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How to find us?

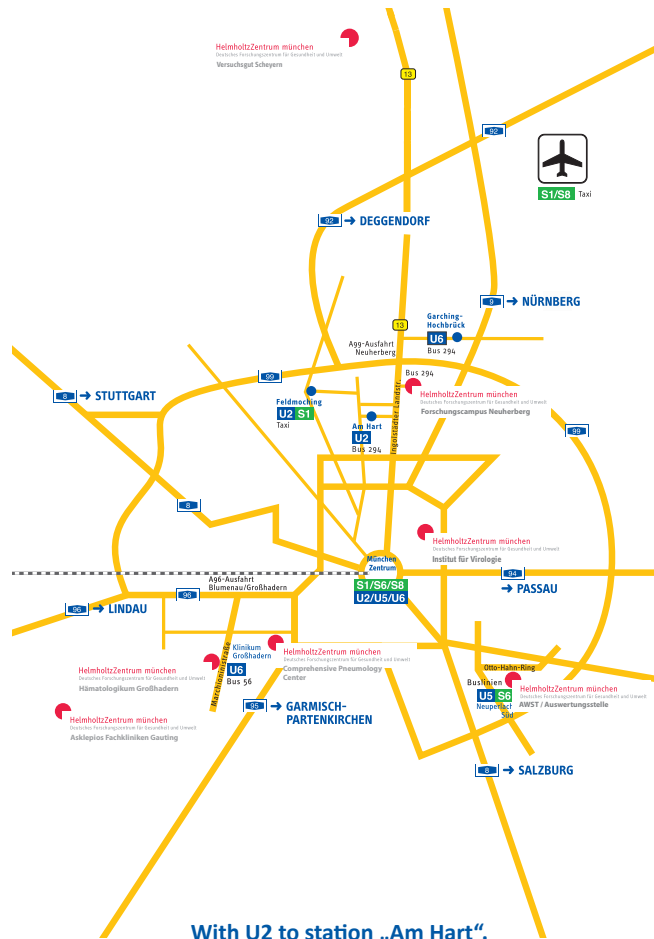
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With U2 to station „Am Hart“.

Then bus 294 (direction Garching-Hochbrück) or bus 295
(direction Oberschleißheim) to station
„Helmholtz Zentrum München“

WZW – Markt der Möglichkeiten

October 25, 2017

Presentation of the Chair



WZW – Markt der Möglichkeiten

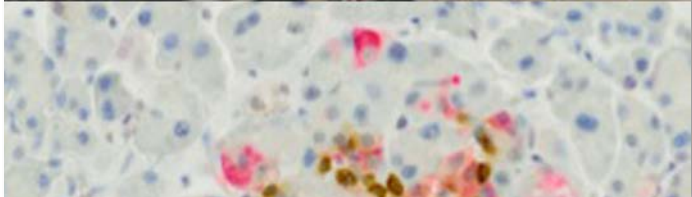
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Presentation of the Chair

About us

The Institute of Experimental Genetics (IEG, www.helmholtz-muenchen.de/ieg) is member of the German Center for Diabetes Research (DZD) and part of the Helmholtz Diabetes Center (HDC) at the Helmholtz-Zentrum München, a research institution of the Federal Government and the State of Bavaria within the Helmholtz Association of German Research Centers.

The overall goal of our research is a global and better understanding of interactions between biological mechanisms that underlie the etiology of human diseases. In particular, metabolic diseases with a focus on diabetes are the main areas of our research. We aim to provide new stepping stones towards prevention, diagnosis and the development of therapeutic strategies. Experimental set-ups are centered on the mouse as pre-clinical model organism. Besides studying the effects of genotypes, we identify and characterize environmental and epigenetic factors and the mechanisms by which these act on the etiology of metabolic disorders. The German Mouse Clinic (GMC) explores these aspects at a systemic level. The IEG includes the Genome Analysis Center (GAC), a core facility offering several „omics“ approaches to investigate complex processes.



German Mouse Clinic (GMC)

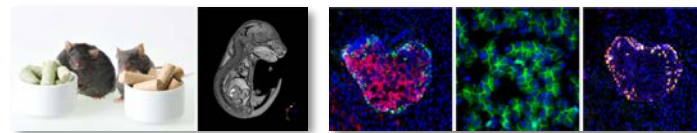
The GMC examines mouse models using a standardized phenotypic check-up with more than 550 parameters in the areas of behavior, bone and cartilage development, neurology, clinical chemistry, eye development, immunology, allergy, steroid metabolism, lung function, vision and pain perception, molecular phenotyping, cardiovascular analyses and pathology.

www.mouseclinic.de

Genome Analysis Center (GAC)

The GAC promotes research on the genome and its function based on the implementation of high-throughput analyses and the integration of various disciplines of „omics“. The focus is on processes of common complex diseases and the impact of the environment on human health. The GAC offers state-of-the-art technologies including genotyping, sequencing (also NGS), transcriptomics, and metabolomics. The technologies are universal for the studies in a wide range of species including human, animal models, plants and bacteria.

www.gac-munich.de



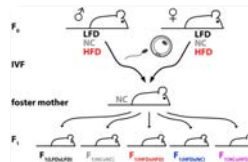
... systemic and standardized phenotyping of mouse models?

... analysis of the metabolic and genetic bases of diabetes?



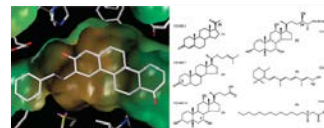
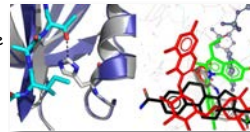
... environmental factors?

... comparative analyses of transcriptomes, proteomes and metabolomes?



... epigenetic inheritance?

... translational projects to enable rapid discoveries for diagnosis, preventions and therapy?



... metabolic pathways for steroids and lipids?



... international initiatives for the functional analysis of all mammalian genes?

We offer ...

- Laboratory internships for Bachelor and Master students
- Bachelor and Master theses
- Doctoral theses, fully integrated into **HELENA**.

The **Helmholtz Graduate School Environmental Health (HELENA)** serves as an ideal career springboard through excellent research, training and networks.

www.helmholtz-helena.de

Lectures & Courses

Lecture *Entwicklungsgenetik*

240397345, 2 SWS

Lecture *Genomik*

0000000637, 2 SWS

Lecture *Berichte aus der aktuellen Forschung ...*

0000000630, 2 SWS

Seminar *Aktuelle Probleme der Tiergenetik*

240335849, 2 SWS

3-week internship *Entwicklungsgenetik der Tiere*

240769361, 5 ECTS

Research internship *Experimentelle Genetik der Säugetiere*

940709769, 10 ECTS (not before 4th semester!)

Research internship *Hormonsignaling, Biochemische Pathways und Metabolomics*

0000003589, 10 ECTS (not before 4th semester!)

Individual 1:1 supervision, integration in current research topics
 Contents: Projects in diabetes research, steroid metabolism, lipid metabolism, gene regulation, epigenetics, and selected signal-transduction pathways.

