

## Announcement Nº 16/2024/BI

Instituto Nacional de Investigação Agrária e Veterinária, I.P. (INIAV)

### PhD position in animal conservation and reproductive technology

The National Institute for Agrarian and Veterinary Research (INIAV) in Portugal has an open 3-year PhD position in the field of farm animal conservation and reproductive technology. This PhD position is part of a new EU HORIZON-MSCA-Doctoral Network called **CryoStore** (Innovation in germplasm cryopreservation for improved animal breeding and the conservation of Europe's livestock biodiversity). Further information on the CryoStore doctoral network can be found at the CryoStore website <https://www.cryostoreproject.com/>.

The CryoStore consortium consists of 8 full partners in 6 European countries, together with 14 academic and non-academic associated partners. The aim of CryoStore is to provide high-level training in the fields of cryobiology, reproduction/animal breeding and animal conservation to a new generation of high achieving early-stage researchers to provide them with the scientific and transferable skills necessary for thriving careers within these disciplines. This goal will be achieved by a unique combination of 'hands-on' research training, non-academic placements, and courses and workshops on scientific and transferable skills facilitated by the academic/non-academic composition of the consortium.

PhD title: Minimizing adverse epigenetic modifications in cryopreserved native Merino sheep embryos in order to improve quality and survival rate

Supervisor: Rosa Maria Lino Neto Pereira

The project: Sheep embryos are very susceptible to the cryopreservation process especially when produced *in vitro*. Moreover, this type of embryo production has been shown to affect some epigenetic markers. Additionally, embryo vitrification requires high concentrations of cryoprotectants that may trigger epigenetic alterations. Such risks and ways to reduce them will be explored during this CryoStore project in sheep embryos.

The project objectives will be: 1) Characterize the DNA methylation changes induced by *in vitro* sheep embryo production and cryopreservation processes; 2) Investigate different strategies to minimize adverse epigenetic modifications; and 3) Assess the embryonic quality and cryosurvival rate of the implemented methodologies used to minimize adverse epigenetic modifications.



During the PhD project, we expect to 1) Identify DNA methylation patterns of fresh or vitrified sheep *in vitro* produced embryos; 2) Choose the best strategies to minimize adverse epigenetic modifications in sheep embryos; 3) Establish new protocols to produce *in vitro* sheep embryos with high survival rates and low adverse epigenetic modifications

## Profile

INIAV is looking for a PhD candidate who should fulfil the following requirements:

- Applicants must have a European Master's degree Veterinary Science, Biology, Biomedical Sciences or related discipline.
- Applicants that are not native English speakers must provide proof of their English language proficiency as established through an internationally recognized qualification system.
- Mobility rule: researchers must not have resided or carried out their main activity (e.g. work, studies) in the country of the recruiting beneficiary for more than 12 months in the last 36 months immediately before their recruitment date.

*The following experiences and skills will be emphasized:*

- Experience in animal reproduction, including assisted reproductive technologies.
- Experience in germ cell biology, epigenetics, molecular genetics and/or cell imaging techniques would be advantageous.

*You need to:*

- Have good communication and writing skills.
- The candidate should be a good team player as well as being able to work independently, efficiently and with dedication.
- Be highly motivated and show interest and enthusiasm towards the PhD project.
- Be prepared to spend short periods abroad during secondments to partner institutes within the CryoStore consortium.

## Offer

We offer a full-time PhD position for 3-years, at a month salary consisting of 1) a living allowance of around €2866,2 (country correction coefficient applied), 2) a mobility allowance of €600 and, 3) a family allowance (€660), if applicable. Employer costs and other deductions depend on the Portuguese legislation.

Start date: 1 August, 2024, or as soon thereafter.

## Application

The application must contain information about your education and previous practice, as well as your motivation for carrying out such a PhD project. Please send application directly to [rosa.linoneto@iniav.pt](mailto:rosa.linoneto@iniav.pt)

The following documents must be attached to the application:

- Motivation letter (maximum 1 page)
- Complete CV
- Certified copies of academic diplomas and certificates.
- Documentation of proficiency in written and oral English
- Names and contact details for two references.

**Application deadline: 28 July, 2024.**

For further information please contact **Dr. Rosa Maria Pereira**, Email: [rosa.linoneto@iniav.pt](mailto:rosa.linoneto@iniav.pt)