

Osvaldo Gervasi et al. (Eds.)

Computational Science and Its Applications – ICCSA 2005

International Conference
Singapore, May 2005
Proceedings, Part III

3
Part III

 Springer

LNC3 3482

p3-53
115.2
2005
v.3

Oswaldo Gervasi Marina L. Gavrilova
Vipin Kumar Antonio Laganà
Heow Pueh Lee Youngsong Mun
David Taniar Chih Jeng Kenneth Tan (Eds.)

Computational Science and Its Applications – ICCSA 2005

International Conference
Singapore, May 9-12, 2005
Proceedings, Part III



E200501325



Springer

Volume Editors

Oswaldo Gervasi
University of Perugia
E-mail: ogervasi@computer.org

Marina L. Gavrilova
University of Calgary
E-mail: marina@cpsc.ucalgary.ca

Vipin Kumar
University of Minnesota
E-mail: kumar@cs.umn.edu

Antonio Laganà
University of Perugia
E-mail: lag@dyn.unipg.it

Heow Pueh Lee
Institute of High Performance Computing, IHPC
E-mail: hplee@ihpc.a-star.edu.sg

Youngsong Mun
Soongsil University
E-mail: mu@computing.soongsil.ac.kr

David Taniar
Monash University
E-mail: David.Taniar@infotech.monash.edu.au

Chih Jeng Kenneth Tan
Queen's University Belfast
E-mail: cjtan@optimanumerics.com

Library of Congress Control Number: Applied for

CR Subject Classification (1998): D, F, G, H, I, J, C.2.3

ISSN 0302-9743
ISBN-10 3-540-25862-0 Springer Berlin Heidelberg New York
ISBN-13 978-3-540-25862-9 Springer Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

Springer is a part of Springer Science+Business Media
springeronline.com

© Springer-Verlag Berlin Heidelberg 2005
Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 11424857 06/3142 5 4 3 2 1 0

Commenced Publication in 1973

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison

Lancaster University, UK

Takeo Kanade

Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler

University of Surrey, Guildford, UK

Jon M. Kleinberg

Cornell University, Ithaca, NY, USA

Friedemann Mattern

ETH Zurich, Switzerland

John C. Mitchell

Stanford University, CA, USA

Moni Naor

Weizmann Institute of Science, Rehovot, Israel

Oscar Nierstrasz

University of Bern, Switzerland

C. Pandu Rangan

Indian Institute of Technology, Madras, India

Bernhard Steffen

University of Dortmund, Germany

Madhu Sudan

Massachusetts Institute of Technology, MA, USA

Demetri Terzopoulos

New York University, NY, USA

Doug Tygar

University of California, Berkeley, CA, USA

Moshe Y. Vardi

Rice University, Houston, TX, USA

Gerhard Weikum

Max-Planck Institute of Computer Science, Saarbruecken, Germany

Preface

The four-volume set assembled following the *2005 International Conference on Computational Science and Its Applications*, ICCSA 2005, held in Suntec International Convention and Exhibition Centre, Singapore from 9 May 2005 till 12 May 2005, represents the fine collection of 540 refereed papers selected from nearly 2700 submissions.

Computational science has firmly established itself as a vital part of many scientific investigations, affecting researchers and practitioners in areas ranging from applications such as aerospace and automotive, to emerging technologies such as bioinformatics and nanotechnologies, to core disciplines such as mathematics, physics, and chemistry. Due to the sheer size of many challenges in computational science, the use of supercomputing, parallel processing, and sophisticated algorithms is inevitable and becomes a part of fundamental theoretical research as well as endeavors in emerging fields. Together, these far-reaching scientific areas contribute to shape this conference in the realms of state-of-the-art computational science research and applications, encompassing the facilitating theoretical foundations and the innovative applications of such results in other areas.

The topics of the refereed papers span all the traditional as well as emerging computational science realms, and are structured according to six main conference themes:

- Computational Methods and Applications
- High-Performance Computing, Networks and Optimization
- Information Systems and Information Technologies
- Scientific Visualization, Graphics and Image Processing
- Computational Science Education
- Advanced and Emerging Applications

In addition, papers from 27 workshops and technical sessions on specific topics of interest, including information security, mobile communication, grid computing, modeling, optimization, computational geometry, virtual reality, symbolic computations, molecular structures, Web systems and intelligence, spatial analysis, bioinformatics and geocomputation, to name a few, complete this comprehensive collection.

