Eloïse Mussard

Post doctoral position

31 years old
French
eloise.87@live.fr
+33 6 70 85 16 98
Driving licence (B)

Social networks

@Eloïse Mussard
@Eloïse Mussard

Hard skills

Cell culture
Cell lines (Caco-2), intestinal organoids, organoid-derived monolayers, mammary organoids

Cell viability test (MTT)

Molecular biology
RNA extraction, retrotranscription, qPCR (fluidigm)

Histology

Confocal microscopy, transmission electron microscopy

Microbiota analyses

Metabolome analyses

Bibliographic research

Protocol writing

Soft skills

Team spirit

Communication

Project management

Adaptability

Force of proposal

Computer skills

Suite office

GraphPad

Rstudio

Languages

French
Langue native

English
Fluent

Interests

Danse, fitness, manual activities, cooking

Work experience

Post-doc on cow mammary epithelial cells and cow mammary organoids culture
Since August 2024 Aarhus University Foulum, MJ, Denmark

Researcher in digestive physiology
From February 2024 to April 2024 INNOVI Agen, France
Project management, protocol and report writing, cell line culture, cell viability test (MTT), histology

PhD student in piglet intestinal organoids
From July 2020 to June 2023 UMR INRAE 1388 GenPhySE and Lallemand Animal Nutrition Auzeville-Tolosane, France
Development and characterization of a piglet intestinal organoid model and an organoid-derived monolayer culture model to study the effects of postbiotics on piglet intestinal epithelium
Scientifics supervisors INRAE : *Martin Beaumont (martin.beaumont@inrae.fr) and Sylvie Combes (sylvie.combes@inrae.fr)*
Supervisor Lallemand Animal Nutrition : *Caroline Achard (cachard@lallemand.com)*

3-months scientific stay abroad on piglet intestinal organoid monolayers
2022 Robert Koch Institut_FG 16: Mycotic and Parasitic Agents and Mycobacteria Berlin, Germany
Development of a monolayer model derived from pig intestinal organoids
Scientific supervisor : Christian Klotz (KlotzC@rki.de)

Research engineer (6 months)
From 2019 to 2020 UMR INRAE 1388 – GenPhySE Auzeville-Tolosane, France
Deepening the subject of my last internship on rabbit organoid model and ELISA test for IgA detection and total protein assay

Internship in a research laboratory (6 months) on caecum rabbit organoids
2019 UMR INRAE 1388 – GenPhySE Auzeville-Tolosane, France
Development of a rabbit caecum organoid model to study the action of the microbiota on the intestinal epithelium

Internship in a research laboratory (2 months) in microbiology
2018 UMR INSERM 1092 Anti-infectious drugs: molecular support of resistances and therapeutic innovations Limoges, France
Study of the regulation of class I integron promoters in *Acinetobacter baumannii*

Education

PhD
From July 2020 to June 2023 INP Toulouse, France
UMR INRAE 1388 GenPhySE
Lallemand Animal Nutrition

Master's degree in Health & Biology, major in genomics and biotechnology
From 2017 to 2019 Faculty of Sciences Limoges, France

Bachelor's degree in life sciences, major in biochemistry, molecular and cellular biology, genetics
From 2014 to 2017 Faculty of Sciences Limoges, France

Training

2024: use of automaton and microtome for histology (Leica)
2021:

- "Use and protection of the laboratory animal" (Toulouse, France)
- "Introduction to statistics with R" (Toulouse, France)
- "Data integration with mixOmics and mixKernel" (Toulouse, France)
- "FROGS: tools for bioinformatic analyses 16S amplicon metagenomics data" (Toulouse, France)
- "Ethics and scientific integrity" (Toulouse, France)

Publications

Mussard E, Pouzet C, Helies V, Pascal G, Fourre S, Cherbuy C, Rubio A, Vergnolle N, Combes S, Beaumont M. (2020). Culture of rabbit caecum organoids by reconstituting the intestinal stem cell niche in vitro with pharmacological inhibitors or L-WRN conditioned medium. Stem Cell Res 48, 101980. ***doi: 10.1016/j.scr.2020.101980***

Beaumont M, Paës C, **Mussard E,** Knudsen C, Cauquil L, Aymard P, Barilly C, Gabinaud B, Zemb O, Fourre S, Gautier R, Lencina C, Eutamène H, Theodorou V, Canlet C, Combe, S. (2020). Gut microbiota derived metabolites contribute to intestinal barrier maturation at the suckling-to-weaning transition. Gut Microbes 1-19. ***doi: 10.1080/19490976.2020.1747335***

Beaumont M., **Mussard E.,** Barilly C., Lencina C., Gress L., Painteaux L., et al. (2022). Developmental Stage, Solid Food Introduction, and Suckling Cessation Differentially Influence the Comaturation of the Gut Microbiota and Intestinal Epithelium in Rabbits. The Journal of Nutrition 152, 723–736. ***doi: 10.1093/jn/nxab411***

Mussard E., Lencina C., Galllo L., Barilly C., Poli M., Feve K., et al. (2022). The phenotype of the gut region is more stably retained than developmental stage in piglet intestinal organoids. Frontiers in Cell and Developmental Biology 10. ***doi: 10.3389/fcell.2022.983031***

Mussard E., Lencina C., Boudry G., Achard C.S., Klotz C., Combes S., Beaumont M. (2023). Culture of Piglet Intestinal 3D Organoids from Cryopreserved Epithelial Crypts and Establishment of Cell Monolayers. J. Vis. Exp. (), e64917, ***doi:10.3791/64917***

Communications

Mussard E, Combes S, Helies V, Aymard P, Beaumont M. Development of a rabbit caecum organoid model: an innovative *in vitro* tool to study absorptive and barrier functions of epithelial cells. 12th World Rabbit Congress, 2021, Nantes, France

Mussard E, Lencina C, Gallo L, Albin M, Cauquil L, Knudsen C, Achard C, Pinton P, Soler-Vasco L, Combes S, Beaumont M. Development of an intestinal organoids model to study host-microbiota interactions in piglets. 12th Symposium on Gut Microbiology, 2021, Virtual Seminar

Mussard E, Lencina C, Gallo L, Albin M, Cauquil L, Knudsen C, Achard C, Pinton P, Soler-Vasco L, Combes S, Beaumont M. Creation and phenotyping of a biobank of piglet intestinal organoids. Organoids in farm animal, INRAE study group, 2021, Virtual Seminar

Mussard E, Lencina C, Gallo Lise, Albin Mikael, Cauquil L, Knudsen C, Achard C, Pinton P, Soler-Vasco L, Combes S, Beaumont M. Characterization of an organoid model to study the intestinal epithelium in piglets. Digestive Physiology of Pig, 2022, Rotterdam, Netherland.