

APPLIED COMPUTING 2011

The 26th Annual ACM Symposium on Applied Computing

PROCEEDINGS OF THE 2011 ACM
SYMPOSIUM ON APPLIED COMPUTING

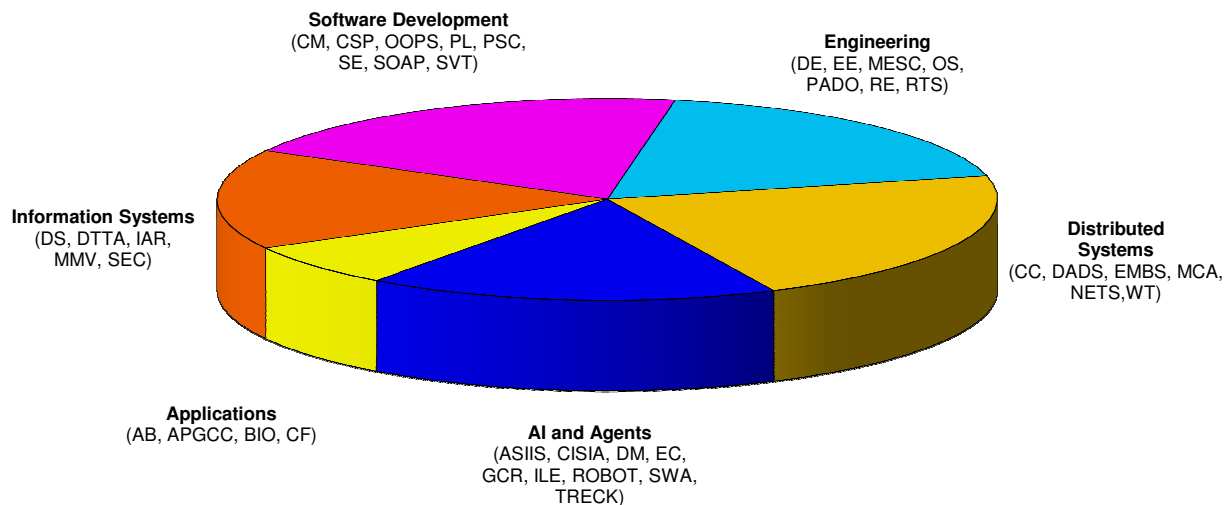
TaiChung, Taiwan

March 21-24, 2011

Organizing Committee

William Chu
W. Eric Wong
Mathew J. Palakal
Chih-Cheng Hung
Dongwan Shin

Jiman Hong
Chih-Hsiung Shih
Chao-Tung Yang
Hisham M. Haddad



Hosted by
Tunghai University, TaiChung, Taiwan

SAC 2011

Introduction

SAC 2011 is a premier international conference on applied computing and technology. Attendees have the opportunity to hear from expert practitioners and researchers about the latest trends in research and development in their fields. SAC 2011 features one keynote speaker on Tuesday, from 9:00 to 10:40. The technical program of the symposium consists of 40 tracks on different research topics, which run from Tuesday March 22 through Thursday March 24, 2011. Regular oral presentation sessions start at 9:00 and end at 18:00 in five parallel sessions. In addition, two poster tracks also run on Wednesday March 23, from 9:40 to 12:40 and from 14:40 to 17:40.

Organizing Committee

William Chu, *Symposium Chair*
Tunghai University, Taiwan

Eric Wong, *Symposium Vice-Chair*
University of Texas, USA

Mathew J. Palakal, *Program Co-Chairs*
Indiana University Purdue University, USA

Chih-Cheng Hung, *Program Co-Chairs*
Southern Polytechnic State University, USA

Jiman Hong, *Poster Program Chair*
Soongsil University, Korea

Dongwan Shin, *Publication Chair*
(*Proceedings Editor*)
New Mexico Institute of Mining and Technology,
USA

Chih-Hsiung Shih, *Tutorials Chair*
Tunghai University, Taiwan

Chao-Tung Yang, *Local Chair*
Tunghai University, Taiwan

Hisham M. Haddad, Steering Committee Member,
Treasurer, Webmaster
Kennesaw State University, USA

Barrett R. Bryant, Steering Committee Member
University of Alabama at Birmingham, USA

Sascha Ossowski, Steering Committee Member
University Rey Juan Carlos Madrid, Spain

Sung Shin, Steering Committee Member
South Dakota State University, USA

Roger L. Wainwright, Steering Committee Member
University of Tulsa, USA

Track Chairs

Volume I: Applications, Distributed Systems, and Engineering
Track Chairs (Co-Editors)

