



Curriculum Vitae Prof. Dr. Bert Hölldobler

Name: Bert Hölldobler

Date of birth: 25 June 1936



Image: Arizona State University

Research Priorities: Behavioural physiology, evolutionary biology, sociobiology, chemical ecology, biology of social insects

Bert Hölldobler is a German-American ethologist who works in the field of experimental behavioural physiology and sociobiology. His research mainly focuses on social insects, the diversity of their social organisations and their communication strategies. He became known beyond expert circles for his work on the behaviour of ants.

Academic and Professional Career

- since 2021 Inaugural Robert A. Johnson Chair in Social Insect Research, Arizona State University, Tempe, USA
- since 2004 Foundation Professor, Arizona State University, Tempe, USA
- 2002 - 2008 Professor at Large, Cornell University, Ithaca, USA
- 1993 - 1995 Dean, Faculty of Biology, Julius-Maximilians-Universität of Würzburg (JMU), Würzburg, Germany
- 1989 - 2004 Professor Ordinarius of Zoology, JMU Würzburg, Würzburg, Germany
- 2001 Johannes Gutenberg Endowed Professorship, Johannes Gutenberg University Mainz, Mainz, Germany
- since 1990 Research Associate, Harvard University, Cambridge, USA
- 1986 - 1987 Visiting Scholar, JMU Würzburg, Würzburg, Germany
- 1982 - 1990 Alexander Agassiz Professor of Zoology, Harvard University, Cambridge, USA
- 1973 - 1990 Professor of Biology, Harvard University, Cambridge, USA

- 1971 - 1972 Professor of Zoology, Goethe University Frankfurt, Frankfurt am Main, Germany
- 1969 - 1971 Research Associate, Department of Biology, Harvard University, Cambridge, USA
- 1969 Habilitation, Goethe University Frankfurt, Frankfurt am Main, Germany
- 1965 Doctorate, JMU Würzburg, Würzburg, Germany
- 1956 - 1962 Studies of Biology and Chemistry, JMU Würzburg, Würzburg, Germany

Functions in Scientific Societies and Committees

- 2004 Co-Founder (together with Robert Page), Social Insect Research Group sowie School of Life Sciences, Arizona State University, Tempe, USA
- 2001 - 2003 Spokesperson, Biocenter, JMU Würzburg, Würzburg, Germany
- 1997 Vice President, Society for the Study of Evolution (SSE)
- 1997 Member, Board of Trustees, Carl Friedrich von Siemens Foundation, Munich, Germany
- 1996 - 1999 Member, German Science and Humanities Council, Germany
- 1993 - 2003 Member, Selection Committee for Senior Scientist Awards, Alexander von Humboldt Foundation, Bonn, Germany
- 1993 - 1995 Dean of Biology, Julius-Maximilians-University (JMU) Würzburg, Würzburg, Germany
- 1991 - 2002 Member, Senate, German National Academy of Sciences Leopoldina, Germany
- 1984 - 1987 Member, Panel, Psychobiology-Behavioral Physiology National Science Foundation, USA

Project Coordination, Membership in Collaborative Research Projects

- 2003 - 2010 Project "Neuronale Repräsentation und Verarbeitung chemischer Kommunikationssignale im Gehirn von Ameisen" (Neuronal Representation and Processing of Chemical Communication Signals in the Brains of Ants"), German Research Foundation, Germany
- 2003 - 2006 Project "Informationsfluss im Dienste der Kolonieorganisation – Emergentes Verhalten im Superorganismus" (Information Flow Underpinning Colony Organisation – Emergent Behaviour in Superorganisms), German Research Foundation, Germany
- 2001 - 2007 Project "Blattschneiderameisen: Pflanzenqualität und die Maximierung der Wachstumsrate des symbiontischen Pilzes" (Leafcutter Ants: Plant Quality and Maximising the Growth Rate of Symbiotic Fungi), German Research Foundation, Germany

- 2000 - 2006 Project "Populationsgenetische Grundlagen der Territorialität und intraspezifischen Sklaverei bei Ameisen" (Population Genetic Foundations of Territoriality and Intraspecific Slavery in Ant Colonies), German Research Foundation, Germany
- 2000 - 2004 Founding Spokesperson, Collaborative Research Centre 554 "Mechanisms and Evolution of Arthropod Behavior: Brain - Individual - Social Group", German Research Foundation, Germany
- 1993 - 2004 Member, Coordination Committee, two Collaborative Research Centres, German Research Foundation, Germany
- 1975 Co-Founder, Behavioral Ecology and Sociobiology (together with Hubert Markl)
- 1973 - 1990 Director of Various Research Projects, National Science Foundation (NSF), USA

