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Preface

This book represents the proceedings of the Fourth International Conference on *Visualization in Biomedical Computing*. Following the Georgia Institute of Technology, the University of North Carolina and the Mayo Institutions, it took place at the University of Hamburg, Germany. As in previous meetings its goal was to promote the science of computer based visualization of biomedical information, especially of the human body. An interdisciplinary international group of scientists, engineers, and clinicians gathered in order to present and discuss the state of the art concerning algorithms, the rapidly increasing number of applications, and practical problems of system design.

The increasing interest in the field of biomedical visualization was manifested by 232 paper submissions from which only 73 could be selected in a peer review process as oral or poster presentations. While this fact was disappointing for many applicants with good papers, the high degree of selection certainly led to a high quality book. It reflects the recent achievements and also the current problems in the field of computer based visualization in medicine and biology. Substantial improvements in rendering techniques and multi-modality imaging have occurred. The critical field of automated image segmentation has seen significant progress as well. Concerning applications we observe a shift from pure visualization to therapeutic interventions using visualization tools. Not surprisingly, the brain is the most popular organ for development of tools and applications, since it is certainly the most complex organ and relatively easy to image.

A book like this one is, of course, not possible without the help of many people. First of all we have to thank the members of the program committee for their hard work. With three reviewers per paper most of them had to review more than 25 papers! We are especially grateful to Professor Siegfried Stiehl who helped us in solving all kinds of unexpected problems. The financial risk of the meeting was minimized by generous support of the German Research Council (DFG). The Institute of Electrical and Electronics Engineers (IEEE), the German Society of Computer Science (GI), and the German Society of Medical Informatics, Biometrics, and Epidemiology (GMDS) helped us in advertising the conference.

Last but not least we want to thank the conference coordinators Bernhard Pflessner, Thomas Schiemann, and Rainer Schubert, and the staff of the Department of Computer Science in Medicine for their excellent work in organizing the entire conference.

Hamburg and Boston, July 1996

Karl Heinz Höhne Ron Kikinis

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Table of Contents

1 Visualization	1
GI Tract Unraveling in Volumetric CT	
<i>Ge Wang, M.W. Vannier, E. McFarland, J.P. Heiken, J.A. Brink</i>	3
Segmentation of the Visible Human for High Quality	
Volume Based Visualization	
<i>T. Schiemann, J. Nuthmann, U. Tiede, K.H. Höhne</i>	13
Illustrating Anatomic Models - A Semi-Interactive Approach	
<i>B. Preim, A. Ritter, T. Strothotte</i>	23
A Fast Rendering Method Using the Tree Structure of Objects in	
Virtualized Bronchus Endoscope System	
<i>K. Mori, J.-I. Hasegawa, J.-I. Toriwaki, H. Anno, K. Katada</i>	33
An Optimal Ray Traversal Scheme for Visualizing Colossal	
Medical Volumes	
<i>A. Law, R. Yagel</i>	43
A Direct Multi-Volume Rendering Method. Application to Visual	
Assessment of 3-D Image Registration Algorithms	
<i>J.-J. Jacq, C. Roux</i>	53
Visualization of Tissue Elasticity by Magnetic Resonance Elastography	
<i>A. Manduca, R. Muthupillai, P.J. Rossman, J.F. Greenleaf,</i>	
<i>R.L. Ehman</i>	63
Accurate Vessel Depiction with Phase Gradient Algorithm in	
MR Angiography	
<i>R. Hoogeveen, C. Bakker, M. Viergever</i>	69
Visualization and Labeling of the Visible Human TM Dataset:	
Challenges & Resolves	
<i>R. Mullick, H.T. Nguyen</i>	75
Rebuilding the Visible Man	
<i>J.E. Stewart, W.C. Broaddus, J.H. Johnson</i>	81
Image Quality Improvements in Volume Rendering	
<i>J. Terwisscha van Scheltinga, M. Bosma, J. Smit, S. Lobregt</i>	87
Real-Time Merging of Visible Surfaces for Display and Segmentation	
<i>R.P. Grzeszczuk, C.A. Pelizzari</i>	93
Cortical Peeling: CSF / Grey Matter / White Matter Boundaries	
Visualized by Nesting Isosurfaces	
<i>C.J. Holmes, D. MacDonald, J.G. Sled, A.W. Toga, A.C. Evans</i>	99
2 Image Processing	105
Enhancement of MR Images	
<i>R. Guillemaud, M. Brady</i>	107