Applied Biometrics (AB)

Jean Hennebert, University of Applied Sciences
Western Switzerland, Switzerland
Andreas Humm, University of Fribourg, Switzerland

Asian Perspective of Global and Collaborative Computing (APGCC)

William C. Chu, Tunghai University, Taiwan
Chih-Hung Chang, Hsiuping Institute of Technology,
Taiwan
Pao-Ann Hsiung, National Chung Cheng University,
Taiwan

Bioinformatics (BIO)

Dan Tulpan, National Research Council of Canada,
Canada
Paola Lecca, The Microsoft Research - University of
Trento CoSBI, Italy
Kanagasabai Rajaraman, Institute for Infocomm
Research, Singapore

Cloud Computing (CC)

Umesh Bellur, Indian Institute of Technology,
Bombay, India
Rajiv Ramnath, Ohio State University, USA
Madhu Kumar, National Institute of Technology
Calicut, India

Computer Forensics (CF)

Lorie Liebrock, New Mexico Institute of Mining and
Technology, United States
Brajendra Panda, University of Arkansas, United
States
Robert L. Hutchinson, Sandia National Laboratories,
United States

Dependable and Adaptive Distributed Systems (DADS)

Karl M. Goeschka, Vienna University of Technology,
Austria
Lorenz Frohofer, Vienna University of Technology,
Austria
Svein Hallsteinsen, Sintef, Norway

Rui Oliveira, Universidade do Minho, Portugal
Alexander Romanovsky, University of Newcastle,
United Kingdom

Document Engineering (DE)

Rafael Lins, Universidade Federal de Pernambuco,
Brazil

Enterprise Engineering (EE)

Artur Caetano, IST, Technical University of Lisbon,
Portugal
Rogério Carvalho, IFF, Brazil
Maria-Eugenia Iacob, University of Twente,
Netherlands

Embedded Systems: Applications, solutions, and Techniques (EMBS)

Alessio Bechini, University of Pisa, Italy
Cosimo Antonio Prete, University of Pisa, Italy
Li-Pin Chang, National Chiao-Tung University,
Taiwan

Mobile Computing and Applications (MCA)

Hong Va Leong, Hong Kong Polytechnic University,
Hong Kong, China
Alvin Chan, Hong Kong Polytechnic University,
Hong Kong, China

Mediation Services in Computing Environments (MESC)

Rachid Anane, Coventry University, UK
Behzad Bordbar, University of Birmingham, UK
Guadalupe Ortiz, University of Cadiz, Spain

Networking (NETS)

Mario Freire, University of Beira Interior, Portugal
Marilia Curado, University of Coimbra, Portugal
Manuela Pereira, University of Beira Interior,
Portugal
Teresa Vazão, IST/INESC ID Lisboa, Portugal

Operating Systems (OS)

Jiman Hong, Soongsil University, Korea
Tei-Wei Kuo, National Taiwan University, Taiwan
Junyoung Heo, Hansung University, Korea

Green/Power-Aware Design and Optimization (PADO)

Jian-Jia Chen, Karlsruhe Institute of Technology
(KIT), Germany
X. Sharon Hu, University of Notre Dame, United
States

Requirement Engineering (RE)

Maria Lencastre, Universidade de Pernambuco,
Brazil

Real-Time Systems (RTS)

Paulo Martins, Chaminade University, United States
Tei-Wei Kuo, National Taiwan University, Taiwan
Martin Schoeberl, Technical University of Denmark,
Denmark

Web Technologies (WT)

Davide Rossi, University of Bologna, Italy
Angelo Di Iorio, University of Bologna, Italy
Stefano Zacchiroli, Université Paris Diderot - Paris 7,
France

Volume II: Artificial Intelligence & Agents, Information Systems, and Software Development

Advances in Spatial and Image-Based Information Systems (ASIIS)

Richard Chbeir, University of Bourgogne, France
Christophe Claramunt, Ecole Navale, Brest, France
Ki-Joune Li, Pusan National University, Korea
Kokou Yetongnon, University of Bourgogne, France

Computational Intelligence and Image Analysis (CISIA)

Agostinho Rosa, Technical University of Lisbon,
Portugal
Ateet Bhalla, NRI Institute of Information Science
and Technology, India

Coordination Models, Languages and Applications (CM)

Matteo Casadei, Alma Mater Studiorum, Università
di Bologna, Italy

Constraint Solving and Programming (CSP)

