

H. Siegfried Stiehl, Prof. Dr.-Ing.

Born 1951 in Hestia, Europe under the Zodiac Sign of Aquarius

Academic Education in a Nutshell

- 1973 Ing.(grad.) Degree in Ingenieur-Informatik, Fachhochschule Furtwangen, Germany (Topic: Simulation of Signal Transmission)
- 1976 Diploma in Computer Science (CS), Technical University of Berlin (TUB), Germany (Topic: Graph-Theoretic Analysis of Moving Point Clusters)
- 1976 - 1979 Doctoral Scholarship from TUB
- 1980 Dr.-Ing. Dissertation, Department of CS, TUB, Germany (Topic: Automated Processing and Analysis of Cranial Computed Tomograms)

Academic Career Milestones

- 1979 - 1982 Teaching and Research Associate, Institute of Technical Computer Science, Department of CS, TUB, Germany
- 1981 Postdoc, GRASP Lab, Moore School of Electrical Engineering, University of Pennsylvania, USA
- 1982 - 1988 Hochschulassistent (~ Assistant Professor), Department of CS, TUB, Germany
- 1987 Habilitation in Computer Vision, Department of CS, TUB, Germany (Topic: Spatial Image Sequence Understanding)
- 1988 Professor of Informatics, Cognitive Systems Research Group (KOGS), Department of Informatics, University of Hamburg, Germany

Service to Scientific Community and Academia

- since 1988 Member of International Conference Program Committees, Reviewer of Research Proposals and Research Programmes, (Co-)Organizer of Scientific Events, Member of (Advisory) Editorial Board of *Image and Vision Computing* (until 2007), *Biological Cybernetics* (until 2004), and *Journal of Mathematical Imaging and Vision* (until 2007)
- 2000 - 2001 Vice Dean of Department of Informatics, University of Hamburg
- 2001 Member of President's Interdisciplinary Task Force "Center for Bioinformatics Hamburg", University of Hamburg
- 2001 Founding Member of Interdisciplinary Nanoscience Center Hamburg (INCH)
- 2001 - 2006 Dean of Department of Informatics, University of Hamburg

- 2004 – 2006 Member of Board of Deans of Fakultät für Mathematik, Informatik und Naturwissenschaften (MIN), University of Hamburg
- 2006 Key Member of Core Team on “Institutional Strategy to Promote Top-Level Research”, University of Hamburg
- 2006 - 2007 Deputy/Vice Dean for Strategic Development of Fakultät für Mathematik, Informatik und Naturwissenschaften, University of Hamburg
- 2007 - 2013 Vice President for Research, International Affairs (-2010), and Information Management (CIO), University of Hamburg

Recent Research

- 2015 - 2019 PI of Scientific Service Project Z03 "Image Processing Methods for Determining Visual Manuscript and Character Features" in Collaborative Research Center (Sonderforschungsbereich) 950 "Manuscript Cultures in Asia, Africa and Europe" (DFG)

Past Team Research Highlights

- 1989 - 1995 Member of Interdisciplinary EU Research Consortium “Computer Vision in Radiology (COVIRA)” (Grants A1011 and A2003, Prime Contractor: Philips Research Labs Hamburg)
- 1990 - 1999 (Founding) Member of Interdisciplinary DFG-Graduiertenkolleg “Kognitionswissenschaft”, Deputy Speaker (1995-1999) and Coordinator of Visual Perception and Attention Track, University of Hamburg
- 1990 - 1994 Member of BMFT Verbundprojekt “Neuronal Architecture for Mobile Systems (NAMOS)” (Grant IN 101C/1, Prime Contractor: Ruhr University Bochum)
- 1992 - 1995 PI of Interdisciplinary Collaboration “Computational and Psychophysical Approaches to Contour Segmentation” (Grant: DAAD / British Council, Partners: Departments of CS and Psychology, University of Birmingham, UK)
- 1994 - 2000 PI of Interdisciplinary Research Group “Image and Atlas-Guided Interventions in Neurosurgery” (Grant: Philips Research)
- 1996 - 1999 PI of Interdisciplinary Research Project “Cellular Neural Networks and VLSI Chips for Anisotropic Diffusion” (Grant Sti 147/1-2 DFG Schwerpunktprogramm, Partner: Technical University of Hamburg-Harburg)
- 2007 - 2012 PI (jointly with Dr. Stelldinger) of Research Project “Topology Preserving Reconstruction of Sampled Volumes and Objects” (DFG Grant Sti 147/2-2)

Scope of Scientific Interest

Computer Vision, Computational Neuroscience of the Visual System, Cognitive Science

