Leopoldina
Nationale Akademie
der Wissenschaften

Curriculum Vitae Professor Dr Robert Huber

Name: **Robert Huber**
Date of birth: **20 February 1937**

Research Priorities: Protein structures, photosynthetic reaction centre, photosynthesis, crystal structures, X-ray crystallography, immune molecules, proteases, drug design programmes

Robert Huber is a German chemist, working primarily on research into protein structures. In 1988 he received, jointly with the German biophysicist Johann Deisenhofer and the German biochemist Hartmut Michel, the Nobel Prize in Chemistry for decoding the three-dimensional structure of the photosynthetic reaction centre of purple bacteria. With their work, the researchers have provided fundamental insights into photosynthesis.

Academic and Professional Career

since 2013	Emeritus of Excellence, Technical University of Munich (TU), Munich, Germany
2007	Visiting Professor, Cardiff University, Cardiff, UK
since 2005	Head, Emeritus Group “Structure Research”, Max Planck Institute of Biochemistry, Martinsried, Germany
2005	Visiting Professor, University of Duisburg-Essen, North Rhine-Westphalia, Germany
2001	Visiting Professor, Universitat Autònoma de Barcelona, Barcelona, Spain
1976	Adjunct Professor, TU Munich, Munich, Germany
1972 - 2005	Scientific Member and Director, Max Planck Institute of Biochemistry, Martinsried, Germany
1968	Habilitation, TU Munich, Munich, Germany
1963	Doctorate, TU Munich, Munich, Germany
1960	Degree in Chemistry, TU Munich, Munich, Germany

Functions in Scientific Societies and Committees

	President, Board of Trustees, Peter and Traudl Engelhorn Foundation for the Advancement of Life Sciences, Weilheim, Germany
since 2011	Member, Strategy Board, Hamburg School of Food Science, Hamburg, Germany
since 2007	Member, University Council, University of Bayreuth, Bayreuth, Germany
2005	Co-Founder and Advisor, SuppreMol GmbH, Martinsried, Germany
1997	Co-Founder and Advisor, Proteros Biostructures GmbH, Planegg, Germany

Project Coordination, Membership in Collaborative Research Projects

2003	Head, Subproject “Crystal structures of proteinases as a starting point for the rational design of inhibitors”, SFB 469, DFG
2001 - 2004	Head, Subproject “HsiVU and the proteasome-associated ATPases”, SFB 594, DFG
2000 - 2002	Head, Subproject “Crystal structures of proteinases as a starting point for the rational design of inhibitors”, SFB 469, DFG
1998 - 2003	Head, Subproject “Structure and function of mutants of the 20S proteasome from S. cerevisae”, Priority Programme (SPP) 1045, DFG
1998 - 2003	Head, Subproject “Structural characterisation of regulatory proteins of the cytoskeleton”, SFB 413, DFG
1997 - 2005	Head, Subproject “Structural flexibility of phycobiliprotein complexes”, SFB 533, DFG

Honours and Awarded Memberships

2012	Honorary President and Chief Scientific Advisor, Tianjin International Joint Academy of Biotechnology and Medicine, Tianjin, China
2011	Order of “Manuel Amador Guerrero”, Republic of Panama
2009	Honorary Director, Nobel Life Science Research Center, Foshan, China
2009	Erice Prize Premio Ettore Majorana, Electronic Journal of Theoretical Physics, Italy
2009	Distinguished Research Chair Professor, National Taiwan University, Taipei, Taiwan
2005	Lotte Distinguished Professorship, Seoul National University, South Korea
2004	Prize of the City of Florence for Molecular Sciences (Premio Città di Firenze sulle Scienze Molecolari), Florence, Italy
2004	Roentgen Medal, Remscheid-Lennep, Germany
1997	Grand Cross of Merit with Star and Sash, Federal Republic of Germany

1997	Max Bergmann Medal, Max-Bergmann-Kreis zur Förderung der peptidchemischen Forschung (society for the advancement of peptide chemical research), Bielefeld, Germany
1997	Max Tishler Prize, Harvard University, Cambridge, USA
1995	The Distinguished Service Award, Miami Winter Symposia, International Union of Biochemistry and Molecular Biology
1993/94	Linus Pauling Award, American Chemical Society, USA
1993	Bavarian Maximilian Order for Science and Art, Germany
1993	Order Pour le Mérite for Sciences and Arts, Federal President, Germany
1992	Sir Hans Krebs Medal, Federation of European Biochemical Societies (FEBS)
1991	Rudi Lemberg Travelling Fellowship, Mrs. Hanna Lemberg and Australian Society for Biochemistry and Molecular Biology, Australia
1990	Kone Award, Association of Clinical Biochemists, UK
since 1990	Member, German National Academy of Sciences Leopoldina, Germany
1989	Memorial Medal, E.K. Frey - E. Werle Foundation of the Henning L. Voigt Family, Munich, Germany
1988	Nobel Prize in Chemistry, Royal Swedish Academy of Sciences, Sweden
1987	Richard Kuhn Medal, German Chemical Society, Germany
1987	Keilin Medal, Biochemical Society, London, UK
1982	Emil von Behring Medal, University of Marburg, Marburg, Germany
1977	Otto Warburg Medal, German Society for Biochemistry (since 1996: German Society for Biochemistry and Molecular Biology), Frankfurt am Main, Germany
1972	E.K. Frey Medal, German Society of Surgery, Germany
	Honorary Member, American Society of Biological Chemists, USA
	Member, Bavarian Academy of Sciences, Germany
	Member, German Chemical Society, Germany
	Member, German Society for Biochemistry, Germany
	Honorary Member, The Swedish Society for Biochemistry, Biophysics and Molecular Biology, Sweden
	Member, European Molecular Biology Organization (EMBO)
	Honorary Member, Japanese Biochemical Society, Japan
	Member, European Academy of Arts, Sciences and Humanities

Member, Accademia Nazionale dei Lincei, Italy

Associate Member, Third World Academy of Sciences (since 2004: The World Academy of Sciences)

Foreign Member, National Academy of Sciences, USA

Member, American Academy of Microbiology, USA

Foreign Member, Royal Society, UK

Foreign Member, Indian National Science Academy, India

Honorary Member, Sociedad Espanola de Bioquimica y Biologia Molecular, Spain

Foreign Member, Korean Academy of Science and Technology, South Korea

Research Priorities

Robert Huber is a German chemist, working primarily on research into protein structures. In 1988 he received, jointly with the German biophysicist Johann Deisenhofer and the German biochemist Hartmut Michel, the Nobel Prize in Chemistry for decoding the three-dimensional structure of the photosynthetic reaction centre of purple bacteria. With their work, the researchers have provided fundamental insights into photosynthesis.

Robert Huber and his colleagues were able to crystallise the reaction centre of the bacterium Rhodopseudomonas viridis (Blastochloris viridis). It was the first ever membrane protein complex of which the atomic structure could be analysed by X-ray crystallography. From the results of this research it has been possible to explain how plant cells store energy from the sun. It was also possible to apply the result to plants, as the photosynthetic reaction centre of the bacterium has almost the same structure as higher plants.

In the 1970s Robert Huber set up the first protein crystallography laboratory in Germany and, using X-ray crystallography, has been able to reveal more than 100 protein structures over the years, including proteins of the immune system and of energy and electron transfer. A further priority of his scientific research has been the development of new analytical instruments and methods. As Emeritus of the Group “Structure Research” at the Max Planck Institute of Biochemistry, he mainly studies proteases and immune molecules and works in the field of drug research on “drug design” programmes for the development of new active substances.