MEDVIZ FROM VISION TO DECISION

SEMINAR FRIDAY 16.09.11

PLACE: Aud 4, BBB
TIME : 12:00-13:00

TITLE: Molecular Imaging Center - MIC

SPEAKERS:

1. Introduction, Arvid Lundervold, Professor UiB
2. MIC organization / core facilities, Geir Olav Løken, Senior Executive Officer, UiB
3. Services - imaging equipment, data storage & retrieva, Hege Avsnes Dale, Chief Engineer, UiB
4. Image analysis - report from an application in progress, Erlend Hodneland, Researcher, UiB

ABSTRACT:

A core facility, such as MIC, is a compilation of equipment and highly qualified staff under a common organizational umbrella. Its mission is dual. Firstly it carries out R&D on the basis of its equipment in order to forward its range and quality to users and ensure that these are in the frontline of its field. Secondly, available and newly developed methods are implemented as service to be offered for the benefit of the wider research environment at a low price and without any demand for collaboration.

The Molecular Imaging Center offers a wide range of services, ranging from access to instrumentation and equipment via courses and training to full service combining sample preparation with image acquisition and analysis carried out by our highly competent staff. MIC is equipped for imaging at the nanometer- to the micrometer and sub-millimeter levels. This enables us to facilitate research ranging from the molecule level, via cell organelles and cells to whole animals. MIC is thus a true translational core facility. In addition to offering sample preparation / animal handling at all levels we specifically have equipment for electron-, fluorescence- and confocal microscopy (including 2-photon), high throughput imaging, magnetic resonance imaging, optical imaging, and flow cytometry. MIC is co-localized with an animal stable and has highly qualified technical and scientific personnel operating and maintaining all instruments. One of the many ongoing project at MIC is related to modeling melanoma brain metastasis, aiming at more targeted treatment of cancer. In this project the 7 T small animal scanner at MIC is used to image metastatic lesions in the mouse brain, where development of task specific segmentation algorithms is necessary to make large scale quantification across several animals and experimental conditions feasible. This automated image analyses approach, using the MATLAB computing environment, will be presented and discussed.