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Preface

This five-volume set was compiled following the 2006 International Conference on Computational Science and its Applications, ICCSA 2006, held in Glasgow, UK, during May 8–11, 2006. It represents the outstanding collection of almost 664 refereed papers selected from over 2,450 submissions to ICCSA 2006.

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 contributed to shaping 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 the five major conference themes:

- Computational Methods, Algorithms and Applications
- High-Performance Technical Computing and Networks
- Advanced and Emerging Applications
- Geometric Modeling, Graphics and Visualization
- Information Systems and Information Technologies

Moreover, submissions from 31 workshops and technical sessions in areas such as information security, mobile communication, grid computing, modeling, optimization, computational geometry, virtual reality, symbolic computations, molecular structures, Web systems and intelligence, spatial analysis, bioinformatics and geocomputations, are included in this publication. The continuous support of computational science researchers has helped ICCSA to become a firmly established forum in the area of scientific computing.

We recognize the contribution of the International Steering Committee and sincerely thank the International Program Committee for their tremendous support in putting this conference together, the near 800 referees for their diligent work, and the IEE European Chapter for their generous assistance in hosting the event.

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

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

May 2006

Marina L. Gavrilova
Oswaldo Gervasi

on behalf of the co-editors
Vipin Kumar
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Table of Contents – Part III

Workshop on Approaches or Methods of Security Engineering (AMSE 2006, Sess. A)

A Security Requirement Management Database Based on ISO/IEC 15408 <i>Shoichi Morimoto, Daisuke Horie, Jingde Cheng</i>	1
Development of Committee Neural Network for Computer Access Security System <i>A. Sermet Anagun</i>	11
C-TOBI-Based Pitch Accent Prediction Using Maximum-Entropy Model <i>Byeongchang Kim, Gary Geunbae Lee</i>	21
Design and Fabrication of Security and Home Automation System <i>Eung Soo Kim, Min Sung Kim</i>	31
PGNIDS(Pattern-Graph Based Network Intrusion Detection System) Design <i>Byung-kwan Lee, Seung-hae Yang, Dong-Hyuck Kwon, Dai-Youn Kim</i>	38
Experiments and Hardware Countermeasures on Power Analysis Attacks <i>ManKi Ahn, HoonJae Lee</i>	48
Information System Modeling for Analysis of Propagation Effects and Levels of Damage <i>InJung Kim, YoonJung Chung, YoungGyo Lee, Eul Gyu Im, Dongho Won</i>	54
A Belt-Zone Method for Decreasing Control Messages in Ad Hoc Networks <i>Youngrag Kim, JaeYoun Jung, Seunghwan Lee, Chonggun Kim</i>	64
A VLSM Address Management Method for Variable IP Subnetting <i>SeongKwon Cheon, DongXue Jin, ChongGun Kim</i>	73
SDSEM: Software Development Success Evolution Model <i>Haeng-Kon Kim, Sang-Yong Byun</i>	84

A Robust Routing Protocol by a Substitute Local Path in Ad Hoc Networks <i>Mary Wu, SangJoon Jung, Seunghwan Lee, Chonggun Kim</i>	93
Power Efficient Wireless LAN Using 16-State Trellis-Coded Modulation for Infrared Communications <i>Hae Geun Kim</i>	104
The Design and Implementation of Real-Time Environment Monitoring Systems Based on Wireless Sensor Networks <i>Kyung-Hoon Jung, Seok-Cheol Lee, Hyun-Suk Hwang, Chang-Soo Kim</i>	115
Ontology-Based Information Search in the Real World Using Web Services <i>Hyun-Suk Hwang, Kyoo-Seok Park, Chang-Soo Kim</i>	125
An Active Node Set Maintenance Scheme for Distributed Sensor Networks <i>Tae-Young Byun, Minsu Kim, Sungho Hwang, Sung-Eok Jeon</i>	134
Intelligent Information Search Mechanism Using Filtering and NFC Based on Multi-agents in the Distributed Environment <i>Subong Yi, Bobby D. Gerardo, Young-Seok Lee, Jaewan Lee</i>	144
Network Anomaly Behavior Detection Using an Adaptive Multiplex Detector <i>Misun Kim, Minsoo Kim, JaeHyun Seo</i>	154
Applying Product Line to the Embedded Systems <i>Haeng-Kon Kim</i>	163
Enhanced Fuzzy Single Layer Learning Algorithm Using Automatic Tuning of Threshold <i>Kwang-Baek Kim, Byung-Kwan Lee, Soon-Ho Kim</i>	172
Optimization of Location Management in the Distributed Location-Based Services Using Collaborative Agents <i>Romeo Mark A. Mateo, Jaewan Lee, Hyunho Yang</i>	178
Design of H.264/AVC-Based Software Decoder for Mobile Phone <i>Hyung-Su Jeon, Hye-Min Noh, Cheol-Jung Yoo, Ok-Bae Chang</i>	188
Transforming a Legacy System into Components <i>Haeng-Kon Kim, Youn-Ky Chung</i>	198