The warm response of the great number of researchers to the offer to present high-quality papers in ICCSA 2005 took the conference to record heights. The continuous support of computational science researchers has helped build ICCSA into a firmly established forum in this area. We look forward to building on this symbiotic relationship together to grow ICCSA further.

We recognize the contribution of the International Steering Committee and we deeply thank the International Program Committee for their tremendous support in putting this conference together, nearly 900 referees for their

diligent work, and the Institute of High Performance Computing, Singapore for its generous assistance in hosting the event.

We also thank our sponsors for their continuous support without which this conference would not have been possible.

Finally, we thank all authors for their submissions and all invited speakers and conference attendees for making the ICCSA conference truly one of the premium events in the scientific community, facilitating the exchange of ideas, fostering new collaborations, and shaping the future of computational science.

May 2005

Marina L. Gavrilova
Osvaldo Gervasi
on behalf of the co-editors
Vipin Kumar
Antonio Laganà
Heow Pueh Lee
Youngsong Mun
David Tanianar
Chih Jeng Kenneth Tan

Organization

ICCSA 2005 was organized by the Institute of High Performance Computing (Singapore), the University of Minnesota (Minneapolis, MN, USA), the University of Calgary (Canada) and the University of Perugia (Italy).

Conference Chairs

Vipin Kumar (Army High Performance Computing Center and University of Minnesota, USA), Honorary Chair

Marina L. Gavrilova (University of Calgary, Canada), Conference Co-chair, Scientific

Osvaldo Gervasi (University of Perugia, Italy), Conference Co-chair, Program

Jerry Lim (Institute of High Performance Computing, Singapore), Conference Co-chair, Organization

International Steering Committee

Alexander V. Bogdanov (Institute for High Performance Computing and Information Systems, Russia)

Marina L. Gavrilova (University of Calgary, Canada)

Osvaldo Gervasi (University of Perugia, Italy)

Kurichi Kumar (Institute of High Performance Computing, Singapore)

Vipin Kumar (Army High Performance Computing Center and University of Minnesota, USA)

Andres Iglesias (University de Cantabria, Spain)

Antonio Laganà (University of Perugia, Italy)

Heow Pueh Lee (Institute of High Performance Computing, Singapore)

Youngsong Mun (Soongsil University, Korea)

Chih Jeng Kenneth Tan (OptimaNumerics Ltd., and Queen's University Belfast, UK)

David Taniar (Monash University, Australia)

Local Organizing Committee

Kurichi Kumar (Institute of High Performance Computing, Singapore)

Heow Pueh Lee (Institute of High Performance Computing, Singapore)

Workshop Organizers

Approaches or Methods of Security Engineering

Haeng Kon Kim (Catholic University of Daegu, Korea)
Tai-hoon Kim (Korea Information Security Agency, Korea)

Authentication, Authorization and Accounting

Eui-Nam John Huh (Seoul Women's University, Korea)

Component-Based Software Engineering and Software Process Models

Haeng Kon Kim (Catholic University of Daegu, Korea)

Computational Geometry and Applications (CGA 2005)

Marina Gavrilova (University of Calgary, Canada)

Computer Graphics and Geometric Modeling (TSCG 2005)

Andres Iglesias (University of Cantabria, Spain)
Deok-Soo Kim (Hanyang University, Korea)

Computer Graphics and Rendering

Jiawan Zhang (Tianjin University, China)

Data Mining and Bioinformatics

Xiaohua Hu (Drexel University, USA)
David Taniar (Monash University, Australia)

Digital Device for Ubiquitous Computing

Hong Joo Lee (Daewoo Electronics Corp, Korea)

Grid Computing and Peer-to-Peer (P2P) Systems

Jemal H. Abawajy (Deakin University, Australia)
Maria S. Perez (Universidad Politecnica de Madrid, Spain)

Information and Communication Technology (ICT) Education

Woochun Jun (Seoul National University, Korea)

Information Security and Hiding, ISH 2005

Raphael C.W. Phan (Swinburne University of Technology, Sarawak, Malaysia)

Intelligent Multimedia Services and Synchronization in Mobile Multimedia Networks

Dong Chun Lee (Howon University, Korea)
Kuinam J. Kim (Kyonggi University, Korea)

Information Systems Information Technologies (ISIT)

Youngsong Mun (Soongsil University, Korea)