Honours and Awarded Memberships

- 2022 William D. Hamilton Award, International Union for the Study of Social Insects
- 2021 Elected Honorary Member, German Zoological Society, Germany
- 2019 Elected Fellow, Entomological Society of America (ESA), USA
- 2019 Fabricius Medal, German Entomological Society, Germany
- 2016 Lorenz Oken Medal, Society of German Natural Scientists and Physicians (GDNÄ), Germany
- since 2014 Member, National Academy of Sciences (NAS), USA
- 2014 Honorary Fellow, Royal Society of Entomology, London, UK
- 2013 Exemplar Award, Animal Behavior Society (ABS), Glenview, USA
- 2012 Röntgen Medal, JMU Würzburg, Germany
- 2011 Cothenius Medal, German National Academy of Sciences Leopoldina, Germany
- 2010 Lichtenberg Medal, Göttingen Academy of Sciences and Humanities, Germany
- 2010 Ernst Jünger-Preis in Entomologie (Entomology Prize), Federal State of Baden-Württemberg, Germany
- 2004 Alfried Krupp Wissenschaftspreis (Science Prize), Alfried Krupp von Bohlen und Halbach Foundation, Essen, Germany
- 2004 Special Jury Award (together with Wolfgang Thaler), Jackson Hole Wildlife Film Festival, Jackson Hole, USA
- 2004 Bavarian Maximilian Order, Free State of Bavaria, Germany
- 2003 Werner Heisenberg Medal, Alexander von Humboldt Foundation, Bonn, Germany

- 2001 Johannes Gutenberg Endowed Professorship, Johannes Gutenberg University Mainz, Mainz, Germany
- 2000 Cross of Merit 1st Class of the Federal Republic of Germany, Germany
- 2000 Honorary Doctorate, University of Konstanz, Konstanz, Germany
- 1999 Benjamin Franklin-Wilhelm v. Humboldt Prize, German-American Academic Council (GAAC)
- 1998 - 2014 Foreign Associate, NAS, USA
- since 1997 Foreign Member, American Philosophical Society, USA
- 1996 Karl Ritter von Frisch Medal and Prize, German Zoological Society, Germany
- 1996 Körber European Science Prize (together with P. Charles-Dominique, A. Cleef, G. Gottsberger, K.E. Linsenmair), Körber-Stiftung, Hamburg, Germany
- since 1995 Corresponding Member, Berlin-Brandenburg Academy of Sciences and Humanities, Germany
- since 1995 Full Member, Bavarian Academy of Sciences and Humanities, Germany
- 1994 Member, Academia Europaea
- since 1992 Fellow, Animal Behavior Society (ABS), Glenview, USA
- 1991 Pulitzer Prize (together with E. O. Wilson), Book "The Ants"
- 1990 Gottfried Wilhelm Leibniz Prize, German Research Foundation, Germany
- 1990 R.R. Hawkins Award (together with E. O. Wilson), Association of American Publishers, USA
- 1987 Senior Scientist Prize, Alexander von Humboldt Foundation, Bonn, Germany
- since 1986 Corresponding Member, Bavarian Academy of Sciences and Humanities, Germany
- 1980 Fellow, John Simon Guggenheim Memorial Foundation, New York City, USA
- 1979 Fellow, American Association for the Advancement of Science, USA
- 1975 Member, German National Academy of Sciences Leopoldina, Germany
- 1974 Member, American Academy of Arts and Sciences, USA

Research Priorities

Bert Hölldobler is a German-American ethologist who works in the field of experimental behavioural physiology and sociobiology. His research mainly focuses on social insects, the diversity of their social organisations and their communication strategies. He became known beyond expert circles for his work on the behaviour of ants.

In his research, he describes the differences between the social organisations of social insects and explores the diverse behavioural mechanisms that underlie communication and division of labour systems. In addition to establishing numerous chemical messengers (pheromones) which ants use as communication signals, he also investigated the exocrine glands in ants that produce these pheromones. Furthermore, he was able to demonstrate that often chemical signals are combined with mechanical signals (tactile communication and vibration detection). Tactile communication mostly takes the form of modulating signals in the communication process. Together with his team, Bert Hölldobler was able to decode the mechanisms of how ants regulate the reproductive division of labour in ant colonies. They were also able to collect new empirical data explaining the evolutionary transition from “primitive” hierarchical organisations to egalitarian networks and superorganism organisations.

In addition to communication among ants, Hölldobler also conducts research on ant colonies as ecological islands. He is interested in the interaction of different organisms in a colony. In this connection, he established how other insects or bacteria live in symbiosis with ants, often as parasites. A keen research interest of Hölldobler is the interaction of host and symbiont as well as the signals they use in this symbiosis.

Next to his many scientific publications, Bert Hölldobler has also mastered communication with the general readership. He was honoured on numerous occasions for his nonfiction books on the life of ants in the USA and in Germany, repeatedly landing on bestseller lists. In 1991, he was awarded the Pulitzer Prize for his book “The Ants”, which he co-authored with Edward O. Wilson. Moreover, seven ant species are named after him.