

HARALD ATMANSPACHER

Born 26 August 1955 in Witzenhausen, Germany
Department of Theory and Data Analysis, Institute for Frontier Areas of Psychology
Wilhelmstr. 3a, 79098 Freiburg, Germany
Phone: 49 (0)761 207 2117, Fax: 49 (0)761 207 2191, email: haa@igpp.de
Private: Chloosstr. 1, 8873 Amden, Switzerland, phone 41 (0)55 611 1205

Education

University of Göttingen 1976–1978. Physics.
ETH Zurich 1978–1979. Physics.
University of Munich 1979–1982. Diploma in Physics 1983.
University of Munich, PhD in Physics 1986.
University of Potsdam, Habilitation in Theoretical Physics 1995.

Positions

Postdoc, Max-Planck-Institut für Astrophysik, Garching, 1986–1988.
Research Scientist, Max-Planck-Institut für extraterrestrische Physik, Garching, 1988–1998.
Head, Theory Department, Institute for Frontier Areas of Psychology, Freiburg, 1998–present.
Selection Committee, Studienstiftung des deutschen Volkes, Bonn, 1989–2009.
Board of Directors, Jean-Gebser-Society, Bern, 1992–present.
Scientific Advisory Board, Institute of New Media, Frankfurt, 1996–present.
Associate Member, Max-Planck-Centre for Interdisciplinary Plasma Science, Garching, 2001–2005.
President, Society for Mind-Matter Research, Zurich, 2012–present.
Faculty Member, C.G. Jung-Institut, Zurich, 2004–present.
Faculty Member, Parmenides Foundation, Munich, 2005–present.
Associate Fellow, Collegium Helveticum, ETH and University Zurich, 2007–present

Fellowships

Studienstiftung fellowship for students, 1976–1982.
Reimar-Lüst fellowship MPA Garching, 1986–1988.
NATO research fellowship Santa Fe Institute, 1992.
Rockefeller fellowship Villa Serbelloni Bellagio, 1993.

Teaching

University of Heidelberg, 1986–1987.
Ludwig-Maximilians-University Munich, 1989.
Studienstiftung des deutschen Volkes (Summer School Program), 1994–present.
Technical University Munich, 1995–1998.
University of Texas at Austin, 1997.
University of Freiburg, 1999–2008.
C.G. Jung-Institut Zurich, 2003–present.
ETH Zurich, 2010–present.

Editorial Work

Editor of conference proceedings volumes, 1990–present.
Editorial Board Member of *Open Systems and Information Dynamics*, 1991–1996.
Associate Editor of *BioSystems*, 2001–2008.
Editor-in-Chief of *Mind and Matter*, 2003–present.
Editorial Board Member of *Open Cybernetics & Systemics Journal*, 2007–present.

Basic Areas of Expertise

Theory of nonlinear dynamical systems and complex systems.
Conceptual and theoretical aspects of (algebraic) quantum theory.
Mind-matter relations from interdisciplinary perspectives.

Portfolio

more than 25 years of successful interdisciplinary research on conceptual and theoretical topics
optimal balance of innovation and sustainability
international network with numerous significant external scientists and institutions worldwide
indirect funding through collaborations with matching interests
pioneering contributions to recently established fields (e.g., "quantum cognition")
convincing interdisciplinary publication record of more than 160 papers and 9 books
long-standing experience as editor of books and journals
solid expertise in data analysis
comprehensive international www-visibility

Services

editor-in-chief of the journal "Mind and Matter"
editorial work for collections of essays and journal issues
extensive review activities over many years
organization of numerous workshops and conferences
supervision of PhD students
teaching

Predilections

big questions need specification, not "theories of everything"
off-mainstream topics can be studied in relation to established knowledge
reflexive thinking elucidates/prevents conceptual fallacies
personal dialogue cannot be replaced by sophisticated communication technology
administrative or managerial overload is detrimental
small working groups are flexible and efficient
division of power outperforms accumulation of power

Current Research Topics

dual-aspect monism
(Pauli-Jung, mind-matter correlations, exceptional experiences, mental and physical time)
contextual emergence
(symbolic dynamics, neural correlates of consciousness, mental causation, relative onticity)
generalized quantum theory
(complementarity and entanglement, bistable perception, order effects, learning on networks)
acategorical mental states
(representational approaches, unstable cognition, non-conceptual content, exceptional experiences)

References

Prof David Anderson (Philosophy, UI Normal)
Prof Jerome Busemeyer (Psychology, IU Bloomington)
Prof Stephan Hartmann (Philosophy, LMU München)
Prof Gerd Folkers (Collegium Helveticum, ETH Zürich)
Prof Jeffrey Kripal (Humanities, Rice U Houston)
Prof Jürgen Kurths (Physics, PIK Potsdam)
Prof Günter Mahler (Physics, U Stuttgart)
Prof Hartmann Römer (Physics, U Freiburg)
Prof Max Velmans (Psychology, U London)

Research Contributions

- 1983–1986 (with Scheingraber, Vidal): comprehensive explanation of the mechanisms underlying *laser intracavity absorption spectroscopy*, refining earlier work by Haensch and Schawlow (US) and Baev and Sviridenko (USSR); observation and analysis of instabilities and chaotic dynamics in multimode laser systems.
- 1985–1998 (with Ehm, Morfill, Scheingraber, Wiedenmann): development of scaling-index techniques for the *detection of faint patterns* within an almost random background (patented), with applications in time series analysis and cosmology (galaxy statistics).
- since 1986 (with Amann, beim Graben, Scheingraber): clarification of the status of *non-commuting (complementary) observables in classical dynamical systems*, with particular emphasis on time observables à la Misra, non-Boolean temporal logic, and temporal nonlocality.
- since 1990 (with Primas, Fach): historical, philosophical and scientific studies of the *dialog between Wolfgang Pauli and Carl Gustav Jung* based on unpublished and only recently published material; proposals for interdisciplinary research, including extraordinary human experiences.
- since 1991 (with Fach, Feil, Stüttgen): introduction of the concept of *acategorical mental states* and exploration of their properties as contrasted with categorical and non-categorical states; discussion of examples in cognition, phenomenology, and art.
- since 1991 (with Filk, Kurths, Scheingraber, Wackerbauer): heuristic approaches to a relationship between monotonic and non-monotonic measures of *complexity and meaning* (following Crutchfield, Grassberger, von Weizsäcker), verification of key conjectures in small learning networks developing small-world properties analyzed by spectral techniques.
- 1998–2006 (with Filk, Scheingraber): numerical and analytical studies of *coupled map lattices* which can be globally stabilized at locally unstable fixed points; relevance for the stability of neural correlates of mental representations and for the direction of mental time.
- 1999–2005 (with Primas): detailed algebraic account of the distinction between *ontic and epistemic levels of description* in quantum and classical physics; clarification of interpretational misunderstandings due to category mistakes.
- since 2001 (with Filk, Kornmeier, Römer): axiomatic formulation of a *generalized quantum theory* for physical and non-physical systems; Necker-Zeno model for bistable perception as a particularly interesting application with confirmed experimental predictions, most notably a violation of temporal Bell inequalities in the Necker-Zeno model.
- since 2002 (with Allefeld, Bishop, beim Graben, Harbecke): investigation of the role of stability criteria for *contextually emergent properties* in thermodynamics and physical chemistry; applications to cognitive neuroscience (“neural correlates of consciousness”) and philosophy of mind (“mental causation”) based on techniques of symbolic dynamics.