Internet Communications Security (WICS)

José Sierra-Camara (University Carlos III of Madrid, Spain)
Julio Hernandez-Castro (University Carlos III of Madrid, Spain)
Antonio Izquierdo (University Carlos III of Madrid, Spain)
Joaquin Torres (University Carlos III of Madrid, Spain)

Methodology of Information Engineering

Sangkyun Kim (Somansa Ltd., Korea)

Mobile Communications

Hyunseung Choo (Sungkyunkwan University, Korea)

Modeling Complex Systems

Heather J. Ruskin (Dublin City University, Ireland)
Ruili Wang (Massey University, New Zealand)

Modeling of Location Management in Mobile Information Systems

Dong Chun Lee (Howon University, Korea)

Molecular Structures and Processes

Antonio Laganà (University of Perugia, Italy)

Optimization: Theories and Applications (OTA 2005)

In-Jae Jeong (Hanyang University, Korea)
Dong-Ho Lee (Hanyang University, Korea)
Deok-Soo Kim (Hanyang University, Korea)

Parallel and Distributed Computing

Jiawan Zhang (Tianjin University, China)

Pattern Recognition and Ubiquitous Computing

Woongjae Lee (Seoul Women's University, Korea)

Spatial Analysis and GIS: Local or Global?

Stefania Bertazzon (University of Calgary, Canada)
Borruso Giuseppe (University of Trieste, Italy)
Falk Huettmann (Institute of Arctic Biology, USA)

Specific Aspects of Computational Physics for Modeling Suddenly Emerging Phenomena

Paul E. Sterian (Politehnica University, Romania)
Cristian Toma (Titu Maiorescu University, Romania)

Symbolic Computation (SC 2005)

Andres Iglesias (University of Cantabria, Spain)
Akemi Galvez (University of Cantabria, Spain)

Ubiquitous Web Systems and Intelligence

David Taniar (Monash University, Australia)
Wenny Rahayu (La Trobe University, Australia)

Virtual Reality in Scientific Applications and Learning (VRSAL 2005)

Osvaldo Gervasi (University of Perugia, Italy)
Antonio Riganelli (University of Perugia, Italy)

Program Committee

Jemal Abawajy (Deakin University, Australia)
Kenny Adamson (EZ-DSP, UK)
Srinivas Aluru (Iowa State University, USA)
Frank Baetke (Hewlett-Packard, USA)
Mark Baker (Portsmouth University, UK)
Young-Cheol Bang (Korea Polytechnic University, Korea)
David Bell (Queen's University Belfast, UK)
Stefania Bertazzon (University of Calgary, Canada)
Sergei Bespamyatnikh (Duke University, USA)
J.A. Rod Blais (University of Calgary, Canada)
Alexander V. Bogdanov (Institute for High Performance Computing and Information Systems, Russia)
Richard P. Brent (University of Oxford, UK)
Peter Brezany (University of Vienna, Austria)
Herve Bronnimann (Polytechnic University, NY, USA)
John Brooke (University of Manchester, UK)
Martin Buecker (Aachen University, Germany)
Rajkumar Buyya (University of Melbourne, Australia)
YoungSik Choi (University of Missouri, USA)