Radiometric Correction of Color Cryosection Images for Three-Dimensional Segmentation of Fine Structures <i>J. Márquez, F. Schmitt</i>	117
3D Reconstruction of Cerebral Vessels and Pathologies from a Few Biplane Digital Angiographies <i>L. Launay, E. Maurincomme, P. Bouchet, J.-L. Mallet, L. Picard</i>	123
Robust 3-D Reconstruction and Analysis of Microstructures from Serial Histologic Sections, with Emphasis on Microvessels in Prostate Cancer <i>P.A. Kay, R.A. Robb, D.G. Bostwick, J.J. Camp</i>	129
An Extensible MRI Simulator for Post-Processing Evaluation <i>R.K.-S. Kwan, A.C. Evans, G.B. Pike</i>	135
Compensation of Spatial Inhomogeneity in MRI Based on a Parametric Bias Estimate <i>C. Brechbühler, G. Gerig, G. Székely</i>	141
Analysis of Coupled Multi-Image Information in Microscopy <i>St. Schünemann, Ch. Rethfeldt, F. Müller, K. Agha-Amiri, B. Michaelis, W. Schubert</i>	147
Bias Field Correction of Breast MR Images <i>S. Gilles, M. Brady, J. Declerck, J.-P. Thirion, N. Ayache</i>	153
3 Segmentation	159
Region-Growing Based Feature Extraction Algorithm for Tree-Like Objects <i>Y. Masutani, K. Masamune, T. Dohi</i>	161
Scale-Space Boundary Evolution Initialized by Cores <i>M.J. McAuliffe, D. Eberly, D.S. Fritsch, E.L. Chaney, S.M. Pizer</i>	173
Fast, Accurate, and Reproducible Live-Wire Boundary Extraction <i>W.A. Barrett, E.N. Mortensen</i>	183
Automatic Segmentation of Cell Nuclei from Confocal Laser Scanning Microscopy Images <i>A. Kelemen, G. Székely, H.-W. Reist, G. Gerig</i>	193
Evaluation of Segmentation Algorithms for Intravascular Ultrasound Images <i>C.J. Bouma, W.J. Niessen, K.J. Zuiderveld, E.J. Gussenhoven, M.A. Viergever</i>	203
Fast Algorithms for Fitting Multiresolution Hybrid Shape Models to Brain MRI <i>B.C. Vemuri, Y. Guo, S.H. Lai, C.M. Leonard</i>	213
Computer Aided Screening System for Lung Cancer Based on Helical CT Images <i>K. Kanazawa, M. Kubo, N. Niki, H. Satoh, H. Ohmatsu, K. Eguchi, N. Moriyama</i>	223

