



Research Center for Molecular Medicine
of the Austrian Academy of Sciences

ABOUT CEMM

CeMM is a novel, international, independent and interdisciplinary research Center in Molecular Medicine of the Austrian Academy of Sciences.

"From the clinic to the clinic": Driven by medical needs, CeMM integrates basic research and clinical expertise to pursue innovative diagnostic and therapeutic approaches focused on cancer, inflammation and immune disorders. At the center of CeMM's interest are patients and associated diseases. CeMM's mission is to combine insight obtained from basic and clinical research and use it to implement the development of innovative therapeutic and diagnostic strategies. The goal of CeMM is to assist in preparing the predictive, preventive and personalized medicine of the future. The research interests of CeMM focus on cancer, inflammation and immune disorders.

THE 2008 CEMM PHD PROGRAM

In October 2008 our next PhD Program starts. We are looking for exceptional motivated PhD candidates with a keen interest in genomics and medicine and a strong interest to work in teams. You will get the chance to work at the cutting edge of interdisciplinary molecular medicine research and to be trained by the entire CeMM faculty to become one of the Molecular Medicine scientists of the future.

Send all applications, using the reference code of your preferred CeMM group to: Mrs. Anita Ender, aender@cemm.oeaw.ac.at Candidates should submit: a cover letter, a curriculum vitae, names and contact details of two suggested referees. **Deadline: April 19, 2008**

The official language at CeMM is English. CeMM is an equal opportunity employer.
Please visit our website: www.cemm.at

STRUCTURE OF THE CEMM PHD PROGRAM

The Medical University of Vienna is the home academic institution for the CeMM PhD program, and as such sets several guidelines. There is mandatory course work, particularly in the first year taking 6-7 hours per week, including basic seminars and propedeutics in molecular medicine, cell biology, and ethics, dissertation seminars and regular journal clubs. Informal CeMM work discussions are held every Friday and students will present their work on a regular basis.

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| 1 st Year | <p>Lab rotations: 2 weeks in each of labs at CeMM, getting to know the people and the science.</p> <p>Kick-off lectures: given by a selection of prominent leaders, scientists and medical professors from the Viennese science and medical community and biotech industry.</p> <p>Research proposal: on a topic that is not directly related to the students' own research, but involves the research of at least 2 CeMM groups. The best proposal is awarded a prize.</p> |
| 2 nd Year | <p>Thesis proposal: in accordance with the Medical University of Vienna guidelines.</p> <p>Symposium: The CeMM PhD students will be encouraged to invite speakers of their choice, and host the talks and mediate discussion.</p> |
| 3 rd Year | <p>Thesis defense: is required to yield at least one publication in a peer-reviewed journal.</p> |

CEMM LABORATORIES

Bcr-Abl Signalling and Hematopoietic Stem Cells (Reference: PhD OH)



The laboratory of Giulio Superti-Furga combines molecular biology and proteomics with chemistry and bioinformatics in an interdisciplinary approach to generate a comprehensive “systems-level” understanding pathological process. The regulation of cytoplasmic tyrosine kinases, focusing on a detailed structure-function analysis, has been the focus of the CeMM Director since years. In Vienna we shifted completely from Src and Abl to Bcr-Abl and made use of the functional and chemical proteomics capability we are developing as well as the excellent Department of Hematology.

Chemical Proteomics and the Mechanism-of-Action of Drugs (Reference: PhD UR)

The chemical proteomics focus group within the laboratory of Giulio Superti-Furga combines chemistry with proteomics, molecular biology and bioinformatics in an interdisciplinary approach to investigate the molecular mechanism-of-action of drugs and natural products, their protein targets, side effects and possible new medical uses. State-of-the-art technology and instrumentation is integrated with expertise from the Medical University and the General Hospital (AKH).

Immunity and atherosclerosis (Reference: PhD CJB)

The laboratory of Christoph Binder studies immune functions in the pathogenesis of atherosclerosis, which is a chronic inflammatory disease of the vasculature and the underlying cause for heart attacks and strokes. The major focus is to understand the regulation and functional role of specific immune responses that target products of oxidative stress, which accumulate in atherosclerosis and other chronic inflammatory conditions, and to exploit these responses for therapeutic purposes.



Innate Immune Response to Bacterial Infections (Reference: PhD SK)



The research projects of Sylvia Knapp are focusing on innate immune mechanisms with clinically relevant bacterial infections simulated under laboratory conditions. While the general objectives are in furthering the understanding of clinically relevant pathogens and host-pathogen interactions; the primary objectives are to positively impact and substantially enhance the current diagnostic procedures and ultimately influence therapies and survival.

Genetic Basis of Hematological Malignancies (Reference: PhD RK)

The laboratory of Robert Kralovics studies mutations leading to chronic or acute hematological malignancies. The laboratory studies myeloid tumor cells from patients using various cell culture techniques, identifies tumor-specific genetic defects with the latest whole-genome analysis tools, and identifies candidate tumor suppressor genes or oncogenes playing a role in these diseases. The objective of these studies is to uncover the genetic mechanisms of disease initiation and understand the clonal selection of hematopoietic stem cells that leads to disease progression. The laboratory also evaluates current therapeutic strategies and aims to device new therapeutic interventions that can prevent the clonal evolution of malignant hematopoietic stem cells.



Genomic Approaches to Cancer Vulnerabilities (Reference: PhD SN)



The main focus of Sebastian Nijman’s lab involves the study of the molecular basis of cancer. To gain insight into the processes underlying cancer we employ a broad range of functional genomic tools, including RNAi in mammalian cells. The lab also has a strong interest in the identification of cancer vulnerabilities/ “Achilles’ heels” of cancer. These vulnerabilities are the indirect consequence of deregulated pathways caused by oncogenic events and targeting them can provide highly effective and specific treatments. For more information see: nijman.openwetware.org/