Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal department of economic affairs, education and research EAERD
Agroscope

monogutthealth
Optimal gut function in monogastric livestock

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DEPARTMENT OF AGRICULTURAL AND FOOD SCIENCES

Project description of MonoGutHealth

The **MonoGutHealth** project will provide an interdisciplinary, intersectoral and international training experience for you as an early stage researcher (ESR). Together with 10 other ESRs, you will be involved in projects exploring novel strategies employing nutritional and/or bioactive ingredients that positively influence perinatal development in monogastrics through optimal microbial colonisation of the gut. Ultimately, the **MonoGutHealth** project aims to promote optimal growth of pigs and chickens and at the same time make them more resilient to environmental and health challenges, reduce the number of medicinal interventions and improve animal welfare.

PhD on temporal stability of gut microbiota in pigs (preferred start date: 01/09/2021; duration: 3 years)

Targeted manipulation of the gut microbiota is increasingly recognized as a mean to improve livestock health. To date, understanding the precise role of the intestinal microbiome in health and disease has been restricted by limited access to the 'true' (not fecal) intestinal microbiome. However, interpretation of bacterial communities of the small intestine by studying the rectal microbiome from stool samples has its limitations. The objective of this PhD thesis is to study the temporal stability of the gut microbiota throughout pig's life. In this PhD, you will test and validate a new non-invasive sampling technology. You will then study the fate of the microbiota under physiological and pathophysiological conditions.

We are looking for an international ESR with a master degree in veterinary medicine, animal or nutritional sciences or biology. Basic knowledge in pig nutrition and gastrointestinal physiology is essential, and first-hand lab experience would be a plus. Candidates who have previous experience with pig experimental work are desired. Applicants must show their ability to understand and express themselves in both written and spoken English sufficient to derive the full benefit from the network training.

This PhD will take place at the Agroscope, Posieux (canton of Fribourg), Switzerland. You will join the research team of Dr. Giuseppe Bee, leading the swine research unit at Agroscope. You will be supervised by Dr. Catherine Ollagnier, Dr. Giuseppe Bee and co-supervised by the Prof. Paolo Trevisi (University of Bologna, Italy). During your secondment in Prof. Paolo Trevisi's laboratory at the University of Bologna you will be trained to perform the microbiome analyses. Besides the different training schools that you will follow with the ESR-colleagues, you will receive specific *TRAININGS* maintaining probiotics cell blank and pre-culture system in a Swiss startup company.

The following eligibility rules apply for participation in a Marie Skłodowska Curie Innovative Training Network (MSCA-ITN) – MonoGutHealth

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There are strict eligibility requirements for the ESR PhD positions in MSCA-ITN. Please ensure that you qualify before applying, as ineligible candidates cannot be considered. Applicants should not have resided or performed their main activity (work, studies, etc.) in the country of the host institution for more than 12 months in the 3 yearperiod immediately prior to the start date of the PhD research. Applicants for the ESR PhD positions should be within the first 4 years (full-time equivalent) of their research careers and not yet have been awarded a doctorate. This 4 year period is measured from the date of obtaining the degree which would formally entitle them to embark on a doctorate programme.

Benefits

By participating in the **MonoGutHealth** consortium, you will obtain in-depth training in scientific (*monogastric nutrition*, *gut physiology* and *microbiome* and *immunology*) and soft (*training on communication and outreach activities and entrepreneurship*) skills through participation in targeted courses. You also will get the opportunity to collaborate with other ESR in the **MonoGutHealth** network of 7 European countries and you will be exposed to

industry (for at least 3 months) and build a lasting network for your future career in academia and/or industry. You will be carefully supervised by 3 experienced members of leading academic and industrial representatives.

MonoGutHealth will give you much more than a **'classical' PhD dissertation**. You will obtain many additional skills to help you in your future career to traverse traditional discipline boundaries, identify and implement the most appropriate tools to comprehensively overcome pressing future challenges in academia and/or industry. Information for MSC-ITN fellows can be found at

https://ec.europa.eu/research/mariecurieactions/resources/documentlibraries/information-note-fellows-innovative-training-networks-itn_en.

More information on the project can be found on our project homepage: www.monoguthealth.eu

SELECTION PROCESS

You can apply for this ESR position no later than 15.08.2021 by sending the following information to the email address:
human.resources@agroscope.admin.ch (Ref.nr. 46438)

- your complete CV,
- motivation letter*,
- copies of University Bachelors/Masters certificates or equivalent and
- contact details of two referees, who can provide a letter of recommendation.
- Include a General Data Protection Regulation (GDPR) statement**.

* Points to be included in the motivation letter (maximum 600 words)

- Describe what about the advertised position particularly interests you, why you want to apply for it and why you should be considered for the ESR position.
- Indicate why you want to pursue a PhD project and not take a job in industry.
- Explain why you think it is important to improve animal welfare and efficiency in livestock production.
- Describe your experience in working with experimental animals, if any, and why animal experiments need to be performed.

** You consent that your personal data will be processed by the MonoGutHealth project consortium for considering your application for the ESR position.

For more information please contact Dr. Catherine Ollagnier (catherine.ollagnier@agroscope.admin.ch) or Dr. Bee by mail (giuseppe.bee@agroscope.admin.ch) and mention MonoGutHealth in the title.