in Human Nutrition (ICTRHN) 25 juin 2015, Clermont Ferrand, FRANCE
- **«Les effets des protéines d'E. coli K12 sur la prise alimentaire et les voies cérébrales de la satiété dépendent de l'état nutritionnel bactérien»** *12th Nutrition French Days (JFN) 10th Dec 2014, Bruxelles, BELGIUM*

POSTERS

- **Alteration of the gut microbiota in an animal model of anorexia and its impact on the blood, hepatic and intestinal proteomes** *45th ESPEN congress, Lyon, France, 12th sept 2023.*
- **Characterizing the biochemical perturbations induced by activity-based anorexia in the mouse.** *40th ESPEN congress, Madrid, Spain, 1-4 sept 2018.*
- **Effect of chronic food restriction on ClpB protein production by gut bacteria: a rat model to study the mechanisms of risk factors for eating disorders.** *4th symposium of Multidisciplinary Research for Eating Disorders (AFDAS-TCA), Saint-Etienne, France, 19th May, 2016, 38th ESPEN congress, Copenhagen, Denmark, 17-20th sept 2016.*
- **Effects of chronic food restrictions and estrogen on the gut microbiota capacity of ClpB protein production: putative mechanisms underlying risk factors of eating disorders.** *4th symposium of Multidisciplinary Research for Eating Disorders (AFDAS-TCA), Saint-Etienne, France, 19th May, 2016*
- **Development of a plasma assay for the bacterial ClpB protein as a biomarker of eating disorders.** *4th Symposium of Institute for Research and Innovation in Biomedicine (IRIB), Rouen, France, 5 June, 2015, 37th ESPEN congress, Lisbon, Portugal, 5-8 sept 2015.*
- **Effects of E.coli proteins on host food intake and brain anorexigenic circuitries depend on bacterial nutritional status** *3rd Symposium of Institute for Research and Innovation in Biomedicine (IRIB), Evreux, France, 20th Jun, 2014. 2nd Targeting Microbiota World Congress 2014, Pasteur Institute, Paris, 16-17th Oct 2014., 37th ESPEN congress, Lisbon, Portugal, 5-8th sept 2015. (Selected for the Poster Tour)*
- **Effects of commensal E. coli K12 proteins on food intake depend on bacterial growth phase.** *2^{eme} Symposium of Institute for Research and Innovation in Biomedicine (IRIB), Mont-Saint-Aignan, France, 21 June, 2013. 17th Annual Meeting of the LARC Neuroscience network, Rouen, France, 25 Oct 2013. 2nd symposium of Multidisciplinary Research for Eating Disorders (AFDAS-TCA), Paris, France, 6 Feb 2014*