Position for Early Stage Researcher (36 months)

Title: Retinal glia: altered biomechanics in ocular diseases

Team:

Head: Prof. Dr Andreas Reichenbach.
Paul Flechsig Institute of Brain Research,
Medical Faculty of the Universität Leipzig

Our team, including eight postdocs and more than 10 doctoral students, is worldwide the largest group devoted to research on retinal glial (Müller) cells. We are applying various techniques (fluorescence imaging techniques with confocal and two-photon microscopy, patch-clamp electrophysiology, cell and organ cultures, electron- and light microscopy including morphometry, etc) to elucidate the role of Müller cells in retinal development, mature functioning, and pathology. For this purpose, we are collaborating with the eye clinic (Prof. P. Wiedemann: clinical impact of Müller cells) and with the Institute of Experimental Physics (Prof. J. Käs: Biomechanics of Müller cells). In the present project, the biomechanical properties of Müller cells will be experimentally altered (animal models of human ocular diseases) as well as monitored. The project is aimed at a better understanding of the role of glial biomechanics in development, normal neuronal plasticity, and regeneration of the retina. Furthermore, the experimental modification of glial biomechanics will be tested as a novel therapeutic approach.

Methods

Immunohistochemical/morphometrical evaluation of cytoskeletal elements of Müller cells in retinal wholemounts will be performed along a time series of normal development and on experimental animal models with altered cytoskelet compeonents of Müller cells. Particular emphasis will be on the correlation between the expression of cytoskeletal elements and biomechanical properties. This involves the application of advanced biophysical techniques; the following methods will be employed:

- Immunohistochemistry on retinal preparations (visualization of intermediate filaments and other cytoskeletal elements)
- Confocal microscopic imaging / electron microscopy incl. morphometry (quantification of intermediate filaments and other cytoskeletal elements)
- Biomechanical measurements (atomic force microscopy) on isolated Müller cells and retinal pieces.

Candidate profile:

We are searching for a candidate (ESR) who is interested (and should have some experience) in the morphology and morphometry of the retina. He / she should also be interested in learning and applying advanced biophysical methods, and, more generally, in entering the novel but rapidly expanding field of neuromechanics. He / she should also be willing and able to collaborate with other members of our interdisciplinary team, to exchange data and ideas in the project. Knowledge / experience in retina research or in biomechanics would be welcome. The candidate should be able to speak English well enough to allow scientific communication within the team.

Contact

You will find the respective details on our project website: http://www.eduglia.eu/partner.html

Federation of European Neuroscience Societies

.: Description

FENS invites all laboratories, institutes or companies with vacancies to send in a job description.

The Job Market website presents an overview of available jobs for PhD students, post-docs, up to senior staff positions and professorships. This service is free to all neuroscientists.

FENS members receive a monthly e-mail alert with a short description of new jobs.

.: Place a job ad

Please check your input. If everything looks okay, press **"finish"** to insert the Job Ad into our database. In case you've discovered a mistake, press **"edit"** to correct it.

Job #23263, added on 01/07/10, 14:15:24

Job Information

Ph.D. Student in Leipzig/Germany

Starting date:	2010-03-01
Application deadline:	n/a
Duration:	3 years
Institution:	University of Leipzig, Medical Faculty
Department:	Paul Flechsig Institute of Brain Research

Contact Information

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Job Description

We invite applications for a Ph.D. Student position being part of the Marie Curie Initial Training Network Edu-GLIA (http://www.eduglia.eu), funded by the European Commission.

Each Edu-GLIA project aims at elucidating one glia-neuron interaction within the central or peripheral nervous system. In the project at Leipzig, the biomechanical properties of Mueller cells will be experimentally altered (animal models of human ocular diseases) and monitored. The aim is to better understand the role of glial biomechanics in development, normal neuronal plasticity, and regeneration of the retina. Furthermore, the experimental modification of glial biomechanics will be tested as a novel therapeutic approach.

Methods:
- Immunohistochemistry
- Confocal microscopic imaging/electron microscopy incl. morphometry
- Biomechanical measurements (atomic force microscopy) on isolated Mueller cells and retinal pieces

Your qualifications:
- Interest (and some experience) in the morphology and morphometry of the retina
- Interest in learning and applying advanced biophysical methods and in entering the novel but rapidly expanding field of neuromechanics
- Willingness and ability to collaborate with other members of our interdisciplinary team, to exchange data and ideas in the project
- Knowledge/experience in retina research or in biomechanics is welcome
- Ability to speak English well enough to allow scientific communication within the team

The EU has strict eligibility criteria: Candidates

- Can be nationals of any country other than that of the host institution
- Must not have resided or carried out their main activity in the country of the host institution for more than 12 months in the 3 years immediately prior to their recruitment
- Should not possess a Ph.D.
- Should have less than 4 years of research experience after graduation with a degree allowing to start a Ph.D. thesis

Please send your CV, a letter of intent and the name of 2 referees to Prof. Andreas Reichenbach at reia.ulei@eduglia.eu

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