Eric Monfroy, UTFSM, Valparaiso, Chile and LINA,
Nantes, France, Chile
Stefano Bistarelli, Università di Perugia, Italy and
IIT-CNR, Pisa, Italy
Barry O'Sullivan, University College Cork, Ireland

Data Mining (DM)

Hasan Jamil, Wayne State University, United States
Jian Pei, Simon Fraser University, Canada
Alfredo Cuzzocrea, University of Calabria, Italy

Data Streams (DS)

João Gama, LIAAD-University Porto, Portugal
Andre Carvalho, University of Sao Paulo, Brazil
Pedro Rodrigues, University Porto, Portugal
Shonali Krishnaswamy, Monash University,
Australia

Database Theory, Technology, and Applications (DTTA)

Junping Sun, Nova Southeastern University, United States
Haraty Ramzi A., Lebanese American University, Lebanon
Apostolos Papadopoulos, Aristotle University, Greece

Applications of Evolutionary Computing (EC)

Federico Divina, Pablo de Olavide University, Spain
Raúl Giráldez Rojo, Pablo de Olavide University, Spain

Geometric Constraints and Reasoning (GCR)

Dominique Michelucci, CNRS, France
Robert Joan-Arinyo, UPC, Catalonia
Xiao-Shan Gao, Chinese Academy of Sciences, China

Information Access and Retrieval (IAR)

Gloria Bordogna, CNR, Italy
Gabriella Pasi, Univ. Milano Bicocca, Italy

Intelligent/Innovative Learning Environments (ILE)

Seiji Isotani, Carnegie Mellon University, USA
Ig I. Bittencourt, Federal University of Alagoas, Brazil
Jacqueline Bourdeau, UQAM, Canada
Riichiro Mizoguchi, Osaka University, Japan

Multimedia and Visualization (MMV)

Maria G. Pimentel, SCC/ICMC/USP, Brazil
Ethan V. Munson, University of Wisconsin-Milwaukee, United States

Object Oriented Programming Languages and Systems (OOPS)

Davide Ancona, Univ. of Genova, Italy
Shigeru Chiba, Tokyo Institute of Technology, Japan
Atsushi Igarashi, Kyoto University, Japan
Andy Kellens, Vrije Universiteit Brussel, Belgium

Programming Languages (PL)

Marjan Mernik, University of Maribor, Slovenia

Barrett Bryant, University of Alabama at Birmingham, United States

Programming for Separation of Concerns (PSC)

Emiliano Tramontana, University of Catania, Italy
Corrado Santoro, University of Catania, Italy
Yvonne Coady, University of Victoria, Canada

Intelligent Robotic Systems (ROBOT)

Denis Wolf, University of Sao Paulo, Brazil
Fernando S. Osorio, University of Sao Paulo, Brazil
Luiz Chaimowicz, Federal University of Minas Gerais, Brazil

Software Engineering (SE)

W. Eric Wong, UT-Dallas, United States
Chang Oan Sung, Indiana University Southeast, United States
John Kim, Utica College, United States

Computer Security (SEC)

Giampaolo Bella, Università di Catania, Italy
Helge Janicke, De Montfort University, United Kingdom
Alessandro Sorniotti, IBM Research Zurich, Switzerland

Service Oriented Architectures and Programming (SOAP)

Ivan Lanese, Università di Bologna, Italy
Manuel Mazzara, University of Newcastle, United Kingdom
Fabrizio Montesi, ItalianaSoftware, Italy
Software Verification and Testing (SVT)
Jan Cederquist, Instituto Superior Técnico / SQIG-IT, Portugal

Semantic Web and Its Applications (SWA)

Hyoil Han, LeMoyne-Owen College, United States

Trust, Reputation, Evidence and other Collaboration Know-How (TRECK)

Jean-Marc Seigneur, University of Geneva, Switzerland

Support

Local support for SAC 2011 is provided by Tunghai University. Additional support was provided by the Taiwan National Science Council (NSC), Taiwan Ministry of Education, and Taiwan Bureau of Foreign Trade. The SAC organizing committee acknowledges and thanks the local supporters for their generous contributions to SAC 2011. Their support has been essential to the success of the Symposium, and it is greatly appreciated.



ACM SIGAPP

The ACM Special Interest Group on Applied Computing is ACM's primary applications-oriented SIG. Its mission is to further the interests of the computing professionals engaged in the development of new computing applications and applications areas and the transfer of computing technology to new problem domains. SIGAPP offers practitioners and researchers the opportunity to share mutual interests in innovative application fields, technology transfer, experimental computing, strategic research, and the management of computing. SIGAPP also promotes widespread cooperation among business, government, and academic computing activities. Its annual Symposium on Applied Computing (SAC) provides an international forum for presentation of the results of strategic research and experimentation for this inter-disciplinary environment. SIGAPP membership fees are: \$15.00 for ACM Non-members, \$15.00 for ACM Professional Members, and \$8.00 for ACM Student Members. For further information on SIGAPP, please contact Sung Shin at

Sung_Shin@sdstate.edu or visit the SIGAPP website at <http://www.acm.org/sigapp>.