Pseudorandom Number Generator Using Optimal Normal Basis <i>Injoo Jang, Hyeong Seon Yoo</i>	206
Efficient Nonce-Based Authentication Scheme Using Token-Update <i>Wenbo Shi, Hyeong Seon Yoo</i>	213
An Efficient Management of Network Traffic Performance Using Framework-Based Performance Management Tool <i>Seong-Man Choi, Cheol-Jung Yoo, Ok-Bae Chang</i>	222
A Prediction Method of Network Traffic Using Time Series Models <i>Sangjoon Jung, Chonggun Kim, Younky Chung</i>	234
An Obstacle Avoidance Method for Chaotic Robots Using Angular Degree Limitations <i>Youngchul Bae, MalRey Lee, Thomas M. Gatton</i>	244
Intersection Simulation System Based on Traffic Flow Control Framework <i>Chang-Sun Shin, Dong-In Ahn, Hyun Yoe, Su-Chong Joo</i>	251
A HIICA(Highly-Improved Intra CA) Design for M-Commerce <i>Byung-kwan Lee, Chang-min Kim, Dae-won Shin, Seung-hae Yang</i>	261
Highly Reliable Synchronous Stream Cipher System for Link Encryption <i>HoonJae Lee</i>	269
Recognition of Concrete Surface Cracks Using ART2-Based Radial Basis Function Neural Network <i>Kwang-Baek Kim, Hwang-Kyu Yang, Sang-Ho Ahn</i>	279
Hybrid Image Mosaic Construction Using the Hierarchical Method <i>Oh-Hyung Kang, Ji-Hyun Lee, Yang-Won Rhee</i>	287
Workshop on Applied Cryptography and Information Security (ACIS 2006)	
Public Key Encryption with Keyword Search Based on K-Resilient IBE <i>Dalia Khader</i>	298
A Generic Construction of Secure Signatures Without Random Oracles <i>Jin Li, Yuen-Yan Chan, Yanming Wang</i>	309

A Separation Between Selective and Full-Identity Security Notions for Identity-Based Encryption <i>David Galindo</i>	318
Traceable Signature: Better Efficiency and Beyond <i>He Ge, Stephen R. Tate</i>	327
On the TYS Signature Scheme <i>Marc Joye, Hung-Mei Lin</i>	338
Efficient Partially Blind Signatures with Provable Security <i>Qianhong Wu, Willy Susilo, Yi Mu, Fanguo Zhang</i>	345
A Framework for Robust Group Key Agreement <i>Jens-Matthias Bohli</i>	355
BGN Authentication and Its Extension to Convey Message Commitments <i>Yuen-Yan Chan, Jin Li</i>	365
New Security Problem in RFID Systems “Tag Killing” <i>Dong-Guk Han, Tsuyoshi Takagi, Ho Won Kim, Kyo Il Chung</i>	375
A Model for Security Vulnerability Pattern <i>Hyungwoo Kang, Kibom Kim, Soonjwa Hong, Dong Hoon Lee</i>	385
A New Timestamping Scheme Based on Skip Lists <i>Kaouthar Blibech, Alban Gabillon</i>	395
A Semi-fragile Watermarking Scheme Based on SVD and VQ Techniques <i>Hsien-Chu Wu, Chuan-Po Yeh, Chwei-Shyong Tsai</i>	406
New Constructions of Universal Hash Functions Based on Function Sums <i>Khoongming Khoo, Swee-Huay Heng</i>	416
Analysis of Fast Blockcipher-Based Hash Functions <i>Martin Stanek</i>	426
Application of LFSRs for Parallel Sequence Generation in Cryptologic Algorithms <i>Sourav Mukhopadhyay, Palash Sarkar</i>	436
Provable Security for an RC6-like Structure and a MISTY-FO-like Structure Against Differential Cryptanalysis <i>Changhoon Lee, Jongsung Kim, Jaechul Sung, Seokhie Hong, Sangjin Lee</i>	446

