

## Job title: Post-doc in Metabolism and Neurodegenerative Diseases

 24 months

 Début : 02/2025

 Paris

Fully funded 2-year Post-doctoral position in the team of Dr. Ralf JOCKERS, at Institute Cochin (Paris, France)

### Description du poste / Job description

#### Research project **Role of metabolic dysregulation in the pathophysiology and progression of neurodegenerative diseases**

An increasing body of evidence point to the existence of a link between metabolic dysfunction and neurodegenerative diseases (ND), but the molecular mechanisms are poorly known. We are seeking a highly motivated and talented Postdoctoral Researcher to join this FRM-funded multidisciplinary project to uncover the complex interaction between metabolic function and ND pathophysiology, in vitro and in vivo (PI: Dr. Erika Cecon).

#### Main Activities

- Characterize the metabolic function in transgenic mouse models of ND
- Investigate the impact of metabolic dysfunction on the development and progression of ND
- Investigate the underlying molecular and cellular mechanisms governing the link between players involved in ND and metabolic (dys)function
- The main techniques to be performed by the researcher comprise: cell culture and cell signaling, western blot, in vivo metabolic profiling, mitochondrial function analysis, immunohistology/cytology/ confocal microscopy

#### Expertise

- Experience in mammalian cell culture, cell biology
- Experience in analysis of protein expression by western-blot and by immunofluorescence analysis of cells and tissues in confocal microscopy
- Experience in animal experimentation

#### Skills

- Excellent communication skills in English, orally and written
- Good organization and scientific rigor skills
- Curiosity and Motivation for scientific projects
- Ability to solve problems
- Team-oriented personality
- Strong analytical skills and experience with data analysis tools

#### Diploma level

PhD in physiology, cell biology, biochemistry, or a related field

## Host structure

**Team leader** The team “Functional pharmacology and pathophysiology of membrane receptors”, is part of the Institute Cochin located in the center of Paris, 22 rue Méchain – 75014 Paris, France. Team leader: Dr. Ralf JOCKERS. The team is composed of approx. 15 collaborators and has a specific interest in identifying new therapeutic approaches for metabolic and neurodegenerative diseases. We are developing original Nanoluciferase complementation, BRET and TR-FRET cellular assays combined with photo-pharmacology and knockout and knockin mouse models. Our work is highly interdisciplinary, gathering molecular pharmacologists, biochemists, physiologists and chemists coming from all over the world.

### **Publications:**

Gao W, et al.. Human GLP1R variants affecting GLP1R cell surface expression are associated with impaired glucose control and increased adiposity. Nat Metab. 2023.

Cecon E, et al. Novel repertoire of tau biosensors to monitor pathological tau transformation and seeding activity in living cells. Elife. 2023.

Cecon E, et al. Amyloid Beta Peptide Is an Endogenous Negative Allosteric Modulator of Leptin Receptor. Neuroendocrinology. 2021.

Cecon E, et al. Quantitative assessment of oligomeric amyloid  $\beta$  peptide binding to  $\alpha 7$  nicotinic receptor. Br J Pharmacol. 2019.

Karamitri A, et al. Type 2 diabetes-associated variants of the MT<sub>2</sub> melatonin receptor affect distinct modes of signaling. Sci Signal. 2018.

<https://institutcochin.fr/equipes/pharmacologie-fonctionnelle-physiopathologie-recepteurs-membranaires>

### **About the structure**

The Institute Cochin is a research center affiliated to INSERM, CNRS, Université Paris Cité, located in the heart of Paris. It has more than 600 members in 41 teams, dedicated to high-level biomedical sciences and assisted by 10 cutting-edge core facilities.

[www.institutcochin.fr](http://www.institutcochin.fr)

### **Director**

Florence Niedergang

### **Adresse**

22 rue Méchain 75014 Paris, France

## General Informations

**Starting from:** 01/02/2025

**Duration** 24 months

**Working time** Temps plein/Full time  - Temps partiel/Part time

**Salary** Approx. 3081€ gross salary, adjusted to experience level

## How to apply

**Application deadline** 10/11/2024

### **To apply**

Candidates should send their CV, letter of motivation and reference letter(s) with contacts to:  
Erika Cecon  
Email : [erika.cecon@inserm.fr](mailto:erika.cecon@inserm.fr)