Message from the Symposium Chairs



William Chu

Tunghai University, Taiwan



Eric Wong

University of Texas, USA

Welcome to ACM SAC 2011, The 26th Symposium on Applied Computing, and welcome to TaiChung, one of the five major metropolitan cities in Taiwan.

Following the tradition, SAC 2011 provides an international forum for applied computer scientists, computer engineers and application developers to interact and present their work. This year we have a very strong technical program. In addition to a keynote address, it also includes 237 rigorously refereed papers and 59 posters.

We would like to thank the ACM Special Interest Group on Applied Computing (SIGAPP) for being a sponsor of this conference and Tunghai University as a co-sponsor for making all the local arrangements. We have received additional funding from Taiwan National Science Council, Ministry of Education, Bureau of Foreign Trade Ministry of Economic Affairs, and Tunghai University. Special thanks go to many individuals who have contributed to the success of this conference. We thank the authors for sharing their ideas with us, the reviewers for providing valuable feedback, all the track chairs, as well as steering committee and program committee members, especially the two Program co-Chairs: Professor Chi-Cheng Hung from Southern Polytechnic State, and Professor Mathew Palatal from IUPUI, for taking time from their busy schedules to help us organize this conference. Thank you also to Professor Hisham Haddad (Member of

Steering Committee and Treasurer of SAC 2011) and Professor Sung Shin (Chair of ACM SIGAPP) for their invaluable support, Professor Chih-Hsiong Shih (Tunghai University, Taiwan) for serving as the Tutorial Chair, Professor Chao-Tung Yang (Tunghai University, Taiwan) as the Local Arrangement Chair, Professor Jiman Hong (Soongsil University, Korea) as the Poster Chair, and Professor Dongwan Shin (New Mexico Tech) as the Publication Chair. We also thank all the student volunteers for assisting with registration and many other logistics without which it would be difficult, if not impossible, to proceed.

Thank you for attending SAC 2011. We hope that you enjoy the program and have a pleasant stay at Tunghai University which has one of the most beautiful college campuses in Taiwan.

Message from the Program Chairs

Mathew J. Palakal

Indiana University Purdue University, Indianapolis, USA

Chih-Cheng Hung

Southern Polytechnic State University, Marietta, USA

Welcome to the 26th International Symposium on Applied Computing (SAC 2011). For the past 25 years, SAC has become a major international venue for computing researchers and applied practitioners to convene and share ideas on recent developments in a variety of applied areas of Information Technology. The success of SAC has been the consolidation of a wide range of applied areas into specialized modules called Tracks. Each of the Tracks are then organized and administered by experts in the respective areas by instituting program committees, carrying out blind reviews according to the ACM guidelines, and finally selecting the highly qualified papers for the Track. Since its inception seven years ago, the Poster Sessions at SAC have become a tradition, and this year again the Poster will be an integral part of the Technical Program at SAC 2011.

The open Call for Track Proposals and after prescreening the proposals, 40 Tracks were finally accepted for SAC 2011. The prescreening and selections were made based on the success of those Tracks in the previous SACs as well as targeting new and emerging areas. The Call for Papers for these Tracks attracted 790 final paper submissions from 35 different countries. The submitted papers underwent the blind review process and 237 papers were finally

accepted as full papers for inclusion in the Conference Proceedings and presentation during the Symposium. The final acceptance rate for SAC 2011 is 30% for the overall track. In addition to the accepted full papers, 59 papers that received high enough review scores were accepted as short papers for the Poster Program.

The Technical Program Organization of SAC 2011 is made possible through the hard work of many people from the scientific community who have volunteered and committed many hours to make it a success. Much credit goes to all the Track Chairs for making SAC 2011 Technical Sessions a huge success. Some of the popular Tracks had an unprecedented submissions and having three blind reviews for each paper was certainly a major challenge. Once again this year, we follow the previous years' tradition of organizing various tracks into six different themes. The Symposium Proceedings and the technical presentations are focused around these themes to form a series of related track sessions.

