

# Core Facility Presentation

Date: 15.12.2015  
Time: 12:30  
Location: Lecture Hall 1-G0-144, MZA

Opening: Univ.-Prof. Dr. Christine Bandtlow  
Vice Rector for Research and  
International Relations

## Core Facilities:

12:45: Protein Micro Analysis  
Ao. Univ.-Prof. Dr. Herbert Lindner  
13:15: Metabolomics  
Assoz.-Prof. Dr. Herbert Oberacher  
13:45: Sequencing & Genotyping  
Dr. Stefan Coassin  
14:15: Deep Sequencing  
Anne Krogsdam, MSc. PhD.

## Café & Talk

Date: 25.01.2016  
Time: 11:00  
Location: Lecture Hall 1-G0-144, MZA

Opening: Univ.-Prof. Dr. Christine Bandtlow  
Vice Rector for Research and  
International Relations

## Core Facilities:

11:15: Neuroimaging  
Univ.-Prof. Dr. Elke Ruth Gizewski MHBA  
11:45: Micro CT  
Dr. Volker Kuhn,  
PD Dr. Wolfgang Recheis  
12:15: Biooptics  
Priv.-Doz. Dr. Martin Offterdinger  
12:45: Animal Ultrasound  
Ass. Prof. Priv.-Doz. Dr. David Bernhard  
13:15: FACS Sort  
Priv.-Doz. Mag. Dr. Sieghart Sopper

## Café & Talk

Registration: [SC-Forschung@i-med.ac.at](mailto:SC-Forschung@i-med.ac.at)



Core  
Facility  
Net



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INNSBRUCK

# Core Facility Presentation

15.12.2015 & 25.01.2016

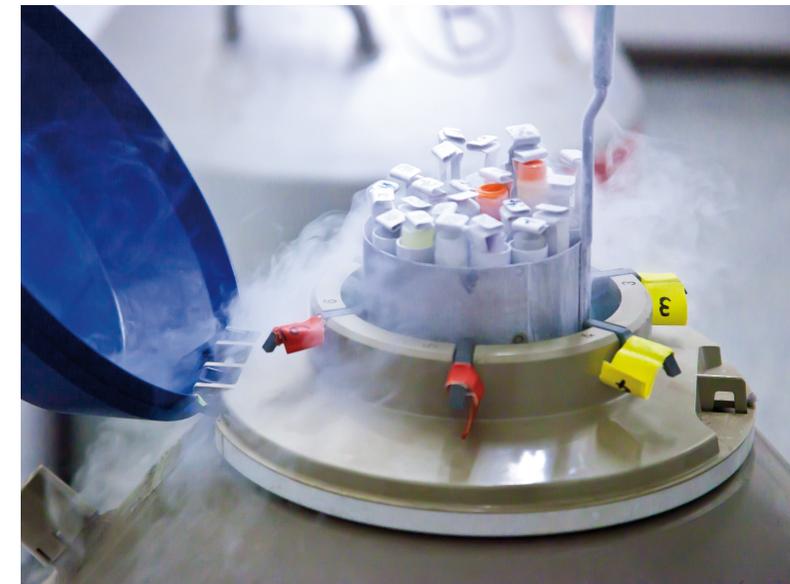


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## Servicecenter Forschung

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## Protein Micro Analysis

The protein facility established at Innsbruck Medical University is dedicated to provide investigators with equipment, expertise and custom services for the detection, characterization and quantification of proteins and peptides on a re-charge basis. The facility maintains a suite of state of the art instrumentation including different mass spectrometers (e.g. QExactive HF and LTQ Orbitrap XL from ThermoScientific) coupled to nano-LC gradient systems and capillary electrophoresis. Also trace element analysis is provided using a Solaar M6 Dual Zeeman spectrometer (ThermoScientific). Services include comprehensive protein identification of simple and complex protein digests, quantitative proteomics using isotope labeling strategies (e.g., SILAC, iTRAQ, TMT), localization and quantification of post-translational modifications (phosphorylation, acetylation, methylation, etc.).

