



UMR 703 PAnTher

Physiopathologie Animale et bioThérapie du  
muscle et du système nerveux

Oniris  
NATURAL SCIENCE

## PHD POSITION IN TRANSLATIONAL MEDICINE & COMPARATIVE PATHOLOGY

### OUR OFFER

The Research Unit of Animal Pathophysiology and BioTherapy for Muscle and Central Nervous System Diseases (PAnTher, UMR 703 Oniris/INRAE) at Oniris Veterinary School, Nantes, France, offers a PhD position in translational medicine and comparative pathology.

You will be integrating a young and dynamic multi-disciplinary team. In our lab we strive for high level research projects. You will be able to put your mark on the development of a new effective therapy for Pompe disease.

You will also have the opportunity to train our young veterinarians at the vet School by participating in our veterinary pathology education. You will be accompanied by a team of teacher-researchers pathologists all certified by the European College of Veterinary Pathologists.

Salary and working conditions are according to the collective labor agreement of the Ministry of Agriculture and Food. They include free health insurance and paid leave.

### YOUR RESEARCH PROJECT

#### Motivation

Pompe disease (glycogenosis type 2) is a lysosomal storage disorder due to acid alpha-glucosidase (GAA) deficiency, resulting in glycogen accumulation in many tissues and particularly in skeletal muscle. Enzyme replacement therapy (ERT) with recombinant human GAA (Myozyme®) can significantly increase the lifespan of patients with the infantile form by correcting the cardiac pathology. Nevertheless, the response of skeletal muscle to ERT is highly variable among patients. Consequently, a reconsideration of the muscle pathogenesis has emerged over the previous decade, highlighting that a dysregulation of the autophagy pathway is a hallmark of Pompe disease following the initial lysosomal glycogen accumulation due to GAA deficiency.

The focus of this research project is therefore, to provide new insight into the pathophysiology of Pompe disease for proposing a more appropriate treatment.

#### Research challenge

With respect to the contents of the project, the main research challenge consists of better understanding the partial response of the muscle to ERT from Pompe patients. Secondly, this project will study whether the muscle pathology observed in Pompe disease could result from a defect in the bioenergetic supply following impairment of the autophagic flux. Last, the expected findings obtained from Pompe patients and mouse model could contribute to the definition of a new and more effective therapy for the skeletal muscle in Pompe disease but also, can have implications to patients with other skeletal myopathies. Our approaches rely on the complementarity of highly trained veterinarians, pathologists all ECVP certified, researchers and engineers working in synergy, cutting-edge expertise in animal models and cell & tissue phenotyping, and state-of-the art equipment.

#### Partnership

The project will be done in close collaboration with Pr P. Laforêt and Dr E. Malfatti from the Centre de Référence de Pathologie Neuromusculaire Nord-Est-Ile de France, Department of Neurology, Raymond Poincaré Hospital, Garches, France.

Promotor: Prof. Marie-Anne Colle

Co-promotor: Dr Karl Rouger

## YOUR WORK ENVIRONMENT

PAnTher benefits from its implantation within Oniris Veterinary School (<https://www.oniris-nantes.fr/>) and from its close proximity to Engineering and Business Schools implanted on the Chantrerie campus. PAnTher has been involved in long-term fruitful relationships with highly renowned research teams from Nantes University involved in regenerative and translational medicine.

2 hours from Paris and 45 minutes from the Atlantic Ocean, Nantes is a beautiful city of culture and nature. Elected European Green Capital in 2013 thanks to its strong and continuous environment policy, our city has been recognized as one of the most pleasant french city to live in. Our lab, accessible via public transportation, is located in the Chantrerie Park near the Erdre River, an ideal spot between a dynamic city and a peaceful countryside.

## RECRUITMENT PROCEDURE

### REQUIREMENTS

- The candidate must hold a:
  - a veterinary diploma or degree
  - additional training in veterinary pathology
- The candidate must be under 28 years old on October 1, 2020. A derogation can be envisage under certain conditions.
- Strong interest in research and education
- Strong interest in veterinary and comparative pathology
- Excellent communication skills, orally as well as in scientific writing

### THE SELECTION PROCESS WILL TAKE PLACE IN TWO ROUNDS

- Selection based on the required application documents
- final selection during a recruitment challenge based of an interview

### DEADLINES

- Registration opening date: April 30, 2020
- Closing date for registrations: May 30, 2020
- Start of selection tests: from June 15, 2020
- Position taking: September 2020

Applicants admitted to the selection process will receive an individual invitation issued by Oniris.

## HOW TO APPLY

Outstanding and highly motivated candidates are asked to provide the following information:

- A brief based on credentials and works specifying:
  - doctoral study entrance qualification (name master degree)
  - publications (if applicable)
  - scientific interest, complementary qualifications, achievements
  - other relevant information
  - and including certificate of diploma and title
- A certified photocopy of the required diploma or title
- A civil status sheet dating back less than 3 months
- Any act establishing your nationality

**YOU ARE INTERESTED, PLEASE CONTACT ME at [marie-anne.colle@oniris-nantes.fr](mailto:marie-anne.colle@oniris-nantes.fr), I am the head of the Research Unit PAnTher, and in charge of the PhD program.**

Pr Marie-Anne COLLE, DVM, PhD, DiplECVP