On behalf of the entire SAC 2011 Organizing Committee, we congratulate all the authors for having their papers accepted in their respective Tracks, and we wish to thank all of those who made this year's technical program a huge success. Specifically we wish to thank the speakers, track chairs, reviewers, program committee members, session chairs, presenters, and all the attendees. We also wish to convey our special thanks to the local organizing committee lead by William Chu from Tunghai University, Taichung, Taiwan.

We wish you all a pleasant stay in Taichung, hope you have a great time at SAC 2011, and you will have the opportunity to share and exchange your ideas and foster new collaborations. We would also like to take this opportunity to convey to you the news that the 27th International Symposium on Applied Computing (SAC 2012) will be held in Trento, Italy. We hope to see you all and your colleagues at SAC 2012.

SAC 2011 Themes

This year SAC tracks are divided into six themes: related themes will be associated to one room, hence related tracks will take place sequentially in the same room in most cases, so as to promote sharing and cross-fertilization of ideas through the whole audience of a theme. Check the program schedule at page 8 for details. The six themes of SAC 2011 are listed below:

(APP) Applications: Tracks: AB, APGCC, BIO, CF

(ENG) Engineering: Tracks: DE, EE, MESC, OS, PADO, RE, RTS

(DS) Distributed Systems: Tracks: CC, DADS, EMBS, MCA, NETS, WT

(AIA) AI and Agents: Tracks: ASIIS, CIIA, DM, EC, GCR, ILE, ROBOT, SWA, TRECK

(IS) Information Systems: Tracks: DS, DTTA, IAR, MMV, SEC

(SWD) Software Development: Tracks: CM, CSP, OOPS, PL, PSC, SE, SOAP, SVT

Keynote Speakers

Time: Tuesday March 22, 2011 9:00 - 10:40AM

Presentation Title: Mining Information Networks

Speaker: Professor Philip S. Yu



**Wexler Chair in Information and Technology,
Department of Computer Science
University of Illinois at Chicago
Chicago, IL 60607 USA**

E-mail: psyu@cs.uic.edu

Web: <http://www.cs.uic.edu/PSYu/>

Abstract

With the ubiquity of information networks and their broad applications, there have been numerous studies on the construction, online analytical processing, and mining of information networks in multiple disciplines, including social network analysis, World-Wide Web, database systems, data mining, machine learning, and networked communication and information systems. Moreover, with a great demand of research in this direction, there is a need to understand methods for analysis of information networks from multiple disciplines. In this talk, we will present various issues and solutions on scalable mining of information networks. These include data integration, data cleaning and data validation in

information networks, summarization, OLAP and multidimensional analysis in information networks.

Speaker's Bio

Philip S. Yu's main research interests include data mining, privacy preserving publishing and mining, data streams, database systems, Internet applications and technologies, multimedia systems, parallel and distributed processing, and performance modeling. He is a Professor in the Department of Computer Science at the University of Illinois at Chicago and also holds the Wexler Chair in Information and Technology. He was manager of the Software Tools and Techniques group at the IBM Thomas J. Watson Research Center. Dr. Yu has published more than 500 papers in refereed journals and conferences. He holds or has applied for more than 300 US patents.

Dr. Yu is a Fellow of the ACM and of the IEEE. He is associate editors of ACM Transactions on the Internet Technology and ACM Transactions on Knowledge Discovery from Data. He is on the steering committee of IEEE Conference on Data Mining and was a member of the IEEE Data Engineering steering committee. He was the Editor-in-Chief of IEEE Transactions on Knowledge and Data Engineering (2001-2004), an editor, advisory board member and also a guest co-editor of the special issue on mining of databases. He had also served as an associate editor of Knowledge and Information Systems. In addition to serving as program committee member on various conferences, he was the program chair or co-chairs of the IEEE Workshop of Scalable Stream Processing Systems (SSPS'07), the IEEE Workshop on Mining Evolving and Streaming Data (2006), the 2006 joint conferences of the 8th IEEE Conference on E-Commerce Technology (CEC' 06) and the 3rd IEEE Conference on Enterprise Computing, E-Commerce and E-Services (EEE' 06), the 11th IEEE Intl. Conference on Data Engineering, the 6th Pacific Area Conference on Knowledge Discovery and Data Mining, the 9th ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery, the 2nd IEEE Intl. Workshop on Research Issues on Data Engineering: Transaction and Query Processing, the PAKDD Workshop on Knowledge Discovery from Advanced Databases, and the 2nd IEEE Intl. Workshop on Advanced Issues of E-Commerce and Web-based Information Systems. He served as the general chair or co-chairs of the 2006 ACM Conference on Information and Knowledge Management, the 14th IEEE Intl. Conference on Data Engineering, and the 2nd IEEE Intl. Conference on Data Mining. He had received several IBM honors including 2 IBM Outstanding Innovation Awards, an

Outstanding Technical Achievement Award, 2 Research Division Awards and the 93rd plateau of Invention Achievement Awards. He was an IBM Master Inventor. Dr. Yu received a Research Contributions Award from IEEE Intl. Conference on Data Mining in 2003 and also an IEEE Region 1 Award for "promoting and perpetuating numerous new electrical engineering concepts" in 1999.

