

**FICHE NAVETTE: DOCTORANTS IDEX**

**SECTOR :** Higher Education Institution

**LOCATION:** France, Grenoble

**RESEARCH FIELD:** Molecular and cellular biology

**RESEARCHER PROFILE:** First stage researcher

**INSTITUTION:** Univ. Grenoble Alpes

One of the major research-intensive French universities, Univ. Grenoble Alpes<sup>1</sup> enjoys an international reputation in many scientific fields, as confirmed by international rankings. It benefits from the implementation of major European instruments (ESRF, ILL, EMBL, IRAM, EMFL). The vibrant ecosystem, based on a close interaction between research, education and private companies, has earned Grenoble to be ranked as the 5th most innovative city in the world. Surrounded by mountains, the campus benefits from a natural environment and a high quality of life and work environment. With 7000 foreign students and the annual visit of more than 8000 researchers from all over the world, Univ. Grenoble Alps is an internationally engaged university.

A personalized Welcome Center for international students, PhDs and researchers facilitates your arrival and installation.

In 2016, Univ. Grenoble Alpes was labeled «Initiative of Excellence ». This label aims at the emergence of around ten French world class research universities. By joining Univ. Grenoble Alpes, you have the opportunity to conduct world-class research, and to contribute to the social and economic challenges of the 21st century ("sustainable planet and society", "health, well-being and technology", "understanding and supporting innovation: culture, technology, organizations" "Digital technology").

\* ESRF (European Synchrotron Radiation Facility), ILL (Institut Laue-Langevin), IRAM (International Institute for Radio Astronomy), EMBL (European Molecular Biology Laboratory), EMFL (European Magnetic Field Laboratory)

**Key figures:**

- + 50,000 students including 7,000 international students
- 3,700 PhD students, 45% international
- 5,500 faculty members
- 180 different nationalities
- 1st city in France where it feels good to study and 5th city where it feels good to work
- ISSO: International Students & Scholars Office affiliated to EURAXESS

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<sup>1</sup> Université Grenoble Alpes

## MANDATORY REFERENCES:

### CDP TITLE:

SYMER – a systems approach to new paradigms in metabolic and epigenetic regulation

### SUBJECT TITLE:

Metabolite detection by FRET and LC-MS to analyze metabolic shifts and their effects on epigenetic marks

### SCIENTIFIC DEPARTMENT (LABORATORY'S NAME):

Laboratory of Fundamental and Applied Bioenergetics (LBFA) – UGA / Inserm U1055

### DOCTORAL SCHOOL'S:

Ecole Doctorale Chimie Sciences du Vivant (EDCSV)

### RESPONSIBLE:

Prof. Uwe Schlattner

## SUBJECT DESCRIPTION:

We have an opening position for a Ph.D. student in an interdisciplinary multi-team consortium at the University Grenoble Alpes that addresses the emerging interplay between metabolism and epigenetics ([SYMER project](#)). The PhD project will analyze cellular changes of specific metabolite concentrations upon metabolic shifts and their potential effects on epigenetic marks. It applies a broad panel of methodologies in molecular and cell biology as well as metabolomics. The project will also include opportunities for laboratory training with external collaborators in Bristol (UK) and Zürich (Switzerland).

The successful and highly motivated candidate should have a solid background in biochemistry and molecular biology, as well as team spirit and interest in training visits abroad. Experience with cell culture and/or metabolomics is an advantage, but not essential. He/she should have a strong interest in the analysis of metabolism at the cellular level by cutting-edge technologies. Applied methods will comprise optimization and cellular deployment of a novel genetically encoded FRET sensor, observed by fluorescence/confocal microscopy, the establishment of a LC-MS based metabolomics pipeline for detection of specific metabolites, as well as the application of these technologies to metabolically challenged cells (1-3).

We are a small, multidisciplinary, and successful group at LBFA/Inserm U1055 working in the field of bioenergetics and metabolism (4-8), located on the St. Martin d'Hères/Gières University campus. We offer a position for the duration of three years and an excellent research environment within our new laboratory building and recognized local and international collaborators.

(1) Pelosse et al. (2016) Genetically encoded fluorescent biosensors to explore AMPK signaling and energy metabolism. **Experientia Suppl.** **107**:491-523.

(2) Pelosse et al (2015) Genetically encoded fluorescent biosensors based on AMP-activated protein kinase. Patent, international publication number WO2015/193466 A1.

(3) Zimmermann et al. (2013) Non-targeted profiling of coenzyme A thioesters in biological samples by tandem mass spectrometry. **Anal. Chem.** **85**:8284–8290.

(4) Chabert et al. (2017) Muscle hypertrophy in hypoxia with inflammation is controlled by bromodomain and extra-terminal domain proteins. **Scientific Rep.** **7**:12133, 2017.

(5) Kagan et al. (2016) NDPK-D (NM23-H4)-mediated externalization of cardiolipin enables elimination of depolarized mitochondria by mitophagy. **Cell Death Diff.** **23**:1140-51.

(6) Boissan et al. (2014) Nucleoside diphosphate kinases fuel dynamin superfamily proteins with GTP for membrane remodeling. **Science** **344**:1510-5.

(7) Chen et al (2013) Conserved regulatory elements in AMPK. **Nature** **498**:E8-10.

(8) Chen et al (2012) AMP-activated protein kinase undergoes nucleotide-dependent conformational changes. **Nature Struct. Mol. Biol.** **19**:716-8.

## **ELIGIBILITY CRITERIA**

Applicants:

- must hold a Master's degree (or be about to earn one) or have a university degree equivalent to a European Master's (5-year duration),

Applicants will have to send an application letter in English and attach:

- Their last diploma
- Their CV
- A short presentation of their scientific project (2 to 3 pages max)
- Letters of recommendation are welcome.

Address to send their application:

uwe.schlattner@univ-grenoble-alpes.fr and in cc: edwige.hiriart-bryant@univ-grenoble-alpes.fr

## **SELECTION PROCESS**

Application deadline: **29/07/2018** at 17:00 (CET)

Applications will be evaluated through a three-step process:

1. Eligibility check of applications in July 2018
2. 1st round of selection: the applications will be evaluated by a Review Board and candidates informed until 31/07/2018.
3. 2nd round of selection: shortlisted candidates will be invited for an interview session in Grenoble during August 2018.

TYPE of CONTRACT: temporary-3 years of doctoral contract

JOB STATUS: Full time

HOURS PER WEEK: 35

OFFER STARTING DATE: **01/11/2018**

APPLICATION DEADLINE: **29/07/2018**

Salary: 1768.55 € per month

**Financements de la thèse** : IDEX CDP SYMER