

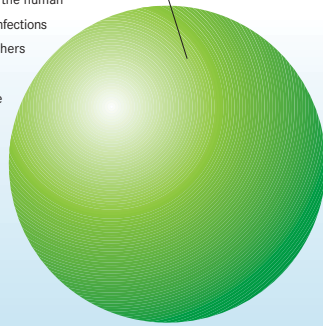
Combating Diseases:

The National Genome Research Network (NGFN)

THE STRUCTURE OF THE NGFN

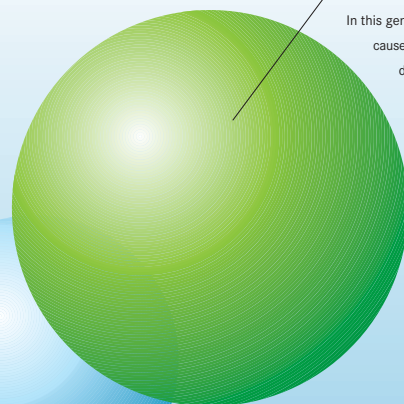
Infection and Inflammation

In the framework of this genome network scientists are researching how the human organism reacts to inflammation or infections with different pathogens. The researchers answer questions concerning chronic inflammatory diseases and autoimmune phenomena and problems posed by infectious diseases.



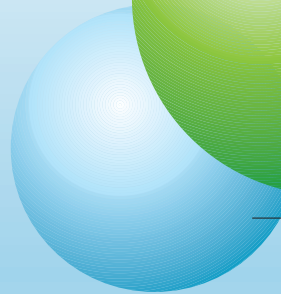
Cardiovascular Diseases

In this genome network the molecular causes of hypertension and resulting organ damage are being investigated. In addition, scientists are studying the genetic disposition for cardiac insufficiency, heart arrhythmia, cardiomyopathy as well as vascular diseases and hemorrhagic and thrombotic disorders.



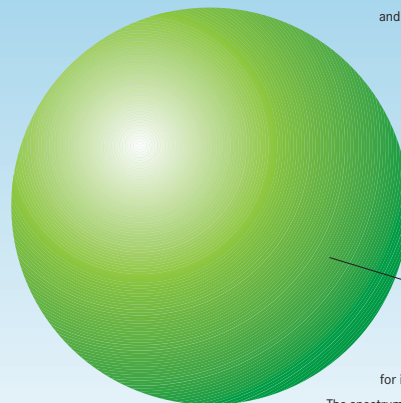
Explorative Projects

These projects deal with innovative ideas for new and further methodological developments as well as cutting edge approaches to new disease-oriented areas. Innovative research ideas are assured support at an early stage. The results will make new technologies and application areas accessible for human genome research and will feed directly into the NGFN, where they can be implemented.



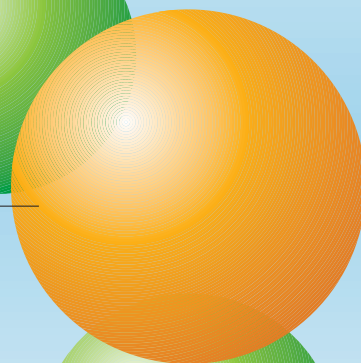
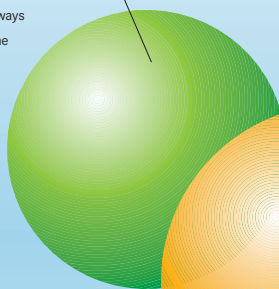
Diseases of the Nervous System

With the aid of functional genome analysis, scientists in three networks are tracing the causes for important neurological and psychiatric diseases. The spectrum encompasses such neurodegenerative diseases as Alzheimer's and Parkinson's, stroke, epilepsy, addiction diseases and eating disorders.



Cancer

Researchers in the cancer networks each of which has a different focus e.g. on blood-, breast-, colon- or brain-cancer, are identifying and characterizing key genes and molecular signal transduction pathways using functional genome analysis to improve the diagnosis, prognosis and treatment of cancer.

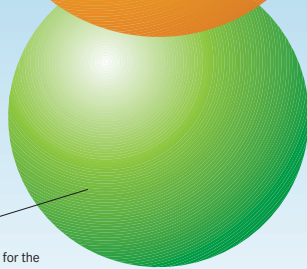


Systematic Methodological Platforms

The high-throughput procedures and other important technologies established in the SMPs enable researchers to conduct systematic genome research at acceptable cost and in much less time. Moreover, the technologies are being further developed, and systematic genome research data is being generated.

Diseases Due to Environmental Factors

Here scientists are searching for the genetic basis of inflammatory diseases, for the molecular causes of modern civilization's diseases of the skin and mucous membranes and the genetic factors of allergic diseases.



» The Aim – Understanding and Healing Diseases

The researchers in the German National Genome Research Network (NGFN) are working together to discover and understand the **functions of human genes**. They want to find out which genes are involved in the onset of which diseases. Their results will lead to an entirely **new understanding of diseases** and new approaches for the treatment of previously incurable diseases.

» The Structure – Network of Excellence

Physicians and clinical scientists perform biomedical and patient-related research in five areas. In these disease-oriented genome networks, most of the scientists are affiliated with university institutes and hospitals. The systematic methodological platforms of the NGFN combine Germany's research potential in systematic and functional genome analysis including the important disciplines of e.g. bioinformatics, RNAi, expression profiling, genotyping, proteomics and genetic epidemiology. This research complements the clinical

research and is mainly located at large German research institutes and Max Planck Institutes. The explorative projects comprise investigations on cutting edge technologies and enhancements as well as innovative ideas in genome research. The external **steering board** reviews the performance of the NGFN, especially with regard to structure, scientific strategies and finances. Its members are highly competent experts from science and industry. The **project committee**

consists of 14 representatives of the various network areas. This committee is the "self-steering" board of the NGFN, with its main focus on project coordination, project controlling and public relations.

» The Funding – Investment for the Future

The **Federal Ministry of Education and Research (BMBF)** initiated the National Genome Research Network in 2001 as part of the Federal Government's investment program for the future: **Research for the benefit of mankind**. The BMBF has provided about **180 million €** in project funding for the NGFN up to the year 2004, and an additional 135 million Euro for a second funding period up to the year 2007, to bring together and focus Germany's leading scientists and technology resources in the area of molecular biomedical research.

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