

Mathematics and Visualization

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Visualization in Medicine and Life Sciences

With 76 Figures, 47 in Color

 Springer

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Library of Congress Control Number: 2007935102

Mathematics Subject Classification: 68-06, 68U05

ISBN-13 978-3-540-72629-6 Springer Berlin Heidelberg New York

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springer.com
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Typesetting by the authors and SPi using a Springer L^AT_EX macro package

Cover design: *design & production* GmbH, Heidelberg

Printed on acid-free paper SPIN: 12066520 46/SPI/3100 5 4 3 2 1 0

Preface

Visualization technology has become a crucial component of medical and biomedical data processing and analysis. This technology complements traditional image processing methods as it allows scientists and practicing medical doctors to visually interact with large, high-resolution three-dimensional image data. Further, an ever increasing number of new data acquisition methods is being used in medicine and the life sciences, in particular in genomics and proteomics. The book contains papers discussing some of the latest data processing and visualization techniques and systems for effective analysis of diverse, large, complex, and multi-source data.

Internationally leading experts in the area of data visualization came together for a workshop dedicated to visualization in medicine and life sciences, held on the island of Rügen, Germany, in July 2006. About 40 participants presented state-of-the-art research on this topic. Research and survey papers were solicited and carefully refereed, resulting in this collection.

The research topics covered by the papers in this book deal with these themes:

- Segmentation and Feature Detection
- Surface Extraction
- Volume Visualization
- Graph and Network Visualization
- Visual Data Exploration
- Multivariate and Multidimensional Data Visualization
- Large Data Visualization

The workshop was supported, in part, by the Deutsche Forschungsgemeinschaft (DFG).

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Kaiserslautern, Germany
Davis, California, U.S.A.

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June 2007

Contents

Part I Surface Extraction Methods from Medical Imaging Data

Towards Automatic Generation of 3D Models of Biological Objects Based on Serial Sections <i>Vincent Jasper Dercksen, Cornelia Brüß, Detlev Stalling, Sabine Gubatz, Udo Seiffert, and Hans-Christian Hege</i>	3
A Topological Approach to Quantitation of Rheumatoid Arthritis <i>Hamish Carr, John Ryan, Maria Joyce, Oliver Fitzgerald, Douglas Veale, Robin Gibney, and Patrick Brennan</i>	27
3D Visualization of Vasculature: An Overview <i>Bernhard Preim and Steffen Oeltze</i>	39
3D Surface Reconstruction from Endoscopic Videos <i>Arie Kaufman and Jianning Wang</i>	61

Part II Geometry Processing in Medical Applications

A Framework for the Visualization of Cross Sectional Data in Biomedical Research <i>Enrico Kienel, Marek Vančo, Guido Brunnett, Thomas Kowalski, Roland Clauß, and Wolfgang Knabe</i>	77
Towards a Virtual Echocardiographic Tutoring System <i>Gerd Reis, Bernd Lappé, Sascha Köhn, Christopher Weber, Martin Bertram, and Hans Hagen</i>	99
Supporting Depth and Motion Perception in Medical Volume Data <i>Jennis Meyer-Spradow, Timo Ropinski, and Klaus Hinrichs</i>	121

Part III Visualization of Multi-channel Medical Imaging Data

- Multimodal Image Registration for Efficient Multi-resolution Visualization**
Joerg Meyer 137
- A User-friendly Tool for Semi-automated Segmentation and Surface Extraction from Color Volume Data Using Geometric Feature-space Operations**
Tetyana Ivanovska and Lars Linsen 153

Part IV Vector and Tensor Visualization in Medical Applications

- Global Illumination of White Matter Fibers from DT-MRI Data**
David C. Banks and Carl-Fredrik Westin 173
- Direct Glyph-based Visualization of Diffusion MR Data Using Deformed Spheres**
Martin Domin, Sönke Langner, Norbert Hosten, and Lars Linsen 185
- Visual Analysis of Bioelectric Fields**
Xavier Tricoche, Rob MacLeod, and Chris R. Johnson 205
- MRI-based Visualisation of Orbital Fat Deformation During Eye Motion**
Charl P. Botha, Thijs de Graaf, Sander Schutte, Ronald Root, Piotr Wielopolski, Frans C.T. van der Helm, Huibert J. Simonsz, and Frits H. Post 221

Part V Visualizing Molecular Structures

- Visual Analysis of Biomolecular Surfaces**
Vijay Natarajan, Patrice Koehl, Yusu Wang, and Bernd Hamann 237
- BioBrowser – Visualization of and Access to Macro-Molecular Structures**
Lars Offen and Dieter Fellner 257
- Visualization of Barrier Tree Sequences Revisited**
Christian Heine, Gerek Scheuermann, Christoph Flamm, Ivo L. Hofacker, and Peter F. Stadler 275

Part VI Visualizing Gene Expression Data

**Interactive Visualization of Gene Regulatory Networks
with Associated Gene Expression Time Series Data**
*Michel A. Westenberg, Sacha A. F. T. van Hijum, Andrzej T. Lulko,
Oscar P. Kuipers, and Jos B. T. M. Roerdink* 293

**Segmenting Gene Expression Patterns of Early-stage
Drosophila Embryos**
*Min-Yu Huang, Oliver Rübél, Gunther H. Weber, Cris L. Luengo
Hendriks, Mark D. Biggin, Hans Hagen, and Bernd Hamann* 313

Color Plates 329