- Hyunseung Choo (Sungkyunkwan University, Korea)
 Bastien Chopard (University of Geneva, Switzerland)
 Min Young Chung (Sungkyunkwan University, Korea)
 Toni Cortes (Universidad de Catalunya, Spain)
 Yiannis Cotronis (University of Athens, Greece)
 Danny Crookes (Queen's University Belfast, UK)
 José C. Cunha (New University of Lisbon, Portugal)
 Brian J. d'Auriol (University of Texas at El Paso, USA)
 Alexander Degtyarev (Institute for High Performance Computing and Data
 Bases, Russia)
 Frédéric Desprez (INRIA, France)
 Tom Dhaene (University of Antwerp, Belgium)
 Beniamino Di Martino (Second University of Naples, Italy)
 Hassan Diab (American University of Beirut, Lebanon)
 Ivan Dimov (Bulgarian Academy of Sciences, Bulgaria)
 Iain Duff (Rutherford Appleton Laboratory, UK and CERFACS, France)
 Thom Dunning (NCSA, USA)
 Fabrizio Gagliardi (CERN, Switzerland)
 Marina L. Gavrilova (University of Calgary, Canada)
 Michael Gerndt (Technical University of Munich, Germany)
 Osvaldo Gervasi (University of Perugia, Italy)
 Bob Gingold (Australian National University, Australia)
 James Glimm (SUNY Stony Brook, USA)
 Christopher Gold (Hong Kong Polytechnic University, China)
 Yuriy Gorbachev (Institute of High Performance Computing and Information
 Systems, Russia)
 Andrzej Goscinski (Deakin University, Australia)
 Jin Hai (Huazhong University of Science and Technology, China)
 Ladislav Hlucky (Slovak Academy of Science, Slovakia)
 Shen Hong (Japan Advanced Institute of Science and Technology, Japan)
 Paul Hovland (Argonne National Laboratory, USA)
 Xiaohua Hu (Drexel University, USA)
 Eui-Nam John Huh (Seoul Women's University, Korea)
 Terence Hung (Institute of High Performance Computing, Singapore)
 Andres Iglesias (University of Cantabria, Spain)
 In-Jae Jeong (Hanyang University, Korea)
 Elisabeth Jessup (University of Colorado, USA)
 Peter K. Jimack (University of Leeds, UK)
 Christopher Johnson (University of Utah, USA)
 Benjoe A. Juliano (California State University at Chico, USA)
 Peter Kacsuk (MTA SZTAKI Research Institute, Hungary)
 Kyung Woo Kang (KAIST, Korea)
 Carl Kesselman (University of Southern California, USA)
 Daniel Kidger (Quadrics, UK)
 Deok-Soo Kim (Hanyang University, Korea)

Haeng Kon Kim (Catholic University of Daegu, Korea)
Jin Suk Kim (KAIST, Korea)
Tai-hoon Kim (Korea Information Security Agency, Korea)
Yoonhee Kim (Syracuse University, USA)
Mike Kirby (University of Utah, USA)
Jacek Kitowski (AGH University of Science and Technology, Poland)
Dieter Kranzlmüller (Johannes Kepler University Linz, Austria)
Kurichi Kumar (Institute of High Performance Computing, Singapore)
Vipin Kumar (Army High Performance Computing Center and University of Minnesota, USA)
Domenico Laforenza (Italian National Research Council, Italy)
Antonio Laganà (University of Perugia, Italy)
Joseph Landman (Scalable Informatics LLC, USA)
Francis Lau (University of Hong Kong, Hong Kong, China)
Bong Hwan Lee (Texas A&M University, USA)
Dong Chun Lee (Howon University, Korea)
Dong-Ho Lee (Hanyang University, Korea)
Heow Pueh Lee (Institute of High Performance Computing, Singapore)
Sang Yoon Lee (Georgia Institute of Technology, USA)
Tae Jin Lee (Sungkyunkwan University, Korea)
Bogdan Lesyng (ICM Warszawa, Poland)
Zhongze Li (Chinese Academy of Sciences, China)
Laurence Liew (Scalable Systems Pte., Singapore)
David Lombard (Intel Corporation, USA)
Emilio Luque (Universitat Autònoma de Barcelona, Spain)
Michael Mascagni (Florida State University, USA)
Graham Megson (University of Reading, UK)
John G. Michopoulos (US Naval Research Laboratory, USA)
Edward Moreno (Euripides Foundation of Marília, Brazil)
Youngsong Mun (Soongsil University, Korea)
Jiri Nedoma (Academy of Sciences of the Czech Republic, Czech Republic)
Genri Norman (Russian Academy of Sciences, Russia)
Stephan Olariu (Old Dominion University, USA)
Salvatore Orlando (University of Venice, Italy)
Robert Panoff (Shodor Education Foundation, USA)
Marcin Paprzycki (Oklahoma State University, USA)
Gyung-Leen Park (University of Texas, USA)
Ron Perrott (Queen's University Belfast, UK)
Dimitri Plemenos (University of Limoges, France)
Richard Ramarosan (ONERA, France)
Rosemary Renaut (Arizona State University, USA)
Alexey S. Rodionov (Russian Academy of Science, Russia)
Paul Roe (Queensland University of Technology, Australia)
Renée S. Renner (California State University at Chico, USA)
Heather J. Ruskin (Dublin City University, Ireland)

