



How to reach the Institute



Our institute is located in the south-west of Bochum, on the grounds of the hospital “Bergmannsheil”.

By plane:

- Düsseldorf - International Airport (DUS)
- Frankfurt/Main - International Airport (FRA)

From these airports train-connections lead to Bochum Central Station directly.

By public transport:

- Take tram no. 308/318 from Bochum Central station, direction Hattingen/Dahlhausen and get off at “Bergmannsheil”

By car:

- Motorway A 448 Exit “Bochum-Stahlhausen” to “Zentrum”

There are road signs directing you to “BO-Zentrum” and “Bergmannsheil”.

You can use the parking facilities at Bergmannsheil.

Contact

IPA

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Molecular Medicine

The Molecular Medicine center is divided into the following divisions:

- Molecular Tumor Research
- Molecular Genetics

Research focuses on the identification and validation of non-invasive biomarkers for the early detection of cancer and their practical application in secondary prevention. Furthermore, the mechanisms of carcinogenesis as a result of the effects of hazardous substances are investigated. State-of-the-art molecular methods are employed to identify changes in the genetic material and the epigenetic regulation of work-related tumors. New analytical methods are being developed for the minimally invasive diagnosis of early tumor stages, even in very small samples.

Together with the other competence centers, a central biobank is being established and interdisciplinary approaches for the early detection of cancer are pursued in the context of follow-up examinations offered by the German Social Accident Insurance. The focus is on asbestos-associated tumors of the lungs and pleura as well as tumors of the urogenital tract.

The expertise of the Molecular Medicine center of competence is applied to various advisory topics in the fields of occupational medicine relevant to the German Social Accident Insurance and its members.

Epidemiology

The Epidemiology center is divided into the following divisions:

- Epidemiology
- Statistics
- Epidemiological Advice

Research at the center of competence focuses on molecular epidemiology to evaluate the carcinogenicity of hazardous substances and to detect biological markers for early detection of disease, as well as traditional epidemiological methods. Statistical methods are employed to investigate health effects of known or suspected occupational carcinogens. The investigation of dose-response curves, interaction between hazardous substances, and controlling for potential confounders are major tasks of statistical modeling.

The center cooperates with the institute’s other centers of competence in planning and conducting of studies according to Good Epidemiological Practice and performs the statistical analyses. This includes setting up databases for data entry and analysis of complex study designs.

The Epidemiology center of competence supports the German Social Accident Insurance and its members, as well as various other bodies, in evaluating effects of hazardous substances upon health.



— Research — Teaching — Advice —

...for the health protection
of 80 million insured persons



The Institute

The research institute for prevention and occupational medicine is the facility of the German Social Accident Insurance (DGUV) focuses on the research for health protection at the workplace and in educational establishments.

Complex occupational questions are answered in an interdisciplinary concept of five centers of competence:

- Medicine
- Toxicology
- Allergology/Immunology
- Molecular Medicine
- Epidemiology

The IPA supports various areas: It gives advice to the statutory accident insurance and its members – i.e. the German Social Accident Insurance institutions for trade and industry and the public sector – on occupational medicine issues. Furthermore the scientists contribute in various scientific committees as well as in committees of the German Social Accident Insurance.

The IPA is an institute of the Ruhr-Universität Bochum and therefore responsible for teaching and research in Occupational Medicine.

The German Social Accident Insurance and the German Social Accident Insurance Institution for the raw materials and chemical industry (BG RCI) are the supporting organizations of the IPA. The director of the IPA is Professor Dr. Thomas Brüning.

Contact:

Prof. Dr. med. Thomas Brüning
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Medicine

The medicine center provides the following divisions:

- Occupational Medical Research and Advice
- Outpatient Clinic/Pneumology
- Occupational Dermatology
- Experimental Occupational Medicine

The center is focused on occupational lung and airway diseases as well as occupational skin diseases and cancer. An essential target of research is the further development of already existing diagnostic procedures for prevention and compensation and the establishment of new procedures, in particular non-invasive diagnostic methods.

The occupational dermatology accomplishes examinations of occupational skin diseases. Here the knowledge of occupational dermatology and allergology is connected with analytical toxicological competence.

The endowed professorship „Experimental Occupational Medicine“ focuses health risks associated with occupational exposures to hazardous substances. Methods range from cell culture assays to experimental human studies in the exposure laboratory (ExpoLab).

Medical opinions concerning occupational and environmental diseases represent further activities, and also occupational preventive medical examinations are provided to companies.

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Toxicology

The toxicology center is divided into the following divisions:

- Human Biomonitoring
- Cell Biology
- Genetic Toxicology
- Toxicological Advice

The main areas of research focus on biological monitoring at the workplace and risk assessment after exposure to hazardous substances. The emphasis is on the development of new biomarkers of exposure and effect and on the application of new analytical, biological and biochemical methods in order to precisely measure chemical exposures and to identify toxic, carcinogenic and mutagenic effects in exposed humans.

Studies on the effect of hazardous substances at cellular and molecular level are also necessary for the assessment of risks presented by hazardous substances at the workplace. Cell biology methods can be used to study the mechanisms of action of hazardous substances on a particular target tissue *in vitro* by comparing treated and untreated cells.

The competence center Toxicology offers a wide range of human biomonitoring analyses for detection of hazardous substances commonly found at the workplace. These analyses can be used to clarify scientific issues and to support prevention work.

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Allergology/Immunology

The allergology and immunology center is divided into the following divisions:

- Allergology
- Immunology
- Advice and diagnostics

The research is focused on the pathomechanisms of respiratory and skin diseases induced by workplace-related allergens and/or irritants including the identification of occupational sources of sensitization and irritation. The research includes studies due to occupational allergies, caused by flours, enzymes, mites, molds, natural rubber latex, animal dander, isocyanates and wood dust. Furthermore the chemical-irritative effect of vapours and aerosols of hazardous substances on the airways are assessed by non-invasive methods and new biomarkers. Methods for allergen quantification and assessment of microbial components of anorganic dust are established.

The competence center's findings are being incorporated into the standardization of methods for the diagnosis of allergic diseases and into the assessment of the clinical and diagnostic impact of non-invasive methods. Detection methods for exposure control at the workplace are developed for risk evaluation, and be available for all statutory accident insurances.

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