

**The Nantes veterinary college has a vacancy for an associate professor in large animals Theriogenology**

**SELECTION OF CANDIDATES ON JUNE 11 AND 12, 2025  
TAKING OFFICE ON SEPTEMBER 1, 2025**

The deadline for submitting registration files (completed form, completed activity report, copy of main qualifications and diplomas) will probably be between March 15 and 30 (waiting for the official publication of this specific deadline)

**Official Job Title : MAITRE DE CONFÉRENCE (ASSOCIATE PROFESSOR) IN BIOTECHNOLOGY AND PATHOLOGY OF DOMESTIC ANIMAL REPRODUCTION  
(WITH CLINICAL ACTIVITY IN LARGE ANIMALS)**

**Teaching department of assignment:** Department of Clinical Sciences.

**Teaching unit of assignment:** Biotechnology and reproductive pathology

**Assignment research unit:** UMR 1064, Center for Translational Research in Transplantation and Immunology (CR2TI), INSERM, Nantes University, Nantes University Hospital - Team 2

## MISSIONS

### TEACHING:

Within in the teaching team (made up of 3 professors) of the Pedagogical Unit of Biotechnologies and Reproductive Pathology , the associate professor will carry out its teaching activity (192h Eq TD) in the form of Courses, Directed Work in the classroom and in practice on animals from educational herds and Clinical Work within the CHUV via:

- Participation in the design and delivery of teaching (lectural, practical and clinical) in theriogenology organized in 3 teaching modules in 3 and 4<sup>th</sup> years of vet studies in a transversal manner among the different species of domestic mammals :
  - Practical approach of genital tract examination of males and females of domestic mammals
  - Monitoring and control of estrous cycles, reproductive biotechnologies, diagnosis and monitoring of gestation, female genital pathology, male genital pathology, breast pathology
  - Pathology of gestation, breeding diseases, obstetric pathology, postpartum pathology, neonatal pathology
- Participation in the design and delivery of lessons (directed, practical and clinical) in 5<sup>th</sup> year which are organized by groups of species during clinical rotations (in 1/16<sup>th</sup> class for large species, in 1/20<sup>th</sup> class for companion animals). The recruited associate professor will be particularly involved in the clinical training of students in ruminant and/or equine reproduction (depending on his/her skills) and will participate in the development of training by resolving individual and/or collective clinical cases.
- Participation in the design and delivery of lessons (lectural, guided, practical and clinical) for the 6<sup>th</sup> year (in-depth year) and in the internship. The recruited associate professor will be particularly involved in the clinical training of students in ruminant or equine reproduction (depending on his/her skills) organized in clinical rotations and including practical tutorials and clinical reflection as well as "journal clubs".
- The development and supervision of the work (in animal reproduction) of student exercise theses for the veterinary doctor diploma.

The recruited MC will participate of the constant evolution of the teachings of the discipline and in educational innovation in the discipline (both in their form and in their content).

## - **RESEARCH :**

The recruited associate professor will join, for his research activity, team 2b "Understanding embryo development to improve fertility" led by Drs Jérôme Jullien and Laurent David. He/she will integrate more specifically into the work carried out by two Professors from Oniris and an associate professor from AgroParisTech associated with team 2b.

If the recruited associate professor already holds a PhD thesis, he or she may be entrusted with the supervision of master's students and/or the co-supervision of theses. Otherwise, he will be offered a path to obtaining a doctoral thesis.

The theme of the research activity is the study of early embryonic development with the aim of improving fertility. The team combines approaches in humans, laboratory models (mice, *Xenopus*), as well as domestic animals.

The current research project that the recruited associate professor will integrate fits perfectly into this theme and concerns the quality of gametes in domestic species. These are:

(i) To better understand spermatogenesis in horses. For this, the Oniris and APT ECs created a bank of testicular biopsy samples from healthy, cryptorchid and immunocastrated animals. The team has set up a single cell RNA-seq analysis protocol and is developing a spatial transcriptomics protocol. The associate professor will have to interact with a bioinformatician to generate and then validate using orthogonal approaches an atlas of transcriptomic states characteristic of equine spermatogenesis. It will also be necessary to define alterations in spermatogenesis in cases of cryptorchidism and immunocastration. This project benefits from funding from the Pays de La Loire region.

(ii) To better understand the epigenetic load of horse sperm. To do this, the MC will have to integrate an existing program aimed at defining the small RNAs associated with spermatozoa. The project aims to identify changes in the sperm's small RNA load during its epididymal transit. RNA-seq analysis of purified sperm small RNAs from the head, body and tail of the epididymis will be performed. The objective is to identify markers of gamete quality. The team has just been selected to benefit from funding by the IFCE COST for this project.

(iii) To determine how maternal factors interpret sperm epigenetic signals. The team identified oocyte factors in a *Xenopus* model that bind to sperm chromatin during fertilization. The team validated these interactions in a bovine model. With the other Oniris ECs involved, the MC will participate in the functional validation project of these interactions. This will involve producing bovine embryos in order to confirm other candidate proteins and then carrying out functional tests via the implementation of TRIM-AWAY technology. This approach is funded within the framework of PEPR SAFE, funding for which will begin in 2025.

## - **TRANSVERSE ACTIVITIES:**

The recruited EC will participate in the life of the teaching unit, the clinical sciences department, the Veterinary University Hospital Center (CHUV) and more generally the establishment, in particular through, in the medium term, a progressive assumption of responsibilities, participation in working groups, project management and representation of their peers within the establishment's various institutional councils.

## **PROFILE OF CANDIDATES:**

Due to clinical activities, the candidate must be a Veterinary Doctor (in the Veterinary University Hospital Center, a non-European diploma is accepted)

Holder of a PhD thesis in the field of animal reproduction, reproductive biotechnologies **and/or** graduate of the European ECAR or American ACT college for at least one of the specialties: ruminants, or equines (failing that, reproductive biotechnologies or swine); The skills acquired to obtain the specialist diploma are particularly sought after for the teaching mission of the position.

The candidate must be fluent in French and if possible be able to express himself written and orally in English.

He must have an appetite for teaching and pedagogical and clinical skills.

*Note: given that the core teaching is approached from the angle of comparative physio-pathology, the skills acquired in this area as part of the preparation for the exam of the European ECAR or American college of specialists (the most important part of which is multi-species), applications from specialists from one of these ECAR or ACT colleges will be particularly appreciated. For clinical disciplines in French Veterinary Colleges, holding one of these specialist diplomas allows you to apply without necessarily having defended a PhD thesis. If the recruited associate professor does not hold an ECAR/ACT diploma he/she will be strongly encouraged to prepare for the exam during his/her first years post-recruitment.*

### **Contacts for additional information:**

Heads of the teaching department: Pr Olivier GAUTHIER ([olivier.gauthier@oniris-nantes.fr](mailto:olivier.gauthier@oniris-nantes.fr))  
and recruitment within the Educational Unit: Pr Jean-François BRUYAS ([jean-francois.bruyas@oniris-nantes.fr](mailto:jean-francois.bruyas@oniris-nantes.fr))

Director of the CR2TI UMR 1064 research unit : Pr Regis Josien [Regis.josien@univ-nantes.fr](mailto:Regis.josien@univ-nantes.fr)

Head of research team 2b: Dr Jérôme JULLIEN ([jerome.jullien@inserm.fr](mailto:jerome.jullien@inserm.fr))