



## Curriculum Vitae Professor Dr. Horst Malke



**Name:** Horst Malke  
**Born:** 10 June 1937, Althrehfeld, Germany

### Academic and Professional Career

- since 2009     Affiliate Professor of Research, Oklahoma University Health Sciences Center (OUHSC), Oklahoma City, USA
- 2003 - 2008     Professor of Research, OUHSC, USA
- 1999 - 2002     Director, Institute of Molecular Biology, Faculty of Biology and Pharmacy, Friedrich Schiller University (FSU), Jena, Germany
- 1993 - 2002     Professorial Chair of Molecular Genetics, FSU Jena, Germany
- 1992             Group Leader, University Revival Program, Federal Republic of Germany
- 1987             Appointment as Professor of Genetics, Academy of Sciences of the GDR
- 1984 - 1991     Head, Department of Molecular Genetics, Central Institute of Microbiology and Experimental Therapy (ZIMET) of the Academy of Sciences of the GDR, Jena, Germany
- 1973 - 1983     Head, Research Group for Streptococcal Genetics, ZIMET Jena, Germany
- 1966 - 1972     Head-Assistant, Department of Medical Microbiology, ZIMET Jena, Germany
- 1972             Habilitation (Dr. rer. nat. habil.), Ernst Moritz Arndt University (EMAU) Greifswald, Germany
- 1965             Ph.D., EMAU Greifswald, Germany
- 1963 - 1965     Fellow, Institute of Microbiology, EMAU Greifswald, Germany
- 1962             Postgraduate Course for Microbiology (1 year), German Academy of Sciences, Institute of Microbiology and Experimental Therapy (IMET), Jena, Germany
- 1960 - 1961     Scientific Assistant, Institute of Botany, College of Education, Potsdam, Germany

1955 - 1960     Student of Biology (Major) and Chemistry (Minor), College of Education, Potsdam, Germany

### **Functions in Scientific Societies and Committees (Selection)**

1994 - 2002     Member, International Advisory Committee for the *Streptococcus pyogenes* Genome Sequencing Project at the University of Oklahoma, USA

1993 - 2002     Member, American Society for Microbiology (ASM)

1989 - 2006     Member, Advisory Board of the „Zentralblatt für Bakteriologie“, Gustav Fischer Verlag, Stuttgart and New York and the “International Journal of Medical Microbiology“, Elsevier GmbH, respectively. Ad hoc reviewer of diverse professional journals, including “Molecular and General Genetics“, “Molecular Microbiology“, “Journal of Bacteriology“, and “Public Library of Science“ (PLOS)

1985 - 2008     Editor-in-Chief, “Journal of Basic Microbiology“, Akademie-Verlag Berlin and Wiley VCH Verlag GmbH, Weinheim, respectively, Germany

1979 - 1990     Member, “Commission for work on in-vitro recombination of DNA“, Ministry of Health of the GDR

1978 - 1982     Member, Scientific Advisory Board of the “Main Research Initiative in influenza and other infectious diseases, including streptococcal research“ of the Research Association for Immunology and Infectious Diseases sponsored by the Ministry of Health of the GDR

1970 - 1981     Chairman of the Group for Microbial Genetics of the “Society for General and Technical Microbiology“ of the GDR

### **Project coordination, Membership in collaborative research projects (Selection)**

2004 - 2009     Principal Investigator of the project “Response of *Streptococcus pyogenes* to nutritional stress“ sponsored by grant AI054473-01A2 from the National Institutes of Health (NIH), Bethesda, USA

2001 - 2002     Member, consortium of principal investigators of the Germany-wide “PathoGenoMics Network“ sponsored by the Federal Ministry of Education and Research (BMBF)

1999 - 2002     Principal Investigator of the project „Expression control of virulence genes of pathogenic streptococci mediated by extracellular and intracellular signal molecules“ sponsored by the German Research Association (DFG); Co-Investigator (with Rolf Hilgenfeld) of the project “Genetics, enzymology, and structural basis of metabolism control by guanosine polyphosphates“ sponsored by the DFG

1996 - 1998     Principal Investigator of the project “Structural and functional analysis of bacterial cytoplasmic membrane proteins, in particular lipoprotein and phosphatases“ sponsored by the Thuringian Ministry of Science, Research and Arts (TMWFK)

- 1992 - 2002 Principal Investigator of the long-term project served to improve the infrastructural basis of research in the new Länder of Germany, sponsored by the Fonds of the Chemical Industry (FCI)
- 1991 - 1998 Principal Investigator of the project "Molecular genetic analysis of the chromosomal streptokinase gene region of pathogenic streptococci" sponsored by the DFG

### **Honours and Awarded Memberships (Selection)**

- since 2008 Honorary Editor, Journal of Basic Microbiology, Wiley-VCH Verlag GmbH, Weinheim, Germany
- 2002 University of Oklahoma Science Recognition and Achievement Award for "Pioneering Work in the Genetics and Molecular Biology of Pathogenic Streptococci, Outstanding Original Scientific Contributions to the Understanding of Infectious Diseases and Public Health, Training of Future Leaders in Their Field, Dedication to International Cooperation and World Health", USA
- since 1999 Member of the German National Academy of Sciences Leopoldina
- since 1997 Member, Akademie gemeinnütziger Wissenschaften zu Erfurt, Germany
- 1983 - 1990 Visiting Scientist Awardee and Visiting Professor, respectively, under the sponsorship of Joseph J. Ferretti, OUHSC, Department of Microbiology and Immunology, Oklahoma City, USA
- 1980 - 1981 Visiting Scientist Awardee under the sponsorship of Stig E. Holm, University of Umea, Department of Clinical Bacteriology, Umea, Sweden
- 1976 - 1977 Career Investigator Visiting Scientist Awardee of the American Heart Association under the sponsorship of Lewis W. Wannamaker, Department of Pediatrics and Microbiology, University of Minnesota, Minneapolis, USA
- 1974 Rudolf Virchow Prize for work on the "Genetics of pathogenic bacteria, in particular streptococci"; Ministry of Health, GDR

### **Major Scientific Interests**

Horst Malke is primarily recognized for many contributions to the genetics of bacteria, particularly the pathogenic streptococci. He developed novel transduction and conjugation systems for genetic exchange in the pre-recombinant DNA era. Teaming up with researchers at OUHSC, he was the first to clone, sequence, ectopically express and comprehensively characterize the polymorphic streptokinase gene, the product of which is exploited as a fibrinolytic agent in clinical medicine.

His current work includes seminal discoveries involving streptococcal proteins, especially RelA and CodY, that globally regulate the expression of the streptococcal genome by sensing the nutritional status of the cell to integrate metabolic and virulence pathways.