

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 IMPROVING THE SURVIVAL AND GROWTH OF PIGLETS FROM LARGE LITTERS: MANIPULATION OF COLOSTRUM AND MILK, AND PROVISION OF SUPPLEMENTAL MILK (PREFERRED START DATE: 1/3/2021; DURATION: 3 YEARS)

Increased litter size in sows is linked with decreased piglet birth weight (BtW) and reduced neonatal survival. The number of underdeveloped piglets born per litter also increases, resulting in piglets showing signs of Intra-Uterine Growth Restriction [IUGR]. Low BtW/IUGR piglets have reduced vitality at birth and are more prone to morbidity and early postnatal mortality. The objective of this PhD project is to identify and evaluate nutritional strategies for pregnant sows and piglets that improve postnatal and post-weaning survival, growth and gut development. Strategies to be assessed will include; (1) nutritional interventions (e.g. probiotics, prebiotics) in sows during late gestation and lactation to improve colostrum/milk yield and quality and; (2) the automatic provision of supplementary milk to suckling and newly weaned piglets to increase energy intake. Parameters investigated will include colostrum/milk composition and immunoglobulin content, gut structure and function in the offspring, and sow and offspring gut microbiota profiles.

You will be based at the Teagasc Pig Production Department at Moorepark, Fermoy in Ireland where you will join the research team of Dr. Peadar Lawlor under the supervision of Dr. Lawlor and Dr. Keelin O'Driscoll. You will be co-supervised by Dr Giuseppe Bee (Agroscope Posieux, Switzerland) and Dr. Gillian Gardiner (Waterford Institute of Technology, Ireland) and mentored by Ms. Susan Dudley (Kiernan Milling, Ireland)

As well as the many training schools available to you as an ESR in the MonoGutHealth project, you will receive specific training in milk replacer and feed formulation for piglets at Kiernan Milling. You will also undertake an internship at Agroscope Posieux, where you will perform one of your animal experiments

THE FOLLOWING ELIGIBILITY RULES APPLY FOR PARTICIPATION IN A MARIE SKŁODOWSKA CURIE INNOVATIVE TRAINING NETWORK (MSCA-ITN) - MONOGUTHEALTH

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 year-period 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/document-libraries/information-note-fellows-innovative-training-networks-itn_en

SELECTION PROCESS

You can apply for this ESR position no later than 8th January 2021 by sending the following information to peadar.lawlor@teagasc.ie

- your complete CV
- motivation letter*
- copies of University Bachelors/Masters certificates or equivalent
- contact details of two referees, who can provide a letter of recommendation
- 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. Peadar Lawlor by mail (peadar.lawlor@teagasc.ie) and reference MonoGutHealth in the title.

QUALIFICATIONS EXPERIENCE & COMPETENCIES

Applicants must have a relevant Master's degree in Agricultural Science, Animal Science or Veterinary Science, with relevant animal and laboratory experience.

Applicants whose first language is not English must submit evidence of competency in English; please see [WIT's English Language Requirements](#) for details.