Design and Implementation of an FPGA-Based 1.452-Gbps Non-pipelined AES Architecture <i>Ignacio Algreto-Badillo, Claudia Feregrino-Uribe, René Cumplido . . .</i>	456
---	-----

Workshop on Internet Communications Security (WICS 2006)

Security Weaknesses in Two Proxy Signature Schemes <i>Jiqiang Lu</i>	466
A Proposal of Extension of FMS-Based Mechanism to Find Attack Paths <i>Byung-Ryong Kim, Ki-Chang Kim</i>	476
Comparative Analysis of IPv6 VPN Transition in NEMO Environments <i>Hyung-Jin Lim, Dong-Young Lee, Tai-Myoung Chung</i>	486
A Short-Lived Key Selection Approach to Authenticate Data Origin of Multimedia Stream <i>Namhi Kang, Younghan Kim</i>	497
Weakest Link Attack on Single Sign-On and Its Case in SAML V2.0 Web SSO <i>Yuen-Yan Chan</i>	507
An Inter-domain Key Agreement Protocol Using Weak Passwords <i>Youngsook Lee, Junghyun Nam, Dongho Won</i>	517
A Practical Solution for Distribution Rights Protection in Multicast Environments <i>Josep Pegueroles, Marcel Fernández, Francisco Rico-Novella, Miguel Soriano</i>	527
Audit-Based Access Control in Nomadic Wireless Environments <i>Francesco Palmieri, Ugo Fiore</i>	537

Workshop on Optimization: Theories and Applications (OTA 2006)

Cost – Time Trade Off Models Application to Crashing Flow Shop Scheduling Problems <i>Morteza Bagherpour, Siamak Noori, S. Jafar Sadjadi</i>	546
--	-----

The ASALB Problem with Processing Alternatives Involving Different Tasks: Definition, Formalization and Resolution <i>Liliana Capacho, Rafael Pastor</i>	554
Satisfying Constraints for Locating Export Containers in Port Container Terminals <i>Kap Hwan Kim, Jong-Sool Lee</i>	564
A Price Discrimination Modeling Using Geometric Programming <i>Seyed J. Sadjadi, M. Ziaee</i>	574
Hybrid Evolutionary Algorithms for the Rectilinear Steiner Tree Problem Using Fitness Estimation <i>Byounghak Yang</i>	581
Data Reduction for Instance-Based Learning Using Entropy-Based Partitioning <i>Seung-Hyun Son, Jae-Yearn Kim</i>	590
Coordinated Inventory Models with Compensation Policy in a Three Level Supply Chain <i>Jeong Hun Lee, Il Kyeong Moon</i>	600
Using Constraint Satisfaction Approach to Solve the Capacity Allocation Problem for Photolithography Area <i>Shu-Hsing Chung, Chun-Ying Huang, Amy Hsin-I Lee</i>	610
Scheduling an R&D Project with Quality-Dependent Time Slots <i>Mario Vanhoucke</i>	621
The Bottleneck Tree Alignment Problems <i>Yen Hung Chen, Chuan Yi Tang</i>	631
Performance Study of a Genetic Algorithm for Sequencing in Mixed Model Non-permutation Flowshops Using Constrained Buffers <i>Gerrit Färber, Anna M. Coves Moreno</i>	638
Optimizing Relative Weights of Alternatives with Fuzzy Comparative Judgment <i>Chung-Hsing Yeh, Yu-Hern Chang</i>	649
Model and Solution for the Multilevel Production-Inventory System Before Ironmaking in Shanghai Baoshan Iron and Steel Complex <i>Guoli Liu, Lixin Tang</i>	659

