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## Curriculum Vitae Professor Dr Rüdiger Wehner

**Name:** Rüdiger Wehner  
**Date of birth:** 6 February 1940

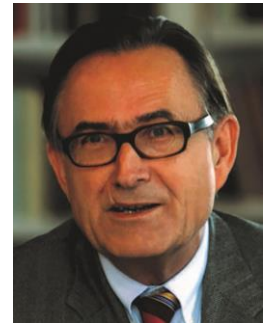


Image: Uwe Dettmar

### **Research Priorities: Neurobiology, behavioural psychology**

Rüdiger Wehner is a German-Swiss neuro- and behavioural biologist. His research into the navigation of social insects combines sensory and neurophysiological analyses with experimental behavioural research and modelling. As part of an organism-centred approach, he also incorporates aspects from ecophysiology, behavioural ecology, and evolutionary biology.

### **Academic and Professional Career**

- 2012 - 2014 Honorary Associate Professor, Macquarie University, Sydney, Australia
- 2010 - 2012 Adjunct Professor, Arizona State University, Tempe, Arizona, USA
- 2008 - 2010 Visiting Professor, Alexander von Humboldt Research Award, Biocenter, University of Würzburg, Würzburg, Germany
- 2005 - 2008 Emeritus Research Professor, University of Zurich, Zurich, Switzerland
- 1991 - 2008 Non-Resident Permanent Fellow, Wissenschaftskolleg zu Berlin, Berlin, Germany
- 1987 - 1993 Andrew Dickson White Professor (at Large), Cornell University, Ithaca, USA
- 1986 - 2005 Director, Institute of Zoology, University of Zurich, Zurich, Switzerland
- 1976 - 1980 Director, Institute of Zoology, University of Zurich, Zurich, Switzerland
- 1974 - 2005 Full Professor, University of Zurich, Zurich, Switzerland
- 1973 - 1974 Visiting Professor, Department of Biology, Yale University, New Haven, USA
- 1972 Associate Professor, University of Zurich, Zurich, Switzerland
- 1970 Assistant Professor, University of Zurich, Zurich, Switzerland

- 1969            Habilitation, Faculty of Science, University of Zurich, Zurich, Switzerland
- 1967 - 1970    Assistant, since 1968 Senior Assistant, Institute of Zoology, University of Zurich, Zurich, Switzerland
- 1967            Doctorate, Goethe University Frankfurt, Frankfurt am Main, Germany
- 1966            State Examination, Goethe University Frankfurt, Frankfurt am Main, Germany
- 1960 - 1967    Degree in Biology, Chemistry and Philosophy, Goethe University Frankfurt, Frankfurt am Main, Germany

### **Functions in Scientific Societies and Committees**

- since 2013     Member, Scientific Advisory Board of the Faculty of Biology, Ludwig-Maximilians-Universität, Munich, Germany
- 2010 - 2018    Member, Scientific Advisory Board and Art Advisory Board, Hanse-Wissenschaftskolleg, Delmenhorst, Germany
- 2010 - 2016    Member, Scientific Advisory Board, Humboldt-Universität zu Berlin, Berlin, Germany
- 2010 - 2014    Member, Scientific Advisory Board, Centre for Animal Movement Research (CAnMove), Lund University, Lund, Sweden
- 2008 - 2012    Member, Austrian Science Council, Austria
- 2007 - 2013    Member, Advisory Board of the Frankfurt Institute for Advanced Studies (FIAS), Frankfurt am Main, Germany
- 2005 - 2006    Member, Strategy Commission, German Science and Humanities Council, Cologne, Germany
- since 2004     Member, since 2014 Chairperson, Search Committee Life Sciences, Körber-Stiftung, Hamburg, Germany
- 2001 - 2014    Foundation Council, Cogito Foundation, Wollerau, Switzerland
- 2000 - 2009    Member, Board of the University, University of Tübingen, Tübingen, Germany
- 1999 - 2019    Member, Scientific Advisory Board, Senckenberg Research Institute and Natural History Museum, Leibniz Association, Frankfurt am Main, Germany
- 1999 - 2005    Member, Scientific Advisory Board, Max Planck Institute for the History of Science, Berlin, Germany
- 1997 - 2003    Member, Executive Board, Neuroscience Center Zurich (ZNZ), Eidgenössische Technische Hochschule Zürich (ETH Zurich) as well as University of Zurich, Zurich, Switzerland
- 1996 - 2000    Member, Board of the University, University of Zurich, Zurich, Switzerland

- 1996 Member, Committee for the Evaluation of the Department of Biology at the Humboldt-Universität, the Technische Universität and the Freie Universität, Berlin, Germany
- 1995 - 2005 Member, Scientific Advisory Board, Theodor-Boveri-Institute, University of Würzburg, Würzburg, Germany
- 1995 - 1998 Member, Steering Committee, Sussex Centre for Neuroscience, Sussex, UK
- 1993 - 1994 Member, Commission to Establish the “Institute for Theoretical Biology”, Humboldt-Universität Berlin, Berlin, Germany
- 1992 - 1994 Member, Scientific Advisory Board, Hygiene-Museum, Dresden, Germany
- 1992 Member, Selection Committee for the Selection of Founding Members, Berlin-Brandenburg Academy of Sciences and Humanities, Berlin, Germany
- 1990 - 1993 Member, International Board of the Desert Ecological Research Unit (DERUN), Namibia
- 1987 - 1990 Member, Academic Advisory Board, Wissenschaftskolleg zu Berlin, Berlin, Germany
- 1987 - 1989 Member of the Board of Directors, International Society for Neuroethology, Lawrence, USA
- 1984 Annual President, Swiss Society of the Natural Sciences (SNG, since 2004: Swiss Academy of Sciences, SCNAT) and organiser of the 164th Annual Assembly of the SNG, Switzerland
- 1978 - 1980 Member, Board of Directors, German Zoological Society (DZG), Germany
- 1977 - 1981 President, Zurich Zoological Society (ZGZH), Zurich, Switzerland
- 1975 - 1985 Member, Supervisory Commission of the Zürich-Enge Gymnasium, Zurich, Switzerland
- 1975 - 1978 Member, Executive Committee, Union of Swiss Societies of Experimental Biology (USGEB), Switzerland
- 1972 Organiser and Chairman, Symposium “Information Processing in the Visual Systems of Arthropods”, Swiss National Science Foundation, Switzerland

