

Proceedings

**Fifth International Conference
BioMedical Visualization**
– Information Visualization in Medical and Biomedical Informatics –
MediVis 2008

9-11 July 2008
London, United Kingdom

Cover Image Credits

Paper: **Medical Image Segmentation Using New Hybrid Level-Set Method**

Authors: **Yan Zhang¹, Bogdan J. Matuszewski¹, Lik-Kwan Shark¹,
and Christopher J. Moore²**

Affiliation: ¹Applied Digital Signal and Image Processing Research Centre, University of Central
Lancashire,
Preston, U.K.

²North Western Medical Physics, Christie Hospital NHS Trust, Manchester, U.K.

Figure 5: Surface evolution process for the vertebrae segmentation on the head-and-neck volumetric CT data.

**Fifth International Conference
BioMedical Visualization: Information
Visualization in Medical and Biomedical
Informatics**

MediVis 2008

Table of Contents

Preface.....	vii
Acknowledgments.....	viii
International Programme and Reviewing Committee.....	ix

IVbi: Genomics

Genomic Spring-Syteny Visualization with IMAS	3
<i>Chris D. Shaw</i>	
Visualizing the Gene Ontology-Annotated Clusters of Co-expressed Genes: A Two-Design Study	9
<i>David C. Y. Fung, Seok-Hee Hong, Kai Xu, and David Hart</i>	
From Microarrays to Promoters: The Visual Story of Stat3	15
<i>Urška Cvek, Marjan Trutschl, Zanobia Syed, and John L. Clifford</i>	

IVbi: Networks and Pathways

Visualisation of Clinical and Non-clinical Characteristics of Patients with Behavioural and Psychological Symptoms of Dementia	23
<i>Victor Vickland and Henry Brodaty</i>	
Interactive Exploration of Medical Data Sets	29
<i>Heimo Müller, Kurt Zatloukal, Marc Streit, and Dieter Schmalstieg</i>	
Visualizing Domain Interaction Networks and the Impact of Alternative Splicing Events	36
<i>Dorothea Emig, Karsten Klein, Anne Kunert, Petra Mutzel, and Mario Albrecht</i>	

Biomedical Visualisation - Medical Data Set Visualisation

3D Multiscale Visualisation for Medical Datasets	47
<i>N. J. B. McFarlane, G. J. Clapworthy, A. Agrawal, M. Viceconti, F. Taddei, E. Schileo, and F. Baruffaldi</i>	
3D Visualisation of the Radiological Features of Type II Collagenopathies Associated with Skeletal Dysplasias	53
<i>Theodor Wyeld and Andreas Zankl</i>	
Using Web Services for Distributed Medical Visualisation	57
<i>Xia Zhao, Enjie Liu, Gordon Clapworthy, Paolo Quadrani, Debora Testi, and Marco Viceconti</i>	
MedVis: A Real-Time Immersive Visualization Environment for the Exploration of Medical Volumetric Data	63
<i>Rui Shen, Pierre Boulanger, and Michelle Noga</i>	

Biomedical Visualisation - Medical Imaging Techniques

Medical Image Segmentation Using New Hybrid Level-Set Method	71
<i>Yan Zhang, Bogdan J. Matuszewski, Lik-Kwan Shark, and Christopher J. Moore</i>	
Deformable Image Registration - A Critical Evaluation: Demons, B-Spline FFD and Spring Mass System	77
<i>Jian-Kun Shen, Bogdan J. Matuszewski, Lik-Kwan Shark, Andrzej Skalski, Tomasz Zieliński, and Christopher J. Moore</i>	
A New Approach for Separation of Functional MRI Images' Components Using Modified FastICA Algorithm	83
<i>Houtan Haddad Larjani and Gholamali Rezai Rad</i>	
Author Index	89