Unsupervised Regularized Classification of Multi-Spectral MRI <i>D. Vandermeulen, X. Descombes, P. Suetens, G. Marchal</i>	229
Using an Entropy Similarity Measure to Enhance the Quality of DSA Images with an Algorithm Based on Template Matching <i>T.M. Buzug, J. Weese, C. Fassnacht, C. Lorenz</i>	235
Automatic Segmentation of the Brain in MRI <i>M.S. Atkins, B.T. Mackiewicz</i>	241
Image Analysis Using Modified Self-Organizing Maps: Automated Delineation of the Left Ventricular Cavity Boundary in Serial Echocardiograms <i>M. Belohlavek, A. Manduca, T. Behrenbeck, J.B. Seward, J.F. Greenleaf</i>	247
Analyzing and Predicting Images Through a Neural Network Approach <i>L. de Braal, N. Ezquerro, E. Schwartz, C.D. Cooke, E. Garcia</i> . .	253
An Artificial Intelligence Approach for Automatic Interpretation of Maxillofacial CT Images <i>M. Alcañiz, V. Grau, C. Knoll, M.C. Juan, C. Monserrat, S. Albalat</i>	259
4 Registration	265
Fast Fluid Registration of Medical Images <i>M. Bro-Nielsen, C. Gramkow</i>	267
A Robust Point Matching Algorithm for Autoradiograph Alignment <i>A. Rangarajan, E. Mjolsness, S. Pappu, L. Davachi, P.S. Goldman-Rakic, J.S. Duncan</i>	277
Registration Updating Using Marker Pins in a Video Based Neurosurgical Guidance System (VISLAN) <i>J. Zhao, P.T.E. Roberts, A.C.F. Colchester, K. Holton-Tainter</i> .	287
Point-Based Elastic Registration of Medical Image Data Using Approximating Thin-Plate Splines <i>K. Rohr, H.S. Stiehl, R. Sprengel, W. Beil, T.M. Buzug, J. Weese, M.H. Kuhn</i>	297
Cortical Constraints for Non-Linear Cortical Registration <i>D.L. Collins, G. Le Goualher, R. Venugopal, A. Caramanos, A.C. Evans, C. Barillot</i>	307
Image Guided Microscopic Surgery System Using Mutual-Information Based Registration <i>N. Hata, W.M. Wells III, M. Halle, S. Nakajima, P. Viola, R. Kikinis, F.A. Jolesz</i>	317
Cross Validation of Three Inter-Patients Matching Methods <i>J.-P. Thirion, G. Subsol, D. Dean</i>	327

A New Approach to Fast Elastic Alignment with Applications to Human Brains <i>T. Schormann, S. Henn, K. Zilles</i>	337
Individualizing Anatomical Atlases of the Head <i>G.E. Christensen, S.C. Joshi, M.I. Miller</i>	343
Mutual Information for Automated Multimodal Image Warping <i>B. Kim, J.L. Boes, K.A. Frey, C.R. Meyer</i>	349
Morphological Analysis of Brain Structures Using Spatial Normalization <i>C. Davatzikos, M. Vaillant, S. Resnick, J.L. Prince, S. Letovsky, R.N. Bryan</i>	355
5 Brain: Description of Shape	361
Three Dimensional MR-Based Morphometric Comparison of Schizophrenic and Normal Cerebral Ventricles <i>D. Dean, P. Buckley, F.L. Bookstein, J. Kamath, D. Kwon, L. Friedman, C. Lys</i>	363
Application of an Automatically Built 3D Morphometric Brain Atlas: Study of Cerebral Ventricle Shape <i>G. Subsol, J.-P. Thirion, N. Ayache</i>	373
Visualization and Mapping of Anatomic Abnormalities Using a Probabilistic Brain Atlas Based on Random Fluid Transformations <i>P. Thompson, A.W. Toga</i>	383
L-Systems for Three-Dimensional Anatomical Modelling: Towards a Virtual Laboratory in Anatomy <i>H. Talhami</i>	393
Hierarchical Data Representation of Lung to Model Morphology and Function <i>A. Kriete</i>	399
Visualizing Group Differences in Outline Shape: Methods from Biometrics of Landmark Points <i>F.L. Bookstein</i>	405
Visualising Cerebral Asymmetry <i>P. Marais, R. Guillemaud, M. Sakuma, A. Zisserman, M. Brady</i>	411
6 Brain: Characterization of Pathology	417
Assessing Patterns and Rates of Brain Atrophy by Serial Magnetic Resonance Imaging: A Segmentation, Registration, Display and Quantification Procedure <i>P.A. Freeborough, N.C. Fox</i>	419
Characterisation and Classification of Brain Tumours in Three-Dimensional MR Image Sequences <i>C. Roßmanith, H. Handels, S.J. Pöppel, E. Rinast, H.D. Weiss</i>	429

