

## Master project

# Immune cell migration in Multiple Sclerosis

Understanding the migration of immune cells is paramount in a long range of pathological situations. Mapping of cell migration can be done longitudinally using non-invasive imaging of tagged cells.

The main focus of this project is to map the migration pattern of macrophages and T-cell subtypes in CNS inflammation. This will be done with the use of different imaging modalities; optical imaging combined with CT and magnetic resonance imaging (MRI), which makes it possible to longitudinally track specific immune cells in living animals.

Correlation of immune cell migration over time to the hallmarks of MS, demyelination and neuronal loss, as well as clinical disease, will make it possible to elucidate the impact of specific immune cell populations, with high detail and accuracy.

The project is suited for medical/biology student interested in research (a year research).

### Interested? - Please contact:

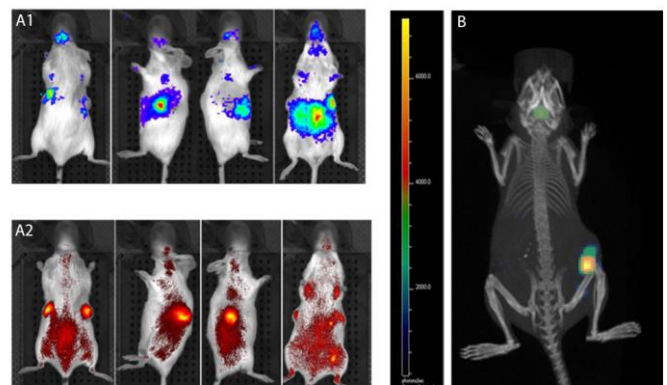
Henrik Hasseldam, PhD, Associate Professor  
BRIC

E-mail: [henrik.hasseldam@bric.ku.dk](mailto:henrik.hasseldam@bric.ku.dk)

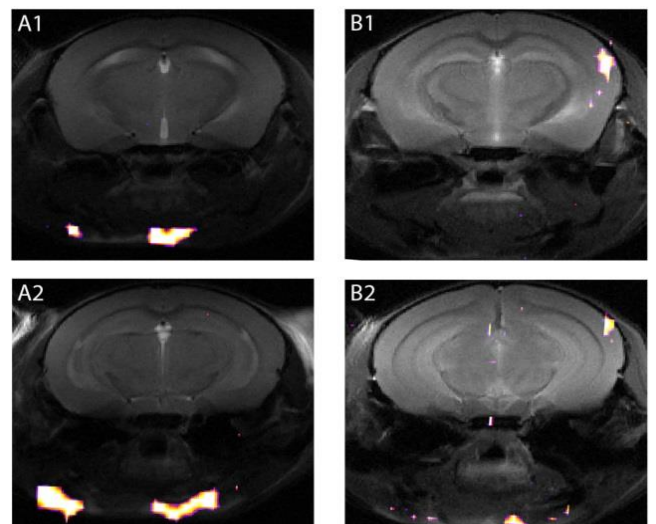
Or

Henrik El Ali, PhD, Associate Professor  
BMI

E-mail: [helali@sund.ku.dk](mailto:helali@sund.ku.dk)



Optical imaging combined with CT. Accumulation of tagged T-cells are seen as blue/green or red areas, depending on cell density, in 2D (A) and 3D (B).



MR scanning of a control (A) and a diseased animal (B). Macrophages are seen to accumulate in the cervical lymph nodes in A, whereas infiltration of brain tissue is seen in B.