

Prof. Dr. Karl Rohr



Biomedical Computer Vision Group
Dept. Bioinformatics & Functional Genomics
Institute of Pharmacy and Molecular Biotechnology (IPMB)

University of Heidelberg
D-69120 Heidelberg

Phone: +49 6221 54 51298
Fax: +49 6221 54 51488
Email: k.rohr (at) dkfz.de

SCIENTIFIC VITA

- 1981 -1987 Study of Electrical Engineering, Diploma (Dipl.-Ing.), University of Karlsruhe (TH)
- 1988 -1991 Research Associate, Dept. of Computer Science, University of Karlsruhe (TH), SFB 314
- 1992 - 2000 Research Associate, Dept. of Computer Science, University of Hamburg, Cognitive Systems Group
- 1994 - 2000 Project leader, IMAGINE project funded by Philips Research Laboratories, Hamburg
- 1994 PhD (Dr.rer.nat.), Dept. of Computer Science, University of Hamburg
- 1999 Habilitation in Computer Science, University of Hamburg
- 1999 Research stay, Surgical Planning Lab., Harvard Medical School, Boston/MA, USA
- 2000 – 2004 Associate Professor, Head of Computer Vision & Graphics Group, School of Information Technology, International University in Germany, Bruchsal
- Since 2004 Associate Professor, Head of Biomedical Computer Vision Group, University of Heidelberg and German Cancer Research Center (DKFZ), Faculty of BioScience, IPMB, Dept. Bioinformatics and Functional Genomics
- Since 2007 Guest Professor, School of IT, International University in Germany, Bruchsal

AWARDS

- 1990 DAGM price (German Association for Pattern Recognition), DAGM'90
- 1995 Springer Best Paper Award, KI'95 (Conference on Artificial Intelligence)
- 2000 Honorable Mention for the Pattern Recognition Society Award for an outstanding contribution to the journal Pattern Recognition
- 2007 BVM price (Image Processing for Medicine), BVM'07

FIELDS OF INTEREST

Biomedical image analysis, elastic registration, tracking and motion analysis, segmentation and quantification, landmark localization

EDITORIAL BOARD AND PRORAM COMMITTEES

Associate Editor IEEE Transactions on Biomedical Engineering (TBME)
Associate Editor Pattern Recognition (International Journal), 2000-2006

Program committee member of various international conferences and workshops

CURRENTLY FUNDED PROJECTS

DFG project ELASTIR (ELASTic Registration)
EU project Mitocheck
BMBF FORSYS project ViroQuant

Currently supervision of 6 PhD theses

PUBLICATIONS (10 selected publications since 2001)

Rohr, K. (2007) Theoretical Limits of Localizing 3D Landmarks and Features. IEEE Trans. on Biomedical Engineering 54:9, 1613-1620

Albiez H, Cremer M, Tiberi C, Vecchio L, Schermelleh L, Dittrich S, Küpper K, Joffe B, Thormeyer T, von Hase J, Yang S, **Rohr K**, Leonhardt H, Solovei I, Cremer C, Fakan S, and Cremer T. (2006) Chromatin Domains and the Interchromatin Compartment Form Structurally Defined and Functionally Interacting Nuclear Networks, Chromosome Research 14, 707–733

Harder N, Mora-Bermúdez F, Godinez WJ, Ellenberg J, Eils R, and **Rohr K.** (2006) Automated analysis of the mitotic phases of human cells in 3D fluorescence microscopy image sequences, MICCAI'06, Lecture Notes in Computer Science 4160, Springer Berlin Heidelberg 2006, 840-848

Wörz S, **Rohr K.** (2006) Localization of Anatomical Point Landmarks in 3D Medical Images by Fitting 3D Parametric Intensity Models. Medical Image Analysis 10:1, 41-58

Kohlrausch J, **Rohr K**, Stiehl HS. (2005) A New Class of Elastic Body Splines for Nonrigid Registration of Medical Images. J. of Mathematical Imaging and Vision 23:3 253-280

Rohr K, Cathier P, and Wörz S. (2004) Elastic Registration of Electrophoresis Images Using Intensity Information and Point Landmarks, Pattern Recognition 37:5, 1035-1048

Rohr K, Fornefett M, and Stiehl HS. (2003) Spline-Based Elastic Image Registration: Integration of Landmark Errors and Orientation Attributes, Computer Vision and Image Understanding 90:2, 153-168

Hagemann A, **Rohr K**, Stiehl HS. (2002) Coupling of fluid and elastic models for biomechanical simulations of brain deformations using FEM, Medical Image Analysis 6:4 (2002) 375-388

Rohr K, Stiehl HS, Sprengel R, Buzug TM, Weese J, and Kuhn MH. (2001) Landmark-Based Elastic Registration Using Approximating Thin-Plate Splines, IEEE Trans. on Medical Imaging 20:6, 526-534

Rohr, K. Landmark-Based Image Analysis Using Geometric and Intensity Models, Kluwer Academic Publishers, Dordrecht Boston London 2001