Automatic Quantification of Multiple Sclerosis Lesion Volume Using Stereotaxic Space <i>A. Zijdenbos, A.C. Evans, F. Riahi, J.G. Sled, J. Chui, V. Kollokian</i>	439
3D Skeleton for Virtual Colonoscopy <i>Y. Ge, D.R. Stelts, D.J. Vining</i>	449
7 Brain: Visualization of Function	455
Identifying Hypometabolism in PET Images of the Brain: Application to Epilepsy <i>T.L. Faber, J.M. Hoffman, T.R. Henry, J.R. Votaw, M.E. Brummer, E.V. Garcia</i>	457
Multi-Array EEG Signals Mapped with Three Dimensional Images for Clinical Epilepsy Studies <i>C. Rocha, J.-L. Dillenseger, J.-L. Coatrieux</i>	467
Visualisation of Pain by Magnetoencephalography in Humans <i>B. Bromm, E. Scharein</i>	477
Visualization of Cat Auditory Cortical Functional Organization after Electrical Stimulation with a Multi-Channel Cochlear Implant by Means of Optical Imaging <i>H.R. Dinse, B. Godde, T. Hilger, G. Reuter, S.M. Cords, T. Lenarz, W. von Seelen</i>	483
8 Simulation of Surgery and Endoscopy	489
The Brain Bench: Virtual Stereotaxis for Rapid Neurosurgery Planning and Training <i>T. Poston, W.L. Nowinski, L. Serra, B.C. Chua, H. Ng, P.K. Pillay</i>	491
A Flexible Environment for Image Guided Virtual Surgery Planning <i>J. Van Cleynenbreugel, K. Verstreken, G. Marchal, P. Suetens</i>	501
An Advanced System for the Simulation and Planning of Orthodontic Treatments <i>M. Alcañiz, F. Chinesta, C. Monserrat, V. Grau, A. Ramón</i>	511
Assessment of Several Virtual Endoscopy Techniques Using Computed Tomography and Perspective Volume Rendering <i>R. Shahidi, V. Argiro, S. Napel, L. Gray, H.P. McAdams, G.D. Rubin, C.F. Beaulieu, R.B. Jeffrey, A. Johnson</i>	521
Surgery Simulation Using Fast Finite Elements <i>M. Bro-Nielsen</i>	529
Real Time Volumetric Deformable Models for Surgery Simulation <i>S. Cotin, H. Delingette, N. Ayache</i>	535
Craniofacial Surgery Simulation <i>E. Keeve, S. Girod, B. Girod</i>	541

Creation and Validation of Patient Specific Anatomical Models for Prostate Surgery Planning Using Virtual Reality <i>P.A. Kay, R.A. Robb, R.P. Myers, B.F. King</i>	547
Use of Shape for Automated, Optimized 3D Radiosurgical Treatment Planning <i>J.D. Bourland, Q.R. Wu</i>	553
9 Image Guided Surgery and Endoscopy	559
MRI Guided Intranasal Flexible Micro-Endoscopy <i>D.L.G. Hill, P.N. Poynter Smith, C.L. Emery, P.E. Summers, S.F. Keevil, J.P.M. Pracy, R. Walsh, D.J. Hawkes, M.J. Gleeson</i>	561
Computer-Assisted Insertion of Pedicle Screws <i>Q.H. Li, H.J. Holdener, L. Zamorano, P. King, Z. Jiang, F.C. Vinas, L. Nolte, H. Visarius, F. Diaz</i>	571
PROBOT - A Computer Integrated Prostatectomy System <i>Q. Mei, S.J. Harris, F. Arambula-Cosio, M.S. Nathan, R.D. Hibberd, J.E.A. Wickham, B.L. Davies</i>	581
Towards Performing Ultrasound-Guided Needle Biopsies from within a Head-Mounted Display <i>H. Fuchs, A. State, E.D. Pisano, W.F. Garrett, G. Hirota, M. Livingston, M.C. Whitton, S.M. Pizer</i>	591
Automated Multimodality Registration Using the Full Affine Transformation: Application to MR and CT Guided Skull Base Surgery <i>C. Studholme, J.A. Little, G.P. Penny, D.L.G. Hill, D.J. Hawkes</i>	601
Author Index	607