Dr. Yu received the B.S. Degree in E.E. from National Taiwan University, the M.S. and Ph.D. degrees in E.E. from Stanford University, and the M.B.A. degree from New York University.

Other Activities

SIGAPP Annual Business Meeting: Monday March 21, from 17:00 to 18:30 in **Room 100**. Open to everyone.

SAC Reception: Tuesday March 21, from 18:30 to 20:30 in **Lunch area levels 0 and 2**. Open for all registered attendees.

SAC General Luncheon: Tuesday to Thursday (March 22 – 24), from 12:50 to 2:10. Lunch area **levels 0 and 2**. Open for all registered attendees.

Future SAC Organization Meeting: Tuesday March 22, from 17:00 to 18:30 in **Room 405/406**. Open for SAC Organizing Committee members.

Track Chairs Business Meeting: Wednesday March 23, from 18:15 to 19:15 in **Room 400**. Open for SAC Organizing Committee members and Track Chairs.

SAC Banquet: Wednesday March 23. Departure at **19:30** from conference venue. Open for Banquet Ticket holders. See your tickets for full details.

SAC Best Papers Award: Wednesday March 23. During the SAC Banquet SAC Program Chairs will award one best paper for each of the six themes and posters of this conference.

Tracks Schedule

Tuesday March 22, 2011

TUE. 9:00 – 10:40 **AULA**
Keynote Address

Mining Information Networks
Professor Philip S. Yu
Department of Computer Science
University of Illinois at Chicago
Chicago, IL 60607 USA

See details on Page 7.

10:40 – 11:10 **LEVELS 3 & 4**
Coffee Break

TUE 11:10 – 12:50 **ROOM 1**

(SE-1) Software Engineering

Session Chair: Maria-Eugenia Iacob, University of Twente, the Netherlands

On the Equivalence of Certain Fault Localization Techniques

Vidroha Debroy, The University of Texas at Dallas, United States
W. Eric Wong, The University of Texas at Dallas, United States

An Empirical Study on the Usage of Testability Information to Fault Localization in Software

Alberto Gonzalez-Sanchez, Delft University of Technology, Netherlands
Rui Abreu, University of Porto, Portugal
Hans-Gerhard Gross, Delft University of Technology, Netherlands
Arjan J. C. van Gemund, Delft University of Technology, Netherlands

Locating Faults Using Multiple Spectra-Specific Models

Kai Yu, Beihang University, China
Mengxiang Lin, Beihang University, China
Qing Gao, Beihang University, China
Hui Zhang, Beihang University, China
Xiangyu Zhang, Beihang University, China

IMPULSE: a Design Framework for Multi-agent Systems Based on Model Transformation

Hiroyuki Nakagawa, The University of Electro-Communications, Japan
Nobukazu Yoshioka, National Institute of Informatics, Japan
Akihiko Ohsuga, The University of Electro-Communications, Japan
Shinichi Honiden, National Institute of Informatics, Japan

Using a Class Abstraction Technique to Predict Faults in OO Classes

Djuradj Babich, School of Computing and Information Sciences, Florida International University, United States
Peter J. Clarke, School of Computing and Information Sciences, Florida International University, United States
James F. Power, Department of Computer Science, National University of Ireland, Maynooth, Ireland
B. M. Golam Kibria, Department of Mathematics & Statistics, Florida International University, United States

TUE 11:10 – 12:50 ROOM 2

(DM-1) Data Mining

Session Chair: Davide Rossi, University of Bologna, Italy

Entropy based Feature Selection for Text Categorization

Christine Largeton, Hubert Curien Laboratory, France
Christophe Moulin, Hubert Curien Laboratory, France
Mathias Géry, Hubert Curien Laboratory, France

Semantic Event Detection in Baseball Videos Based on a Multi-output Hidden Markov Model

Yin-Fu Huang, National Yunlin University of Science and Technology, Taiwan
Jyun-Jhang Huang, National Yunlin University of Science and Technology, Taiwan

