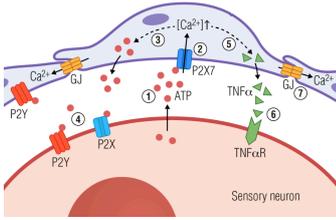


Neuroscience

Nerve injury and pain



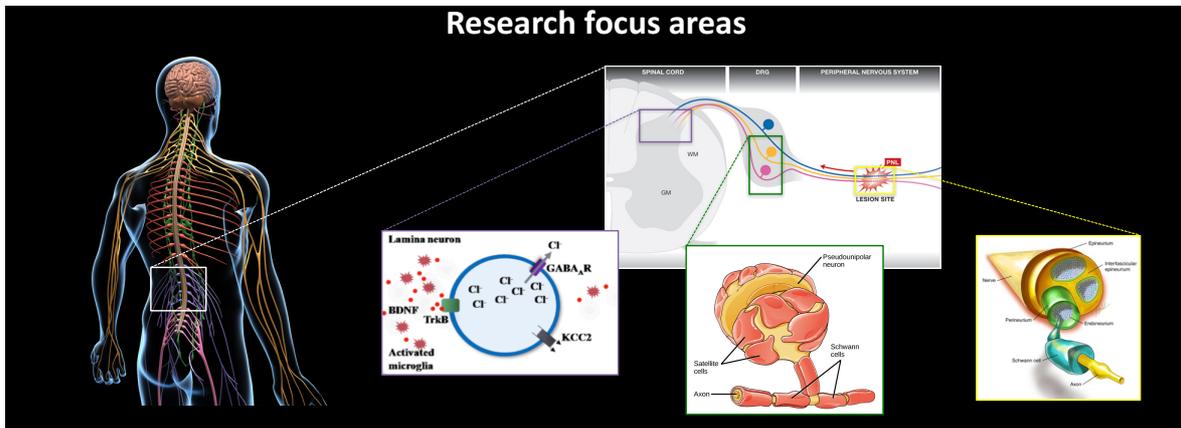
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Background

Peripheral neurons are completely covered by glial cells, with satellite glial cells (SGC) covering the neuronal soma and >1000 Schwann cells covering the length of the axon. It is therefore understandable that these glial cells play major roles in the normal functions of neurons, and that diseases affecting the glia significantly modulate peripheral and central neuronal signaling.

Our research aim is to understand how nerve injury or diseases such as diabetes trigger a glial response, and how activated glia subsequently alter their communication with the neurons. Understanding this glia-neuron interaction allows manipulation of neuronal homeostasis and activity, and may uncover novel molecular targets for the treatment of chronic (neuropathic) pain as well as for preventing the development of diabetic neuropathy.



Projects and techniques

You are welcome to join us, whether you are looking for a Bachelor's, Master's, PhD, research year project or similar. Please contact C<<hristian Vægter for more information.

As a student in our group you will work closely with a PhD student or postdoc who will help you getting started and supervise you in the lab. Your project and other on-going projects are discussed at biweekly lab meetings. We have a relaxed, informal and easy-going atmosphere in our group, helping each other and having lunch together every week. Currently, the group consists of (besides Christian Vægter) 3 postdocs, 2 PhD students and 1 lab technician. Furthermore, we are affiliated to large neuroscience networks such as DANDRITE (dandrite.au.dk) and the International Diabetic Neuropathy Consortium (idnc.au.dk), providing access to excellent equipment and collaborators.

Project topics include (but are not limited to):

- Satellite glial cells responding to nerve injury (signaling with neurons)
- Schwann cell communication by exosomes in diabetes
- Spinal cord plasticity in pain processes (neuropathic pain)



Techniques:

We utilize a wide range of methods, including transgenic mouse models, microsurgery and intrathecal drug delivery, tissue analysis by Western blotting and microscopy, RNA sequencing (RT-PCR and transcriptional analysis), flow cytometry, cell cultures of neurons and glia and more.