

**Available equipment and expertise:  
- Core facilities at the Faculty of Medicine/NTNU**

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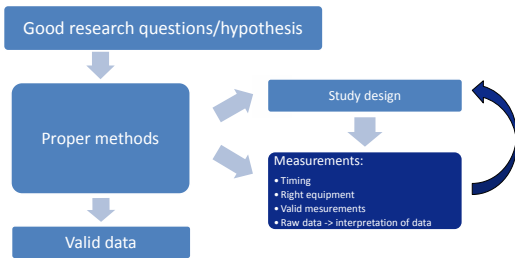
**Aim ...**

- make advanced instruments and methods available to **all researchers**
- ensure daily maintenance and up-to-date instruments
- provide assistance in
  - choosing methods and study design
  - optimization of methods
  - generate, analyze and interpret data



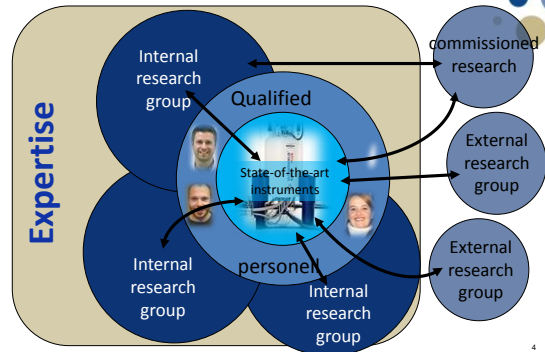
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**Good research...**



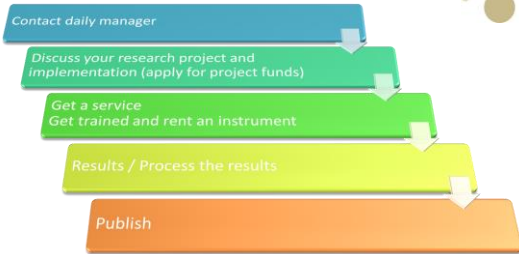
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**«The Core»**

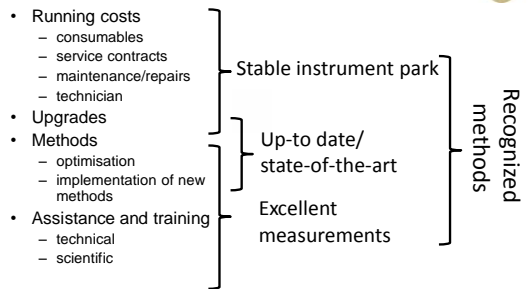


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**Workflow**



**User fee – why?**



5

**Core facilities “at a glance”:**

- Bioinformatics Core Facility (BioCore)
- Cellular and Molecular Imaging Core Facility (CMIC)
- Genomics Core Facility (GCF)
- MR Core Facility
- Proteomics and Metabolomics Core Facility (PROMEC)
- Comparative Medicine Core facility (CoMed)
- NextMove
- Unit for Applied Clinical Research
- Operating Room of the Future (FOR)
- Clinical Research Facility
- HUNT Research center
- Regional research biobank Mid-Norway
- Simulator center



<http://www.ntnu.edu/web/dmf/core-facilities>

**Speed date some core facilities:**

**NextMove –**

**What kind of exercise is most effective?**

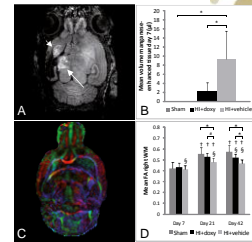
**MET-EX study**

- Cardiovascular risk factors in persons with metabolic syndrome
- Life style changes reduce the development of diabetes and cardiovascular diseases
- 4x4 or 1x4 min high intensity training



**MR Core Facility-  
MR analysis in animal models**

- 7 Tesla Bruker Biospec animal MR scanner
- Manganese-enhanced MRI and diffusion tensor imaging (DTI).
- Treatment of doxycycline in rat models with hypoxia-ischemia reduces damage of cerebral tissue and the white matter in the brain.

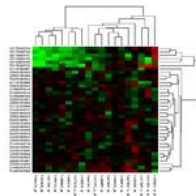


Widerøe M, Havnes MB, Morken TS, Skranes J, Goa PE, Brubakk AM. European Journal of Neuroscience, In press.

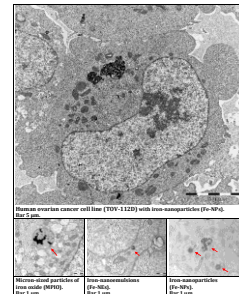
**GCF / HUNT Research center/BioCore**

**Whole genome SNP genotyping**

- Genetic predisposition for early onset of myocardial infarction
- Illumina Human Exome BeadChip
- 6000 samples from HUNT
- Information about 250,000 exon SNP variants
- Kristian Hveem et al. (ISM/HUNT)



**CMIC-  
Transmission electron microscopy (TEM)**



Jana Ceballos, Ismaela Sandvig, Linh Hoang et al. Pilot project EM

## Operating Room of the Future (FOR)

Overall goal:

Obtain better and more safe patient care, more efficient logistics and better architecture of operating departments

- Integration of patient treatment, research and teaching
- six operating rooms  
ex. FOR /Center for Cardiovascular Diseases
- laboratories for development, testing and clinical implementation
- Multidisciplinary



## Simulator center

Aim: Enhance quality and patient safety

- Full scale simulator center
- Advanced computerized doll
- Teaching
  - medical and health science students
- Research and development
  - training of clinical multidisciplinary team in communication, leadership and collaboration
- Facilitators: Medical doctors and nurses (background: anesthesia, intensive medicine og pediatrics)
- Certified simulator instructor



**Do not hesitate to contact our core facilities!**

*Thank you for your attention!*

HELSE  MIDT-NORGE

 **NTNU**  
Kunnskap for en bedre verden