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Nikolaus Rajewsky of the MDC to Receive the Leibniz Prize – the Highest Honor Awarded in German Research

Professor Nikolaus Rajewsky of the Max Delbrück Center for Molecular Medicine (MDC) Berlin is to receive Germany's most prestigious research award, the Gottfried Wilhelm Leibniz Prize. The announcement was made by the German Research Foundation (DFG) on Thursday, December 8, 2011. This is the second time the prize will go to the MDC. In 2002 Professor Carmen Birchmeier received the award. In 2012 the prize will be awarded to a total of eleven scientists: two women and nine men were selected from among 131 nominations. The Leibniz Prizes, each endowed with up to 2.5 million euros, will be presented in an award ceremony in Berlin on February 27, 2012.

Nikolaus Rajewsky is Professor of Systems Biology at the MDC and the Charité and Scientific Director of the "Berlin Institute for Medical Systems Biology" (BIMSB) at the MDC. Systems biology combines molecular biology, biochemistry, mathematics and physics in order to quantitatively capture and predict complex processes of life. Professor Rajewsky's research activities focus mainly on microRNAs, a group of genes discovered only a few years ago. As Nikolaus Rajewsky has demonstrated experimentally and with the aid of bioinformatics, microRNAs play an important role in the regulation of genes, including those that play a crucial role in the development of diseases. This discovery opens up a huge field of potential applications, including target structures for novel therapy approaches.

In addition, Professor Rajewsky and his group have also made important methodological and technological advances. Together with his colleague Marc Friedländer, he developed a computer-based method with which microRNA molecules can be identified. In an innovative research collaboration at the MDC, Professor Nikolaus Rajewsky and Professor Matthias Selbach demonstrated how microRNAs regulate the activity of genes and thus steer the production of thousands of proteins. Another accomplishment, achieved together with developmental biologists of New York University, was to develop a method with which large numbers of nematodes (*C. elegans*), an important model organism in biology, can be studied during various stages of embryonic development.

Furthermore, together with researchers in the U.S. and Canada, he compiled a catalogue of microRNAs of planarian flatworms, and there also identified microRNAs which could play a role in the regeneration and function of stem cells. Freshwater planarian flatworms possess the capacity to regenerate into completely new, viable individuals from any cut-off body part. This regeneration is mediated by totipotent adult stem cells. Consequently, planarian flatworms are the object of intense research in the lab of Nikolaus Rajewsky.

Nikolaus Rajewsky studied mathematics and physics at the University of Cologne, Germany from 1988 - 1993, where he earned his PhD in theoretical physics in 1997. In the fall of 1998, he went to the USA as a post-doctoral fellow, first at Rutgers University in New Jersey, and, from 1999 - 2002, at Rockefeller University in New York, where he later became Research Assistant

Professor and, in 2003, Assistant Professor at New York University. From 1991 to 1996 he also studied music (piano) at the Folkwang Academy in Essen (Germany), where he graduated with an artist diploma (künstlerische Reifeprüfung).

Professor Rajewsky has already received numerous awards for his work, among these in 2010 the Science Prize of the Governing Mayor of Berlin. Also in 2010 he was elected to be a member of the European Organization for Molecular Biology (EMBO). In 2008 he was named Global Distinguished Professor of Biology at New York University.

The Berlin Institute for Medical Systems Biology (BIMSB) was founded in 2008 by the MDC with pilot funding of the Federal Ministry of Education and Research and the Senate of Berlin on Campus Berlin-Buch. The BIMSB collaborates closely with other research institutions, in particular with Humboldt University Berlin and Charité – Universitätsmedizin Berlin and in the U.S. with New York University (NYU) and Rockefeller University. In addition, through the initiative of Professor Rajewsky, the BIMSB offers a joint PhD program with NYU and the MDC.

In 2015 the BIMSB will move into a new building on the north campus of Humboldt University. The new building, which is being financed by the Senate of Berlin with approximately 30 million euros, will provide 5 500 m² of space for around 300 employees. The annual operating costs amounting to approximately 20 million euros is shared by the Federal Ministry of Education and Research (90 percent) and by the Berlin Senate (10 percent).

A photo of Professor Nikolaus Rajewsky can be downloaded from the Internet at:
<http://www.mdc-berlin.de/de/index.html>

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