Construction of a Blog Network Based on Information Diffusion

Seung-Hwan Lim, Hanyang University, Korea
Sang-Wook Kim, Hanyang University, Korea
Soyoun Kim, Hanyang University, Korea
Sanghyun Park, Yonsei University, Korea

Mining Interlacing Manifolds in High Dimensional Spaces

Tao Ban, National Institute of Information and Communications Technology, Japan
Changshui Zhang, Tsinghua University, China
Shigeo Abe, Kobe University, Japan
Takeshi Takahashi, National Institute of Information and Communications Technology, Japan
Youki Kadobayashi, National Institute of Information and Communications Technology, Japan

Frequent Itemset Mining of Uncertain Data Streams Using the Damped Window Model

Carson K. Leung, The University of Manitoba, Canada
Fan Jiang, The University of Manitoba, Canada

TUE 11:10 – 1:10 ROOM 3

(DADS) Dependable and Adaptive Distributed Systems

Session Chair: Stefan Brüggemann, OFFIS - Institute for Information Technology, Germany

Development Support for QoS-Aware Service-Adaptation in Ubiquitous Computing Applications

Kurt Geihs, University of Kassel, Germany
Christoph Evers, University of Kassel, Germany
Roland Reichle, University of Kassel, Germany
Michael Wagner, University of Kassel, Germany
Mohammad U. Khan, NTNU Trondheim, Norway

Transparent Componentisation: High-level (Re)configurable Programming for Evolving Distributed Systems

Shen Lin, Lancaster University, United Kingdom
Francois Taiani, Lancaster University, United Kingdom
Marin Bertier, INRIA/IRISA, Rennes, France
Gordon Blair, Lancaster University, United Kingdom
Anne-Marie Kermarrec, INRIA/IRISA, Rennes, France

Root-cause Analysis of Performance Anomalies in Web-based Applications

João Magalhães, CIICESI, ESTGF, Porto Polytechnic Institute, Portugal
Luis Silva, CISUC, University of Coimbra, Portugal

AdaptStream: Towards Achieving Fluidity in Adaptive Stream-Based Systems

Yu Liu, Trinity College Dublin, Ireland
René Meier, Trinity College Dublin, Ireland

Identifying the Provenance of Correlated Anomalies

Dawood Tariq, SRI, United States
Basim Baig, SRI, United States
Ashish Gehani, SRI, United States
Salman Mahmood, LUMS, Pakistan
Rashid Tahir, LUMS, Pakistan
Azeem Aqil, LUMS, Pakistan
Fareed Zaffar, LUMS, Pakistan

Robustness of Automotive Applications Using Reflective Computing: Lessons learnt

Jean-Charles Fabre, LAAS-CNRS, Université de Toulouse, France
Marc-Olivier Killijian, LAAS-CNRS, Université de Toulouse, France
Francois Taiani, Lancaster University, United Kingdom

TUE 11:10 – 12:50 ROOM 4

(SEC-1) Computer Security

Session Chair: Richard Chbeir, Bourgogne University, France

Software Security Aspects of Java-Based Mobile Phones

Karsten Sohr, Center for Computing Technologies, Universität Bremen, Germany
Tanveer Mustafa, Center for Computing Technologies, Universität Bremen, Germany
Adrian Nowak, Otaris Interactive Services GmbH, Germany

Complexity of Fairness Constraints for the Dolev-Yao Attacker Model

Jan Cederquist, Instituto Superior Técnico, Portugal
Mohammad Torabi Dashti, ETH Zürich, Switzerland

On the (Im)possibility of Perennial Message Recognition Protocols without Public-Key Cryptography

Madeline González Muñoz, Cybernetica AS, Estonia
Peeter Laud, Cybernetica AS, Estonia

Improved Call Graph Comparison Using Simulated Annealing

Orestis Kostakis, Helsinki Institute for Information Technology, Finland
Joris Kinable, Helsinki Institute for Information Technology, Finland
Hamed Mahmoudi, Aalto University School of Science and Technology, Finland
Kimmo Mustonen, F-Secure Cooperation, Finland

A Controlled Natural Language Interface for Authoring Access Control Policies

Leilei Shi, University of Kent, United Kingdom
David Chadwick, University of Kent, United Kingdom

TUE 11:10 – 12:50 ROOM 5

(OS-1) Operating Systems

Session Chair: Yookun Cho, Seoul National University, Korea

Power Management Schemes for Heterogeneous Clusters under Quality of Service Requirements

Jian-Jia Chen, Karlsruhe Institute of Technology, Germany
Kai Huang, ETH Zurich, Switzerland
Lothar Thiele, ETH Zurich, Switzerland

