

## **PhD Position On The Organ-Microenvironmental Control Of Lung Cancer Metastasis**

The **Institute of Neuropathology** at the **Justus Liebig University in Giessen, Germany**, Director Prof. Till Acker, is inviting applications for

### **1 PHD POSITION: ORGAN-MICROENVIRONMENTAL CONTROL OF LUNG CANCER METASTASIS** in the field of **tumor biology/neurooncology**.

#### **Your profile:**

We are looking for enthusiastic and highly motivated applicants holding, or about to obtain an MSc degree, diploma or equivalent. The applicants should possess a strong interest in cancer research, molecular and cell biology, the ability to integrate in an international team, learn about new fields and establish new experimental techniques. Prior experience with laboratory mouse, cell culture, or tumor biology related assays will be an advantage.

Duration of the position: 3 years, with the possibility of extension

#### **Topic:**

Regions of low oxygen tension are common findings in malignant tumors, being associated with increased frequency of tumor invasion and metastasis, and thus critically determining the clinical behaviour and outcome of tumors. We work on a broad range of topics, primarily related to the functions of members of the 2-oxoglutarate dependent dioxygenases including the control of oxygen sensing pathways by PHDs, their regulators and downstream effectors such as HIFs - in diverse aspects of cancer biology. We are particularly interested in understanding how stress signals from the tumor microenvironment are sensed and integrated to reprogram the metabolic and epigenetic state of the cell in order to promote tumor progression and therapy resistance. The proposed project will aim to dissect the crosstalk between the brain and lung microenvironment and metastasis to understand by which mechanisms tumor cells can metabolically adapt to allow for colonisation of the brain focusing on the control of 2-OG dependent dioxygenases.

#### **What we offer:**

Our international team offers an **open, supportive, dynamic and motivating academic environment** with the possibility to work on cutting edge research projects. We have won a number of external research grants and are involved in several national and international collaborative projects. We use a **wide spectrum of methods**: cloning, cell culture, biochemistry, qRT-PCR, FACS, ELISA, cell-based assays (proliferation, apoptosis, migration, 3D invasion, stem cell isolation and cultivation etc.), shRNA and CRISPR screens, proteomics, transactivation assays, virally-based gene delivery, RNAi and CRISPR silencing, immunohistochemistry, *in situ* hybridization, light, epifluorescence and confocal microscopy, image analysis, miRNA analyses, DNA methylation array analysis, next generation sequencing, chromatin immunoprecipitation, bioinformatic analysis, animal models and *in vivo* tumor models as well as access to tumor biopsies.

#### **Selected references:**

Dopeso *et al*, Cancer Research 2018;78(7):1805-1819.  
Depner *et al*, Nat Commun. 2016;7:12329.  
Filatova *et al*, Cancer Research 2016;76(19):5845-5856.  
Henze *et al*, Nat Commun. 2014;5:5582.  
Garvalov *et al*, Nat Commun. 2014;5:5577.  
Sawamiphak *et al*, Nature 2010; 465(7297):487-91