Publications

ca. 110 Publications, Co-Editor of 3 Books and 2 Special Issues of Journals

Some Non-Sci Interests

Blues, Cool Jazz, Photography, Film Noir, Mediterranean Cuisine

Motto

"Life is what happens to you while you're busy making other plans."
(John Lennon, 1940-1980, "Beautiful Boy")

Selection of Publications (only pertinent peer-reviewed journals)

- [1] E. Gladilin, V. Pekar, K. Rohr and H.S. Stiehl
"A Comparison between BEM and FEM for Elastic Registration of Medical Images",
Image and Vision Computing **24**, 375-379 (2006)
- [2] J. Kohlrausch, K. Rohr and H.S. Stiehl
"A New Class of Elastic Body Splines for Nonrigid Registration of Medical Images",
Journal of Mathematical Imaging and Vision **23:3**, 253-280 (2005)
- [3] S. Frantz, K. Rohr and H.S. Stiehl
"Development and Validation of a Multi-Step Approach to Improved Detection of 3D
Point Landmarks in Tomographic Images",
Image and Vision Computing **23:11**, 956-971 (2005)
- [4] K. Rohr, M. Fornefett, and H.S. Stiehl
"Spline-Based Elastic Image Registration: Integration of Landmark Errors and
Orientation Attributes",
Computer Vision and Image Understanding **90:2**, 153-168 (2003)
- [5] T. Behrens, K. Rohr, and H.S. Stiehl
"Robust Segmentation of Tubular Structures in 3D Images by Parametric Object
Detection and Tracking",
IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics, **33:4**, 554-
561 (2003)
- [6] T. Hartkens, K. Rohr, and H.S. Stiehl
"Evaluation of 3D Operators for the Detection of Anatomical Point Landmarks in MR
and CT Images",
Computer Vision and Image Understanding **86:2**, 118-136 (2002)
- [7] A. Hagemann, K. Rohr, and H.S. Stiehl
"Coupling of Fluid and Elastic Models for Biomechanical Simulation of Brain
Deformations Using Finite Element Method",
Medical Image Analysis **6:4**, 375-388 (2002)
- [8] K. Wiehler, J. Heers, C. Schnörr, H.S. Stiehl, and R.-R. Grigat
"A 1D Analog VLSI Implementation for Nonlinear Real-Time Signal Preprocessing",
Real-Time Imaging **7:1**, 127-142 (2001)
- [9] J. Weickert, J. Heers, C. Schnörr, K.J. Zuiderveld, O. Scherzer, and H.S. Stiehl
"Fast Parallel Algorithms for a Broad Class of Nonlinear Variational Diffusion
Approaches",
Real-Time Imaging **7:1**, 31-45 (2001)
- [10] K. Rohr, H.S. Stiehl, R. Sprengel, T.M. Buzug, J. Weese, and M.H. Kuhn
"Landmark-Based Elastic Registration Using Approximating Thin-Plate Splines",
IEEE Transactions on Medical Imaging **20:6**, 526-534 (2001)

- [11] F. Pernus, H.S. Stiehl, and M.A. Viergever (Eds.)
"Biomedical Image Registration",
Image and Vision Computing (Special Issue) **19:1-2** (2001)
- [12] J. Heers, C. Schnörr, and H.S. Stiehl
"Globally-Convergent Iterative Numerical Schemes for Non-Linear Variational Image
Smoothing and Segmentation on a Multi-Processor Machine",
IEEE Transactions on Image Processing **10:6**, 852-864 (2001)
- [13] M. Fornefett, K. Rohr, and H.S. Stiehl
"Radial Basis Functions with Compact Support for Elastic Registration",
Image and Vision Computing **19:1-2**, 87-96 (2001)
- [14] R. Klette, H.S. Stiehl, M.A. Viergever, and K.L. Vincken (Eds.)
"Performance Characterization in Computer Vision", Vol. 17 of Computational Imaging
and Vision, Kluwer Academic Publisher (2000)
- [15] W. Peckar, C. Schnörr, K. Rohr, and H.S. Stiehl
"Parameter-Free Elastic Deformation Approach for 2-D and 3-D Registration Using
Prescribed Displacements", Journal of Mathematical Imaging and Vision **10**, 143-162
(1999)
- [16] A. Hagemann, K. Rohr, H.S. Stiehl, U. Spetzger, J.M. Gilsbach
"Biomechanical Modeling of the Human Head for Physically-Based, Non-Rigid Image
Registration",
IEEE Transactions on Medical Imaging **18:10**, 875-884 (1999)