**Physiology and pathology of striatal development – towards understanding and treatment of restless legs syndrome**

PROJECT: Although Restless Legs Syndrome (RLS) is very frequent neurological disorder (about 7-10% of the population), the mechanisms underlying this disease are not known. The aim of the project is to characterize the role of new genetic RLS risk factor in control of striatal development, functions and pathology. The project will benefit from new animal models relevant for research into RLS which will be available for developmental and molecular analyses, but also for testing new treatments for prevention and treatment of RLS symptoms.

The project will be carried out at IGBMC and Mouse Clinical Institute (Strasbourg-Illkirch), international research institutes located in the heart of dynamic research region at crossroads of France, Germany and Switzerland. It will profit from such location and state-of-the-art infrastructure and expertise in developmental biology, animal behavior and pharmacology, genomics and bioinformatics. In addition, close collaboration with world leaders in clinical research in RLS and neurodegeneration will be mandatory to identify relevance of obtained data for the clinical condition and test new strategies of therapy.

We are looking for highly motivated post-doctoral fellow with solid research experience in developmental neurobiology. Expertise in molecular and cell biology, primary cell cultures, life imaging will be a great asset. Candidate must have at least one first author publication. The ability to work in an English speaking team and good communication skills are required. The ideal candidate should be able to bring an original input to the project, write scientific papers, contribute to preparation of research grants and participate in animating team’s life.

Applicants should submit their complete application file (CV, motivation letter, publication list and contact to at least two reference scientists in one PDF file) by email.

Contact information:

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**New targets and pathways in neuroprotection – relevance for treatment of basal ganglia disorders.**

PROJECT: The project aims at validating new molecular determinants of striatal dysfunction and neurodegeneration. It will employ known and new mouse models relevant to Huntington and Parkinson diseases. It will benefit from (and should extend) a large amount of genomic (RNAseq, ChIPseq, proteomics) and molecular data relevant to the project which are available in the team. Such data point to neuroprotective activities of selected nuclear receptors and metabolic pathways. Thus testing neuroprotective activities of synthetic or newly discovered endogenous ligands of such receptors is envisaged and should highlight new pharmacological or nutritional strategies in prevention or treatment of neurodegenerative diseases.

The project will be carried out at IGBMC and Mouse Clinical Institute (Strasbourg-Illkirch), international research institutes located in the heart of dynamic research region at crossroads of France, Germany and Switzerland. It will benefit from such location and state-of-the-art infrastructure and expertise in animal behavior and pharmacology, molecular, genomic and bioinformatics analyses.

We are looking for highly motivated post-doctoral fellow who has a solid background and research experience in mitochondrial biology or neuron-glia communication. Technical expertise in molecular biology, primary cell cultures, imaging will be required whereas experience in genomic, bioinformatics analyses is strongly encouraged. Candidate must have at least one first author publication. The candidate should be able to bring personal input to the challenging multidisciplinary project, write scientific papers, contribute to preparation of research grants and participate in animating team’s life.

Applicants should submit their complete application file (CV, motivation letter, publication list and contact to at least two reference scientists in one PDF file) by email.

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Project 3: New tools in biological studies

The project:

Specific enzymes or their substrates are frequently shared by different metabolic pathways which is critical for a balanced production of different types of bioactive molecules. Unbiased, non-hypothesis driven identification of specific and shared metabolic pathways, relevant receptors and ultimate targets of action is highly needed yet extremely difficult. We propose to use click chemistry and other new chemical tools to control activity, bioavailability, and trace metabolic fate of endogenous and exogenous molecules as well as addressee their interacting proteins. As a proof of such concept we have recently designed an exogenous molecule (a pharmacological compound), for which ADME (Absorption, Distribution, Metabolism and Excretion) can be controlled at demand by purpose designed reagents. The objective of the project will be to use similar approach of bioorthogonal chemistry to control biodistribution of endogenous bioactive molecules and identify their metabolic pathway. This multidisciplinary project emerging from close collaboration with specialists in chemistry will benefit from a large library of novel purpose-developed reagents. In vivo and in vitro functional studies will be carried out using mouse genetic models dedicated for metabolic analyses and relevant for studies into neurodegenerative diseases.

The project will be carried out at IGBMC and Mouse Clinical Institute (Strasbourg-Illkirch), international research institutes located in the heart of dynamic research region at crossroads of France, Germany and Switzerland. It will benefit from such location and state-of-the-art infrastructure and expertise in animal behavior and pharmacology, molecular, genomic and bioinformatics analyses.

The applicant:

We are looking for highly motivated post-doctoral fellow with strong background in biochemistry and excellent expertise in cell cultures, molecular biology and imaging (life imaging in vitro or in vivo or super-resolution microscopy is encouraged). Candidate must have at least one first author publication. The ability to work in an English speaking team and good communication skills are required. The ideal candidate should be able to bring personal input to the challenging multidisciplinary project, write scientific papers, contribute to preparation of research grants and participate in animating team’s life.

Applicants should submit their complete application file (CV, motivation letter, publication list and contact to at least two reference scientists in one PDF file) by email.

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