



Curriculum Vitae Professor Dr. Michael Reth

Name: Michael Reth
Born: 8 November 1950
Family Status: married



Academic and Professional Career

since 2007 Scientific director of BIOSS the Centre for Biological Signalling Studies, funded by the excellence programme of the German government

since 1996 Professor of Molecular Immunology, University of Freiburg, Germany

1998 - 1996 Associate Professor (C3), MPI for Immunobiology, Freiburg, Germany

1985 - 1988 Group Leader, Institute of Genetics, University of Cologne, Germany

1982 - 1985 Visiting Research Fellow, Columbia University, New York, USA

1988 Habilitation University of Cologne, Germany

1981 Ph.D. University of Cologne, Germany

1971 - 1977 Diploma, University of Cologne, Germany

Project coordination, Membership in collaborative research projects (Selection)

2014 - 2017 TRR130 The resting state of B lymphocytes

2007 - 2014 CRC746, Modifications and adaptor function of the B cell signalling proteins Syk and

SHP-1 (P7)

- 2007 - 2012 BMBF, Freiburg Initiative for Systems Biology (FRISYS)
- 2007 - 2017 BIOSS EXC294, Center for Biological Signalling Studies (BIOSS): from analysis to synthesis
- 2002 - 2013 CRC620, Production and analysis of B-cell mutant mice with the Cre/loxP method (B5)

Functions in Scientific Societies and Committees (Selection)

- 2008 Honorary Member of the American Association of Immunologists
- since 2005 Member of the Advisory Board of the of the IDI Institute, Harvard University, USA
- since 2003 Editorial Board, Annual Review of Immunology
- 1992 - 2007 Editorial Board, European Journal of Immunology
- since 1990 Transmitting Editor, International Immunology

Honours and Awarded Memberships (Selection)

- 2014 Paul Ehrlich-Prize
- 2012 - 2017 ERC Advanced Grant
- 2009 Schering-Plough Prize
- 2006 Elected as member of the German Academy of Science Leopoldina
- 1995 Gottfried-Wilhelm-Leibniz Prize of the German Research Foundation (DFG)
- 1995 Elected as EMBO-member
- 1988 Heinz Maier Leibnitz Prize for Immunogenetics
- 1982 German Research Foundation Postdoctoral Fellowship

Major Scientific Interests

My group works on differentiation and activation mechanisms of B lymphocytes of the mammalian immune system. Our work resulted in a better description of the B cell antigen receptor and we discovered several critical signal elements in B lymphocytes. Since 1998 we are applying synthetic biology approaches for a better study of signaling processes in lymphocytes. With this approach we made several key discoveries that resulted in a new hypothesis for B cell activation, namely the dissociation-activation model (DAM). In our signaling studies we are currently combining biochemical, genetic, molecular biology and synthetic biology techniques. We also have developed a modification of the proximity ligation assay (PLA) which allows us to study the molecular interactions around receptors of lymphocytes at the 10-20 nanometer range. With this technique we discover a new world of nanoscale molecular interaction in and at the membrane and open a venue to the field of Nanobiology.