- Ole Saastad (Scali, Norway)
Muhammad Sarfraz (King Fahd University of Petroleum and Minerals,
Saudi Arabia)
Edward Seidel (Louisiana State University, USA and Albert Einstein Institute,
Germany)
José Sierra-Camara (University Carlos III of Madrid, Spain)
Dale Shires (US Army Research Laboratory, USA)
Vaclav Skala (University of West Bohemia, Czech Republic)
Burton Smith (Cray, USA)
Masha Sosonkina (University of Minnesota, USA)
Alexei Sourin (Nanyang Technological University, Singapore)
Elena Stankova (Institute for High Performance Computing and Data Bases,
Russia)
Gunther Stuer (University of Antwerp, Belgium)
Kokichi Sugihara (University of Tokyo, Japan)
Boleslaw Szymanski (Rensselaer Polytechnic Institute, USA)
Ryszard Tadeusiewicz (AGH University of Science and Technology, Poland)
Chih Jeng Kenneth Tan (OptimaNumerics, UK and Queen's University
Belfast, UK)
David Taniar (Monash University, Australia)
John Taylor (Quadrics, UK)
Ruppa K. Thulasiram (University of Manitoba, Canada)
Pavel Tvrdik (Czech Technical University, Czech Republic)
Putchong Uthayopas (Kasetsart University, Thailand)
Mario Valle (Visualization Group, Swiss National Supercomputing Centre,
Switzerland)
Marco Vanneschi (University of Pisa, Italy)
Piero Giorgio Verdini (University of Pisa and Istituto Nazionale di Fisica
Nucleare, Italy)
Jesus Vigo-Aguiar (University of Salamanca, Spain)
Jens Volkert (University of Linz, Austria)
Koichi Wada (University of Tsukuba, Japan)
Kevin Wadleigh (Hewlett-Packard, USA)
Jerzy Wasniewski (Technical University of Denmark, Denmark)
Paul Watson (University of Newcastle upon Tyne)
Jan Weglarz (Poznan University of Technology, Poland)
Tim Wilkens (Advanced Micro Devices, USA)
Roman Wyrzykowski (Technical University of Czestochowa, Poland)
Jinchao Xu (Pennsylvania State University, USA)
Chee Yap (New York University, USA)
Osman Yasar (SUNY at Brockport, USA)
George Yee (National Research Council and Carleton University, Canada)
Yong Xue (Chinese Academy of Sciences, China)
Igor Zacharov (SGI Europe, Switzerland)
Xiaodong Zhang (College of William and Mary, USA)

Aledander Zhmakin (SoftImpact, Russia)
 Krzysztof Zielinski (ICS UST/CYFRONET, Poland)
 Albert Zomaya (University of Sydney, Australia)

Sponsoring Organizations

The Institute of High Performance Computing, Singapore
 University of Perugia, Perugia, Italy
 University of Calgary, Calgary, Canada
 University of Minnesota, Minneapolis, USA
 Queen's University Belfast, UK
 Society for Industrial and Applied Mathematics, USA
 The Institution of Electrical Engineers, UK
 OptimaNumerics Ltd., UK
 MASTER-UP, Italy

Table of Contents – Part III

Grid Computing and Peer-to-Peer (P2P) Systems Workshop

Resource and Service Discovery in the iGrid Information Service <i>Giovanni Aloisio, Massimo Cafaro, Italo Epicoco, Sandro Fiore, Daniele Lezzi, Maria Mirto, Silvia Mocavero</i>	1
A Comparison of Spread Methods in Unstructured P2P Networks <i>Zhaoqing Jia, Bingzhen Pei, Minglu Li, Jinyuan You</i>	10
A New Service Discovery Scheme Adapting to User Behavior for Ubiquitous Computing <i>Yeo Bong Yoon, Hee Yong Youn</i>	19
The Design and Prototype of RUDA, a Distributed Grid Accounting System <i>M.L. Chen, A. Geist, D.E. Bernholdt, K. Chanchio, D.L. Million</i> ...	29
An Adaptive Routing Mechanism for Efficient Resource Discovery in Unstructured P2P Networks <i>Luca Gatani, Giuseppe Lo Re, Salvatore Gaglio</i>	39
Enhancing UDDI for Grid Service Discovery by Using Dynamic Parameters <i>Brett Sinclair, Andrzej Goscinski, Robert Dew</i>	49
A New Approach for Efficiently Achieving High Availability in Mobile Computing <i>M. Mat Deris, J.H. Abawajy, M. Omar</i>	60
A Flexible Communication Scheme to Support Grid Service Emergence <i>Lei Gao, Yongsheng Ding</i>	69
A Kernel-Level RTP for Efficient Support of Multimedia Service on Embedded Systems <i>Dong Guk Sun, Sung Jo Kim</i>	79
Group-Based Scheduling Scheme for Result Checking in Global Computing Systems <i>HongSoo Kim, SungJin Choi, MaengSoon Baik, KwonWoo Yang, HeonChang Yu, Chong-Sun Hwang</i>	89

