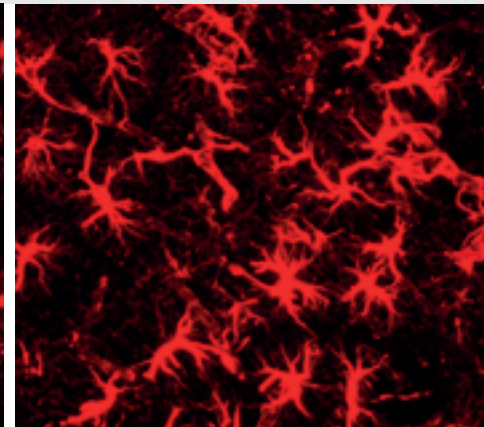
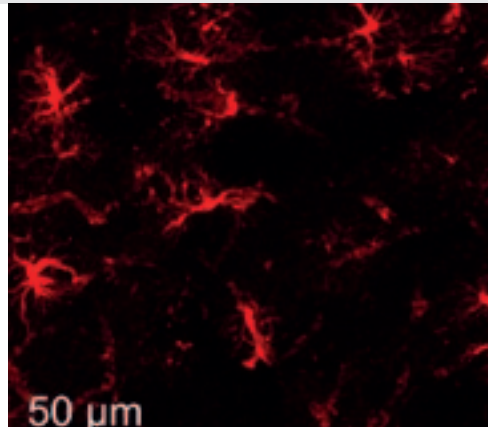
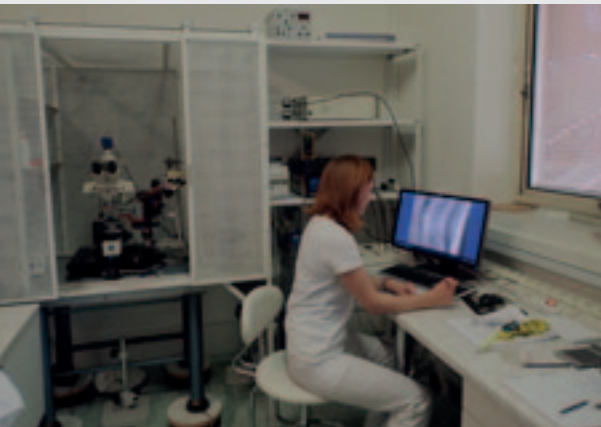




# DEPARTMENT OF NEUROSCIENCE

Diffusion Studies and Cell Therapy



## ABOUT US

Research is focused on:

1. the changes in the extracellular space diffusion parameters, extrasynaptic (volume) transmission and neuron-glia interaction during physiological and pathological states
2. stem cells and biomaterials in regenerative medicine.

The research is performed on animal models of pathological states, e. g. models global and focal ischemia, Alzheimer's disease, Huntington's disease, tumors, epilepsy, developmental disorders, aging, and brain and spinal cord injury.

The department is equipped with high technically advanced electrophysiological setups allowing measurements of various biopotentials, extracellular ion concentrations and the extracellular space diffusion parameters by a unique real-time iontophoretic method. It posses also several fluorescent microscopes for histological evaluation of samples and image analysis, including a new digital inverted fluorescence microscope EVOS.

## OUR TEAM

Assoc. Prof. Lýdia Vargová, M.D., Ph.D.  
Assoc. Prof. Pavla Jendelová, Ph.D.  
Prof. Eva Syková, M.D., DrSc.  
Miroslava Anděrová, Ph.D.  
Martina Chmelová, Ph.D.  
Marcel Bochin  
Barbora Svobodová  
Kristýna Kárová

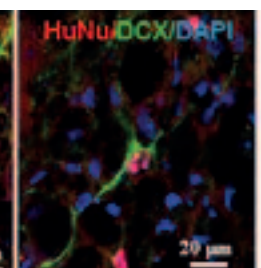
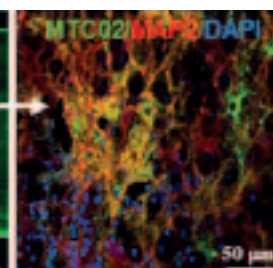
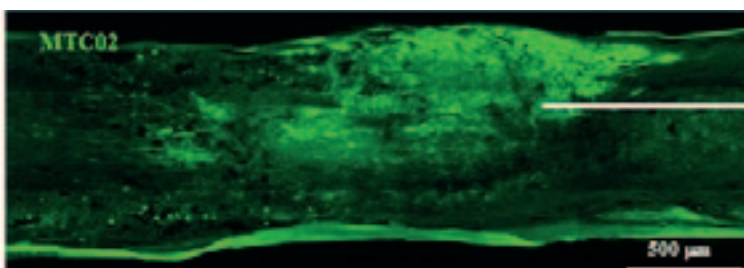
## WE OFFER

- Measurement of ion concentrations and the extracellular volume and tortuosity in situ and in vivo using ion-selective microelectrodes
- Measurements of biopotentials in the living tissue
- Fluorescence microscopy of cell cultures and tissue samples
- Image analysis including 3D morphometry

## CONTACT

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2 months





## PARTNERSHIPS & COLLABORATIONS

- P304-12-G069 Project of Excellence in Neuroscience
- Prof. Toshi Oohashi, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, Japan
- Prof. Nathalie Rouach, CIRB, Collège de France, DR2 Inserm, Paris, France
- Prof. Brigitte Onteniente, INSERM UMR 861, 91030 Evry cedex, France
- Prof. Meenou Jhanwar-Uniyal, New York Medical College, New York, USA.  
Mutual grant from a program Kontakt II LH12024.

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[http://neurovedy.lf2.cuni.cz/index\\_e.htm](http://neurovedy.lf2.cuni.cz/index_e.htm)

