

## Scientific Staff Mobility 2018 - Diabetes and Depression Selected Institutions and Contacts at TU Dresden

### Department of Internal Medicine III; Carl Gustav Carus School of Medicine

The department, led by Prof. Stefan R. Bornstein, covers a wide area in the field of internal medicine with special focus on diabetes mellitus and following secondary diseases (e.g. diabetic foot syndrome), endocrine and metabolic disorders, adrenal gland disorders, hypertension, obesity and many more. About 30.000 patients per year believe in our abilities and make use of our first-rate medical services.

Needless to say, science and excellent medicine are closely linked nowadays. That is one of the reasons why we also include scientific research in our routine and have several well-established research groups at our facility. Our combined medical and scientific endeavor resulted for example in the so far one and only islet cell transplantation center nationwide or the first successfully introduced artificial pancreatic system for the treatment of diabetes type I.

#### Research Divisions:

- *Head of Department* – **Prof. Stefan R. Bornstein**  
Fundamental mechanisms in endocrine tissues, the endocrinal function of fat tissue and its role in the development of diseases associated with obesity, e.g. diabetes mellitus
- *Endocrinology and Metabolism* - **Prof. Lorenz C. Hofbauer**  
Research on molecular and cell biology of bone metabolism, bone vascular interphase, gene expression in thyroid gland cancer and pheochromozytoma, bone metabolism in multiple myeloma, new biochemic markers
- *Islet Cell Transplantation* – **PD Barbara Ludwig**  
Transplantation of islet cells in order to cure diabetes mellitus
- *Endothelium and Microcirculation* – **Prof. Henning Morawietz**  
Research on endothelial dysfunction and possible treatment



## **DZD - Paul-Langerhans-Institut Dresden**



**DZD**

Deutsches Zentrum  
für Diabetesforschung

Paul Langerhans Institut Dresden

The researchers of the Paul Langerhans Institute Dresden (PLID), which was founded in 2009, are elucidating the causes of diabetes mellitus and looking for more effective ways to prevent and treat this disease. The main focus of the PLID is on basic, translational and clinical research on pancreatic beta cells, which are responsible for production and secretion of insulin.

The PLID is one of the 5 partners of the German Center for Diabetes Research e.V. (DZD), which is funded by the German Ministry of Education and Research (BMBF). The mission of the DZD is to advance discovery and therapeutics in the field of diabetes through the synergistic activities of investigators devoted to diabetes and metabolic research.

[www.plid.de/en/home.html](http://www.plid.de/en/home.html)

### **Associated Researchers:**



#### **Prof. Michele Solimena - Speaker of the Paul Langerhans Institute Dresden**

Cell biology of the insulin-producing beta cells and the molecular pathogenesis of Diabetes



#### **Prof. Andreas Birkenfeld**

Interaction between lipid and glucose metabolism, development of obesity and Type 2 diabetes and its impact on ageing



#### **Prof. Ezio Bonifacio – Director of the Centre for Regenerative Therapies Dresden**

Development of regenerative therapies for diabetes



#### **Prof. Stefan Bornstein - Co-Director of the German-Australian Institute for Translational Medicine (GAITM)**

Fundamental mechanisms in endocrine tissues, the endocrinal function of fat tissue and its role in the development of diseases associated with obesity, e.g. diabetes mellitus



**Prof. Triantafyllos Chavakis**

Investigation of acute and chronic inflammation processes



**Dr. Ünal Coskun**

Membrane Biochemistry of Cell Signaling - bioactivity of lipids on protein structure and function.



**Dr. Anthony Gavalas**

Developmental mechanisms of pluripotent stem cells, the interplay of extrinsic signals and intrinsic determinants in the development of stem cells, efficient conversion of human pluripotent stem cells into insulin producing cells



**Prof. Karsten Kretschmer**

Neutralisation of autoimmune diseases like multiple sklerosis (MS) and type-1 diabetes mellitus using endogenous antigens



**PD Barbara Ludwig**

Transplantation of islet cells in order to cure diabetes mellitus



**Dr. Nikolay Ninov**

Beta cell biology and regeneration



**Prof. Peter Schwarz**

Implementation of structured diabetes mellitus prevention programs



**Prof. Stephan Speier**

Investigation of the physiology of islet cells in mice and humans



**Prof. Jürgen Weitz**

Tumor progression, tumor immunology and angiogenesis of colorectal and pancreatic cancer

### **Department of Psychiatry and Psychotherapy**



**Prof. Michael Bauer** - Director and Executive Chair at the Department of Psychiatry and Psychotherapy at the Medical Faculty of the TU Dresden

Unipolar and bipolar affective disorder (Resistance to therapy, therapy algorithms, treatment guidelines); functional imaging; neuroendocrinology; clinical psychopharmacology and pharmacogenetics

### **Department of Psychology, TU Dresden**



**Clinical Psychology and Psychotherapy – Prof. Hans-Ulrich Wittchen**

emphasis on the developmental pathways and treatment of anxiety, depression, substance use disorders, as well as neurological and somatic diseases



**Biopsychology – Prof. Clemens Kirschbaum**

focus on stress in humans and its impact on health and disease



**Behavioral Epidemiology – Prof. Katja Beesdo-Baum**

Focus on behavioral and psychological factors related to development of mental disorders, including depression, and physical illnesses, including diabetes

## **Center for Regenerative Therapies Dresden (CRTD)**



At the DFG-Center for Regenerative Therapies Dresden (CRTD), our mission is to understand the biology of stem cells and physiological and pathological tissue and organ repair in order to develop new treatments for neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease, haematological diseases, such as leukemia, metabolic diseases, such as diabetes, and bone diseases. Our scientists are encouraged to think outside the box and to explore untapped areas of knowledge in the regenerative potential of the human body, and to apply this knowledge to prevent or reverse disease processes.

To achieve our aims, we strongly support interdisciplinary research, with eighteen core groups in a network of 87 principal investigators from diverse research institutes on the Dresden campus, with expertise in everything from the biology of cells and tissues to biomaterials to nanoengineering. CRTD has become a major driving force on campus and is ready to meet the challenges of moving new interventional strategies from bench to bedside.

[www.crt-dresden.de/about/](http://www.crt-dresden.de/about/)

## **Max Planck Institute of Molecular Cell Biology and Genetics**



We do pioneering work in the field of basic research: 500 curiosity-driven scientists representing 50 nationalities work at the Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG) in Dresden and ask: How do cells form tissues? The cross-disciplinary research program brings together people from different parts of the world and from a wide variety of backgrounds and creates a vibrant working environment and an exciting atmosphere.

In 2009, The Scientist voted the MPI-CBG the number one place in the world in academia, and also ranked it the number one place in the world to do a postdoc. The institute was named the "Most family-friendly company in Dresden" in 2012.

The MPI-CBG is part of DRESDEN-concept, a research alliance of Dresden University of Technology together with the four major German research institutions – Max Planck, Helmholtz, Fraunhofer, and Leibniz – aimed at the development and use of synergies in research, education, infrastructure, and administration.

[www.mpi-cbg.de](http://www.mpi-cbg.de)