Professor Klein’s Leibniz Lecture will focus on children with rare diseases, affecting fewer than 5 in 10,000. These children have long been neglected in science and medicine, and they belong to the weakest of the weak in our societies. They suffer from devastating diseases caused by genetic defects, often without hope for curative therapy. However, recent advances in technology, the completion of the human genome project, and increased awareness on a global level may hold promise for patients with rare genetic diseases. Deciphering the underlying genetic causes of rare diseases will open new horizons for our understanding of basic biological principles and the development of innovative therapies. The discovery of rare genetic variants in children with inherited defects of the immune system has revealed novel therapeutic targets and has guided the development of cell- and gene-based therapies. Thus, patients with rare diseases may represent the avant-garde in our journey towards personalized medicine, characterized by tailoring diagnosis and therapy to the needs of the individual patient, based on knowledge of individual traits of their genome. International and interdisciplinary networks are needed to further advance our knowledge of rare diseases worldwide and to shed light on basic principles of health and disease.
Deutsche Forschungsgemeinschaft
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Christoph Klein was born in 1964. He combines basic medical research with clinical practice at the highest level, which is still quite rare in Germany. On the basis of genetic analyses, Klein has identified various genetic defects that trigger severe and often fatal diseases of the immune system. However, Klein does not limit himself to describing these genetic defects and their symptoms, but also tries to decipher the molecular causes.

Of particular relevance are his discoveries on genetic defects causing primary immunodeficiency disorders affecting neutrophil granulocytes, which belong the the white blood corpuscles, and the human intestinal immune system. Up to now, the children suffering from these rare hereditary diseases had little chance of survival. Christoph Klein is also a pioneer of hematopoietic stem cell gene therapy.

Klein founded the international Care-for-Rare Foundation to help children with rare diseases. Care-for-rare supports research activities to achieve general insights into disease mechanisms.

His honors include a Leibniz Prize (2010) from the German Research Foundation (DFG), the American Society of Hematology Scholar Award, the GlaxoSmithKline Prize for clinical research, and the William Dameshek Award from the American Society of Hematology, among others.

The Gottfried Wilhelm Leibniz Prize is the highest honor awarded in German research. Established in 1985, the prize provides an unparalleled degree of freedom to outstanding scientists and academics to pursue their research interests. Up to ten prizes are awarded annually with a maximum of €2.5 million per award. Prize recipients are awarded the prize solely on the basis of the scientific quality of their work. The Leibniz Prize honors the well-known scientist and humanist Gottfried Wilhelm Leibniz (1646-1716), who was a leading figure in the fields of philosophy, mathematics, physics and theology.

The German Research Foundation (DFG) is the central, self-governing organization funding science and basic research in Germany. Serving all branches of science and the humanities, its members comprise German research universities, non-university research institutions, scientific associations and the Academies of Science and the Humanities.

The chief task of DFG is to fund the best research projects by scientists and academics at universities and research institutions, which are selected on the basis of a multi-layered peer review process. DFG is a cornerstone of Germany’s strength as a research nation and it plays a key role in structuring academic research in Europe.

DFG organizes Leibniz Lectures in different regions across the world in order to promote the prize, the research conducted by the prize holders, and the high quality of German science in general.