A Coordination Algorithm for Deciding Order-Up-To Level of a Serial Supply Chain in an Uncertain Environment <i>Kung-Jeng Wang, Wen-Hai Chih, Ken Hwang</i>	668
Optimization of Performance of Genetic Algorithm for 0-1 Knapsack Problems Using Taguchi Method <i>A.S. Anagun, T. Sarac</i>	678
Truck Dock Assignment Problem with Time Windows and Capacity Constraint in Transshipment Network Through Crossdocks <i>Andrew Lim, Hong Ma, Zhaowei Miao</i>	688
An Entropy Based Group Setup Strategy for PCB Assembly <i>In-Jae Jeong</i>	698
Cross-Facility Production and Transportation Planning Problem with Perishable Inventory <i>Sandra Duni Ekşioğlu, Mingzhou Jin</i>	708
A Unified Framework for the Analysis of M/G/1 Queue Controlled by Workload <i>Ho Woo Lee, Se Won Lee, Won Ju Seo, Sahng Hoon Cheon, Jongwoo Jeon</i>	718
Tabu Search Heuristics for Parallel Machine Scheduling with Sequence-Dependent Setup and Ready Times <i>Sang-Il Kim, Hyun-Seon Choi, Dong-Ho Lee</i>	728
The Maximum Integer Multiterminal Flow Problem <i>Cédric Bentz</i>	738
Routing with Early Ordering for Just-In-Time Manufacturing Systems <i>Mingzhou Jin, Kai Liu, Burak Eksioğlu</i>	748
A Variant of the Constant Step Rule for Approximate Subgradient Methods over Nonlinear Networks <i>Eugenio Mijangos</i>	757
On the Optimal Buffer Allocation of an FMS with Finite In-Process Buffers <i>Soo-Tae Kwon</i>	767
Optimization Problems in the Simulation of Multifactor Portfolio Credit Risk <i>Wanmo Kang, Kyungsik Lee</i>	777

Two-Server Network Disconnection Problem <i>Byung-Cheon Choi, Sung-Pil Hong</i>	785
One-Sided Monge TSP Is NP-Hard <i>Vladimir Deineko, Alexander Tiskin</i>	793
On Direct Methods for Lexicographic Min-Max Optimization <i>Włodzimierz Ogryczak, Tomasz Śliwiński</i>	802
Multivariate Convex Approximation and Least-Norm Convex Data-Smoothing <i>Alex Y.D. Siem, Dick den Hertog, Aswin L. Hoffmann</i>	812
Linear Convergence of Tatônnement in a Bertrand Oligopoly <i>Guillermo Gallego, Woonghee Tim Huh, Wanmo Kang, Robert Phillips</i>	822
Design for Using Purpose of Assembly-Group <i>Hak-Soo Mok, Chang-Hyo Han, Chan-Hyoung Lim, John-Hee Hong, Jong-Rae Cho</i>	832
A Conditional Gaussian Martingale Algorithm for Global Optimization <i>Manuel L. Esquivel</i>	841
Finding the Number of Clusters Minimizing Energy Consumption of Wireless Sensor Networks <i>Hyunsoo Kim, Hee Yong Youn</i>	852
A Two-Echelon Deteriorating Production-Inventory Newsboy Model with Imperfect Production Process <i>Hui-Ming Wee, Chun-Jen Chung</i>	862
Mathematical Modeling and Tabu Search Heuristic for the Traveling Tournament Problem <i>Jin Ho Lee, Young Hoon Lee, Yun Ho Lee</i>	875
An Integrated Production-Inventory Model for Deteriorating Items with Imperfect Quality and Shortage Backordering Considerations <i>H.M. Wee, Jonas C.P. Yu, K.J. Wang</i>	885
A Clustering Algorithm Using the Ordered Weight Sum of Self-Organizing Feature Maps <i>Jong-Sub Lee, Maing-Kyu Kang</i>	898

Global Optimization of the Scenario Generation and Portfolio Selection Problems	
<i>Panos Parpas, Berç Rustem</i>	908
A Generalized Fuzzy Optimization Framework for R&D Project Selection Using Real Options Valuation	
<i>E. Ertugrul Karsak</i>	918
Supply Chain Network Design and Transshipment Hub Location for Third Party Logistics Providers	
<i>Seungwoo Kwon, Kyungdo Park, Chulung Lee, Sung-Shick Kim, Hak-Jin Kim, Zhong Liang</i>	928
A Group Search Optimizer for Neural Network Training	
<i>S. He, Q.H. Wu, J.R. Saunders</i>	934
Application of Two-Stage Stochastic Linear Program for Portfolio Selection Problem	
<i>Kuo-Hwa Chang, Huifen Chen, Ching-Fen Lin</i>	944
General Tracks	
Hierarchical Clustering Algorithm Based on Mobility in Mobile Ad Hoc Networks	
<i>Sulyun Sung, Yuhwa Seo, Yongtae Shin</i>	954
An Alternative Approach to the Standard Enterprise Resource Planning Life Cycle: Enterprise Reference Metamodeling	
<i>Miguel Gutiérrez, Alfonso Durán, Pedro Cocho</i>	964
Static Analysis Based Software Architecture Recovery	
<i>Jiang Guo, Yuehong Liao, Raj Pamula</i>	974
A First Approach to a Data Quality Model for Web Portals	
<i>Angelica Caro, Coral Calero, Ismael Caballero, Mario Piattini</i>	984
Design for Environment-Friendly Product	
<i>Hak-Soo Mok, Jong-Rae Cho, Kwang-Sup Moon</i>	994
Performance of HECC Coprocessors Using Inversion-Free Formulae	
<i>Thomas Wollinger, Guido Bertoni, Luca Breveglieri, Christof Paar</i>	1004
Metrics of Password Management Policy	
<i>Carlos Villarrubia, Eduardo Fernández-Medina, Mario Piattini</i>	1013