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## Metabolomics

The mission of the Core Facility Metabolomics is to serve as an enabling resource for research and development programs. We aim to provide expertise and state-of-the-art technologies for the qualitative and quantitative analysis of small bioorganic molecules. Common targets are drugs, pharmaceuticals, endogenous compounds, and metabolites thereof included in all kinds of biological samples (e.g. biofluids, cells, tissues). The analytical method of choice is mass spectrometry (MS). Usually MS is hyphenated to chromatographic methods (liquid chromatography or gas chromatography).

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Assoz. Prof. Dr. Herbert Oberacher

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## Sequencing and Genotyping

The Sequencing & Genotyping Core Facility was founded in 2004 and focuses on high throughput DNA sample processing, SNP genotyping, real-time PCR, Sanger sequencing and analysis of mitochondrial DNA using both Sanger and next-generation sequencing.

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Dr. Stefan Coassin

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## Biooptics/Light microscopy

The Biooptics/microscopy facility of MUI, located at the new CCB (room 01.370), aims at providing university wide access to advanced equipment, such as automated wide-field fluorescence microscopes, confocal microscopes (LSM and spinning disk) and a gSTED superresolution microscope (Nobelprize 2014 to Hell and colleagues), training, education and expertise in light microscopy. The facility currently offers assisted access to research microscopes and image processing software. Moreover a number of courses are offered within the different PhD training programmes at MUI.

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## FACS Sort Core Facility

The Innsbruck Flow Cytometry Unit provides access to state-of-the-art analytical and cell sorting flow cytometry instrumentation and technology and offers professional cell sorting service to the research community in Innsbruck. The facility also provides training in flow cytometer use and data analysis for students, researchers and staff and supports investigators in experimental design of flow cytometric applications. In addition, educational courses on recent advancements in flow cytometry are regularly organized.

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## Micro CT

High-resolution cross-sectional imaging examinations and non-destructive 2D and 3D structural analyses in  $\mu\text{m}$  dimensions.

Support and implementation of advanced image analyses and image processing, including large volumes of high/highest definition image data with high-performance programmes, and  $\mu\text{FE}$  analyses.

Implementation of 3D model prints of the objects and substances examined under high resolution up to  $\mu\text{m}$  scale. Where applicable information is passed on to competent partners

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PD Dr. Wolfgang Recheis

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## Deep Sequencing

The Genome-Seq Core is an integral part of the Innsbruck Medical University Biocenter, providing large-scale sequencing to the local and international research community. We aim to provide the highest level of service, confidentiality, and support, working with the researchers to reach their goals.

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## High Resolution Ultrasound

With the beginning of 2016 a high-resolution ultrasound device (VisualSonics Vevo 1100) will be on hand at the Cardiac Surgery Research Laboratory. The new ultrasound device facilitates non-invasive, functional, and image-based analyses of different organ systems in mouse, rat, and (with limitations) rabbit. The technology allows for a time-resolved analysis in individual animals, which results in increased data quality with a simultaneous reduction in the number of experimental animals. The system facilitates high resolution, time-resolved, and functional in vivo imaging of moving structures e.g. heart.

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## Neuroimaging Research

The main modality of this CF is the BMFW-funded 3 Tesla MRI-system, which establishes a core facility for MR-based neuroimaging research at the MUI. The 3T MRI was installed in 2011 and started work exclusively for research use in 2012. The CF-NIR is centrally administered by the Head of the Department of Neuroradiology, who leads an interdisciplinary Steering Board. The technical equipment is supported by one physicist (since 2014) and an assistant radiographer. The Team "Neuroradiology" provides support to all associated scientists in technical and post-processing questions. Furthermore, the core facility develops and introduces new MR sequences and technical equipment. Above all, the Neuroimaging platform offers opportunities to bring different groups together and to transfer knowledge, and it provides a setting for communication and cooperation. A recently acquired BMFW grand (Neuroimage WING) is an excellent example of this interdisciplinary and inter-university orientation.

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