Service Discovery Supporting Open Scalability Using FIPA-Compliant Agent Platform for Ubiquitous Networks <i>Kee-Hyun Choi, Ho-Jin Shin, Dong-Ryeol Shin</i>	99
A Mathematical Predictive Model for an Autonomic System to Grid Environments <i>Alberto Sánchez, María S. Pérez</i>	109
Spatial Analysis and GIS: Local or Global? Workshop	
Spatial Analysis: Science or Art? <i>Stefania Bertazzon</i>	118
Network Density Estimation: Analysis of Point Patterns over a Network <i>Giuseppe Borruso</i>	126
Linking Global Climate Grid Surfaces with Local Long-Term Migration Monitoring Data: Spatial Computations for the Pied Flycatcher to Assess Climate-Related Population Dynamics on a Continental Scale <i>Nikita Chernetsov, Falk Huettmann</i>	133
Classifying Internet Traffic Using Linear Regression <i>Troy D. Mackay, Robert G.V. Baker</i>	143
Modeling Sage Grouse: Progressive Computational Methods for Linking a Complex Set of Local, Digital Biodiversity and Habitat Data Towards Global Conservation Statements and Decision-Making Systems <i>Anthonia Onyiahialam, Falk Huettmann, Stefania Bertazzon</i>	152
Local Analysis of Spatial Relationships: A Comparison of GWR and the Expansion Method <i>Antonio Páez</i>	162
Middleware Development for Remote Sensing Data Sharing and Image Processing on HIT-SIP System <i>Jianqin Wang, Yong Xue, Chaolin Wu, Yanguang Wang, Yincui Hu, Ying Luo, Yanning Guan, Shaobo Zhong, Jiakui Tang, Guoyin Cai</i>	173
A New and Efficient K-Medoid Algorithm for Spatial Clustering <i>Qiaoping Zhang, Isabelle Couloigner</i>	181

Computer Graphics and Rendering Workshop	
Security Management for Internet-Based Virtual Presentation of Home Textile Product	
<i>Lie Shi, Mingmin Zhang, Li Li, Lu Ye, Zhigeng Pan</i>	190
An Efficient Approach for Surface Creation	
<i>L.H. You, Jian J. Zhang</i>	197
Interactive Visualization for OLAP	
<i>Kesaraporn Techapichetvanich, Amitava Datta</i>	206
Interactive 3D Editing on Tiled Display Wall	
<i>Xiuhui Wang, Wei Hua, Hujun Bao</i>	215
A Toolkit for Automatically Modeling and Simulating 3D Multi-articulation Entity in Distributed Virtual Environment	
<i>Xiaohui Liang, Chuanpeng Wang, Yinghui Che, Jiangying Yu, Na Qu</i>	225
Footprint Analysis and Motion Synthesis	
<i>Qinping Zhao, Xiaoyan Hu</i>	235
An Adaptive and Efficient Algorithm for Polygonization of Implicit Surfaces	
<i>Mingyong Pang, Zhigeng Pan, Mingmin Zhang, Fuyan Zhang</i>	245
A Framework of Web GIS Based Unified Public Health Information Visualization Platform	
<i>Xiaolin Lu</i>	256
An Improved Colored-Marker Based Registration Method for AR Applications	
<i>Xiaowei Li, Yue Liu, Yongtian Wang, Dayuan Yan, Dongdong Weng, Tao Yang</i>	266
Non-photorealistic Tour into Panorama	
<i>Yang Zhao, Ya-Ping Zhang, Dan Xu</i>	274
Image Space Silhouette Extraction Using Graphics Hardware	
<i>Jiening Wang, Jizhou Sun, Ming Che, Qi Zhai, Weifang Nie</i>	284
Adaptive Fuzzy Weighted Average Filter for Synthesized Image	
<i>Qing Xu, Liang Ma, Weifang Nie, Peng Li, Jiawan Zhang, Jizhou Sun</i>	292