

Details

Molecular Imaging North Competence Center (MOIN-CC)

The Molecular Imaging Network connects the imaging and biological capabilities of the University Clinic Schleswig Holstein, the Carl Albrecht University at Kiel and the University at Lübeck. The competence center MOIN focuses on the development of new innovative diagnostic and therapeutic procedures for the detection and treatment of oncological, inflammatory and neurological disorders. MOIN CC also develops and optimizes medical devices. MOIN owns all major imaging modalities like a 7 T Small Animal-MRT, a Mikro-CT, the optical Tomography device FMT 2500, the optical chamber NightOwl II, a fiberoptic Confocalmicroscope CellVizio, a Multiphoton Microscope TrimScope I, as well as a high resolution Small Animal Sonography Vevo 2100. In recent years new technologies for in-vivo imaging became available in preclinical research. These new technologies dramatically opened up new possibilities to investigate new therapies as well as developing biomarkers and diagnostic tools in small animals. The availability of optical methods, magnetic resonance imaging, x-ray tomography and high resolution ultrasound allow for a much more sensitive and quantitative evaluation of changes in the whole animal or the organ of interest. The possibility to run longitudinal studies in the same animal not only reduces the number of animals necessary but also leads to higher information content. Combining different imaging modalities gives additional information, beside the target of interest that has never been accessible before.

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Host Institution

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Scientific Domain

Primary Subjects:

- Biology
- Medicine

Secondary Subjects:

- Chemistry
- Physics
- Materials Science and Engineering

Category

Biomedical Imaging Facilities

Scientific Services

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the whole animal or the organ of interest. The possibility to run longitudinal studies in the same animal not only reduces the number of animals necessary but also leads to higher information content. Combining different imaging modalities gives additional information, beside the target of interest that has never been accessible before. The competence center MOIN CC focuses on the development of new innovative diagnostic and therapeutic procedures for the detection and treatment of oncological, inflammatory and neurological disorders. MOIN CC also develops and optimizes medical devices. MOIN CC delivers a comprehensive infrastructure of equipment and personnel for innovative noninvasive imaging of small animals. The scientific concept is driven by multimodal, multiparametric, molecular and micromorphological imaging as well as translational research.

Scientific Equipment

- 7T Magnet Resonance Tomograph (MRI)
- Small animal Computertomograph
- Small Animal Sonograph Vevo 770
- Small Animal Sonograph Vevo 2100
- Fluorescencetomograph FMT 2500
- Bioluminescence Imager Nightowl II
- Fluorescence Imager Nightowl II
- Multiphoton Microscope
- Fiberoptic confocal Microscope

Keywords

- Imaging
- Small animal
- Magnet resonance tomography
- Computed tomography
- Sonography
- Optical imaging
- Biomarker
- Oncology
- Inflammation
- Neuro science
- Bone
- Microscopy
- Perfusion chamber
- Drug targeting
- Drug Delivery

Networks

Interdisciplinary German Network Molecular Imaging

<https://www.molekulare-bildgebung.de/>

ULAB - Ultrasound based assesement of bone

QUIMUS - Quantitative Imaging of Functional Competence of the Musculoskeletal System

Users per annum

Internal Users: 50

External Users in total: 20

External Users: 15

External Users in the EU: 5

External Users outside of EU: 0