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## Curriculum Vitae Prof. Dr. Friedrich G. Barth

**Name:** Friedrich G. Barth  
**Born:** 18 April 1940



**Main areas of research:** Neurobiology, biology and “design” of invertebrate sensory systems, neuroethology, communication, biomechanics, biomaterials, bio-inspired technology,  
**Interdisciplinary long-term cooperation with engineers and physicists**

### Academic and Professional Career

since 2008      Professor Emeritus, University of Vienna Austria  
1987 - 2008      Professor of Zoology / Neurobiology, Head of Department of Neurobiology,  
University of Vienna, Austria  
1974 - 1987      Professor of Zoology, J.W.Goethe-University, Frankfurt am Main, Germany  
1971              Habilitation at the Ludwig-Maximilian University, Munich, Germany  
1967              Ph.D. Ludwig Maximilian University, Munich, Germany  
1962 - 1963      Studies in neurobiology and physiology at the University of California, Los Angeles,  
USA  
1959 - 1962      Studies in zoology, botany, physics, chemistry, and human physiology at the Ludwig  
Maximilian University, Munich, Germany

### Functions in Scientific Societies and Committees

since 2007      Editorial Board, Journal of Bionic Engineering  
2006 - 2008      President, Austrian Neuroscience Association  
since 2004      Member, Governing Council , International Brain Research Organization

since 1996	Editor in Chief, Journal of Comparative Physiology A: Neuroethology, Sensory, Neural and Behavioral Physiology
1994 - 1995	Founding President, Austrian Neuroscience Association
1983 - 1989	Member, Board of the German Zoological Society
1983 - 1988	Editor, Proceedings of the German Zoological Society
1981 - 1983	Dean, Faculty of Biology, J.W. Goethe University, Frankfurt / Main, Germany
1976 - 1977	Director, Institute of Zoology, J.W. Goethe University, Frankfurt / Main, Germany
1975 - 2009	Vertrauensdozent, Studienstiftung des Deutschen Volkes

### **Honours and Awarded Memberships**

since 2008	Member, European DANA Alliance for the Brain
2007	Award of the City of Vienna for Science and Technology
2001	Kardinal-Innitzer Prize
2000	Karl Ritter von Frisch Medal and Award
since 1999	Member, German National Academy of Sciences Leopoldina
since 1998	Corresponding Member, Bavarian Academy of Science
since 1996	Member, Academia Europaea
since 1995	Member (full), Austrian Academy of Science
1991 - 1995	Corresponding Member, Austrian Academy of Science
1991	Russel S. Springer Professor of Mechanical Engineering, University of California at Berkeley
since 1987	Member, Scientific Society at the Johann Wolfgang Goethe University, Frankfurt / Main, Germany
1959 - 1967	Member, Studienstiftung des Deutschen Volkes

### **Major Scientific Interests**

The main research interests of Friedrich G. Barth are twofold. (i) Neurobiology of sensors and sensing as interfaces between the environment and behaviour in a broad organismal context. The emphasis of this work is on mechanoreception in spiders which not only turned out to be exquisitely fine-tuned to the biologically relevant stimulus patterns but could also successfully be subjected to quantitative mathematical modeling and computational biomechanics. In

addition to providing numerous new insights in the workings of mechanoreception (strain, vibration, touch and medium flow sensing) this interdisciplinary work promoted the interest in bio-inspired synthetic sensors. (ii) A second line of research has been the communication related to the recruitment behaviour of stingless bees. This work, mainly carried out in Brazil, has had its focus on the signals and cues which these bees use with remarkable success and without evidence for any kind of a “dance language“ as in honeybees.

Teaching: Supervised 33 Ph.D. and 62 Diploma studies; several guest professorships abroad (among others in India, Japan, USA ).

Publications: More than 180 full papers, 10 authored/edited books.