Using UML Packages for Designing Secure Data Warehouses <i>Rodolfo Villarroel, Emilio Soler, Eduardo Fernández-Medina, Juan Trujillo, Mario Piattini</i>	1024
Practical Attack on the Shrinking Generator <i>Pino Caballero-Gil, Amparo Fúster-Sabater</i>	1035
A Comparative Study of Proposals for Establishing Security Requirements for the Development of Secure Information Systems <i>Daniel Mellado, Eduardo Fernández-Medina, Mario Piattini</i>	1044
Stochastic Simulation Method for the Term Structure Models with Jump <i>Kisoeb Park, Moonseong Kim, Seki Kim</i>	1054
The Ellipsoidal l_p Norm Obnoxious Facility Location Problem <i>Yu Xia</i>	1064
On the Performance of Recovery Rate Modeling <i>J. Samuel Baixauli, Susana Alvarez</i>	1073
Using Performance Profiles to Evaluate Preconditioners for Iterative Methods <i>Michael Lazzareschi, Tzu-Yi Chen</i>	1081
Multicast ω -Trees Based on Statistical Analysis <i>Moonseong Kim, Young-Cheol Bang, Hyunseung Choo</i>	1090
The Gateways Location and Topology Assignment Problem in Hierarchical Wide Area Networks: Algorithms and Computational Results <i>Przemyslaw Ryba, Andrzej Kasprzak</i>	1100
Developing an Intelligent Supplier Chain System Collaborating with Customer Relationship Management <i>Gye Hang Hong, Sung Ho Ha</i>	1110
The Three-Criteria Servers Replication and Topology Assignment Problem in Wide Area Networks <i>Marcin Markowski, Andrzej Kasprzak</i>	1119
An Efficient Multicast Tree with Delay and Delay Variation Constraints <i>Moonseong Kim, Young-Cheol Bang, Jong S. Yang, Hyunseung Choo</i>	1129
Algorithms on Extended (δ, γ) -Matching <i>Inbok Lee, Raphaël Clifford, Sung-Ryul Kim</i>	1137

SOM and Neural Gas as Graduated Nonconvexity Algorithms <i>Ana I. González, Alicia D'Anjou, M. Teresa García-Sebastian, Manuel Graña</i>	1143
Analysis of Multi-domain Complex Simulation Studies <i>James R. Gattiker, Earl Lawrence, David Higdon</i>	1153
A Fast Method for Detecting Moving Vehicles Using Plane Constraint of Geometric Invariance <i>Dong-Joong Kang, Jong-Eun Ha, Tae-Jung Lho</i>	1163
Robust Fault Matched Optical Flow Detection Using 2D Histogram <i>Jaechoon Chon, Hyongsuk Kim</i>	1172
Iris Recognition: Localization, Segmentation and Feature Extraction Based on Gabor Transform <i>Mohammadreza Noruzi, Mansour Vafadoost, M. Shahram Moin</i>	1180
Optimal Edge Detection Using Perfect Sharpening of Ramp Edges <i>Eun Mi Kim, Cheryl Soo Park, Jong Gu Lee</i>	1190
Eye Tracking Using Neural Network and Mean-Shift <i>Eun Yi Kim, Sin Kuk Kang</i>	1200
The Optimal Feature Extraction Procedure for Statistical Pattern Recognition <i>Marek Kurzynski, Edward Puchala</i>	1210
A New Approach for Human Identification Using Gait Recognition <i>Murat Ekinçi</i>	1216
Author Index	1227