### **Project Coordination, Membership in Collaborative Research Projects**

- 2013 - 2018 Subproject “Neuronal basis of orientation in time and space in *Cataglyphis* ants”, Collaborative Research Centre 1047, German Research Foundation (DFG), Germany
- 2008 - 2013 Project “Disturbance resistance and fault tolerance in complex behavioural performance – Research into the path-integration mechanisms of desert ants”, DFG, Germany

- 2007 - 2016 Subproject “Navigational mechanisms in Melophorus desert ants”, Australian Research Council, Australia
- 2002 - 2010 Subproject “3-D spatial orientation of a small brain navigator”, Volkswagen Foundation, Hanover, Germany
- 1997 - 2000 Subproject “Spatial cognition in insects”, International Human Frontier Science Program (HFSP), Strasbourg, France
- 1996 - 1998 Subproject “Rule extraction and representation”, Berlin-Brandenburg Academy of Sciences and Humanities, Berlin, Germany

### **Honours and Awarded Memberships**

- 2021 Bavarian Maximilian Order for Science and Art, Free State of Bavaria, Germany
- 2021 PROSE Award in Biological and Life Sciences, Association of American Publishers, for “Desert Navigator” by Rüdiger Wehner, Harvard University Press, Harvard University, Cambridge, USA
- since 2020 Fellow, Royal Institute of Navigation, UK
- since 2017 Corresponding Member, Australian Academy of Science, Australia
- since 2012 Fellow, International Society for Neuroethology
- since 2010 Associate, Neurosciences Research Program (NRP), USA
- 2009 University Medal in Silver, Eberhard Karls Universität Tübingen, Tübingen, Germany
- 2008 King Faisal International Prize for Science, King Faisal Foundation, Riyadh, Saudi Arabia
- 2007 Humboldt Research Award, Alexander von Humboldt Foundation, Bonn, Germany
- since 2006 Honorary Member, DZG, Germany
- 2005 Honorary Doctorate, Humboldt-Universität zu Berlin, Berlin, Germany
- since 2005 International Honorary Member, American Academy of Arts and Sciences, USA
- 2003 Honorary Doctorate, Lund University, Lund, Sweden
- 2002 Swiss Science Prize Marcel Benoist, Marcel Benoist Foundation, Bern, Switzerland
- 2002 Honorary Doctorate, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany
- since 2000 Member, Royal Physiographic Society, Lund, Sweden
- since 1998 Corresponding Member, Austrian Academy of Sciences, Austria
- 1996 Distinguished Scientist Award, University of California, Los Angeles, USA

- since 1996 Corresponding Member, Göttingen Academy of Sciences and Humanities, Göttingen, Germany
- since 1995 Member of the Berlin-Brandenburg Academy of Sciences and Humanities, Berlin, Germany
- 1994 Karl Ritter von Frisch Medal and Science Prize, DZG, Germany
- since 1993 Corresponding Member, American Philosophical Society, USA
- 1993 Carus Medal and Carus Award, German National Academy of Sciences Leopoldina and City of Schweinfurt, Germany
- since 1989 Member, Academia Europaea
- since 1987 Corresponding Member, Bavarian Academy of Sciences and Humanities, Bavaria, Germany
- since 1985 Member, German National Academy of Sciences Leopoldina, Germany
- since 1977 Corresponding Member, Academy of Sciences and Literature Mainz, Mainz, Germany
- 1967 Annual Award for Dissertations, Goethe University Frankfurt, Frankfurt am Main, Germany
- 1960 - 1967 Member, Studienstiftung des deutschen Volkes (German Academic Scholarship Foundation), Germany

### Research priorities

Rüdiger Wehner is a German-Swiss neuro- and behavioural biologist. Using the example of social insects' navigational capabilities, he has examined issues of orientation in space and time – measuring direction and distance, path integration, image comparison processes, strategies for seeking and finding goals – and thus made general contribution to the field of spatial cognition.

Rüdiger Wehner's core research focuses on the neuroethological analysis of insects' visual perception and orientation performance. Using the example of the *Cataglyphis* desert ant, which he and his working group developed into a model organism for research into navigation, he pursues a multidisciplinary approach. The approach comprises behavioural and neurophysiological methods, computer simulations and robotics studies, and, by adopting an organism-centred view, also seeks to incorporate the behavioural ecology and evolutionary biology of these thermophile animal groups.

Rüdiger Wehner was Director of the Institute of Zoology at the University of Zurich (Switzerland) for over two decades. He greatly expanded the Institute's scope by incorporating many new areas, from the molecular developmental genes of the fruit fly *Drosophila* to research into the behaviour of vertebrates, and ecology. Over the course of

several editions, the textbook that he co-wrote with Walter Gehring, "Zoologie", became the standard work for university teaching in the field.