VASP: Virtualization assisted Security Monitor for Cross-Platform Protection

Min Zhu, Shanghai Jiao Tong University, China
Miao Yu, Shanghai Jiao Tong University, China
Mingyuan Xia, Shanghai Jiao Tong University, China
Bingyu Li, Shanghai Jiao Tong University, China
Peijie Yu, Shanghai Jiao Tong University, China
Shang Gao, Shanghai Jiao Tong University, China
Zhengwei Qi, Shanghai Jiao Tong University, China
Liang Liu, IBM Research China, China
Ying Chen, IBM Research China, China
Haibing Guan, Shanghai Jiao Tong University, China

Loop Fusion and Reordering for Register File Optimization on Stream Processors

Wanyong Tian, University of Science and Technology of China, China
Chun Jason Xue, Department of Computer Science, City University of Hong Kong, China
Minming Li, Department of Computer Science, City University of Hong Kong, China
Enhong Chen, University of Science and Technology of China, China

Fault Tolerant Framework and Techniques for Component-Based Autonomous Robot Systems

Heejune Ahn, Seoul National Univ. of Science and Technology, Korea
Sang Chul Ahn, IMRC, KIST, Korea
Junyoung Heo, Hansung University, Korea
Sung Y. Shin, South Dakota State Univ, United States

Optimizing Virtual Machines Using Hybrid Virtualization

Jun Nakajima, Intel Open Source Technology Center, China
Qian Lin, Shanghai Jiao Tong University, China
Sheng Yang, Intel Open Source Technology Center, China
Min Zhu, Shanghai Jiao Tong University, China
Shang Gao, Shanghai Jiao Tong University, China
Mingyuan Xia, Shanghai Jiao Tong University, China
Peijie Yu, Shanghai Jiao Tong University, China
Yaouzu Dong, Intel Open Source Technology Center, China
Zhengwei Qi, Shanghai Jiao Tong University, China
Kai Chen, Shanghai Jiao Tong University, China
Haibing Guan, Shanghai Jiao Tong University, China

12:50 – 2:10 LEVELS 0 & 2

Lunch Break

TUE 2:10 – 3:50 ROOM 1

(SE-2) Software Engineering

Session Chair: Chang Oan Sung, Indiana University Southeast, USA

Security Mutation Testing of the FileZilla FTP Server

Daniel Woodraska, Dakota State University, United States
Michael Sanford, Dakota State University, United States
Dianxiang Xu, Dakota State University, United States

Automatic Reuse of Process Patterns in Process Modeling

Hanh Nhi Tran, IRIT, University of Toulouse, France
Bernard Coulette, IRIT, University of Toulouse, France
Dan Thu Tran, University of Science - HCMC VNU, Vietnam
My Hang Vu, University of Science - HCMC VNU, Vietnam

Using Lattice of Class and Method Dependence for Change Impact Analysis of Object Oriented Programs

Xiaobing Sun, Southeast University, China
Bixin Li, Southeast University, China
Sai Zhang, University of Washington, United States
Chuanqi Tao, Southeast University, China
Xiang Chen, Nanjing University, China
Wanzhi Wen, Southeast University, China

Towards Thresholds of Control Flow Complexity Measures for BPMN models

Laura Sánchez-González, University of Castilla La Mancha, Paseo de la Universidad, Spain
Francisco Ruiz, University of Castilla La Mancha, Paseo de la Universidad, Spain
Félix García, University of Castilla La Mancha, Paseo de la Universidad, Spain
Jorge Cardoso, Dept. Engenharia Informática, University of Coimbra, Portugal

An Empirical Study on the Effectiveness of Time-Aware Test Case Prioritization Techniques

Dongjiang You, Software Institute, Nanjing University, China
Zhenyu Chen, Software Institute, Nanjing University, China
Baowen Xu, Department of Computer Science, Nanjing University, China
Bin Luo, Software Institute, Nanjing University, China
Chen Zhang, Software Institute, Nanjing University, China

TUE 2:10 – 3:50

ROOM 2

(DM-2) Data Mining

Session Chair: Hasan Jamil, Wayne State University, United States

RuleGrowth: Mining Sequential Rules Common to Several Sequences by Pattern-Growth

Philippe Fournier-Viger, University of Quebec in Montreal, Canada
Roger Nkambou, University of Quebec in Montreal, Canada
Vincent Shin-Mu Tseng, National Cheng Kung University, Taiwan

Target-Based Privacy Preserving Association Rule Mining

Madhu Ahluwalia, UMBC, United States
Aryya Gangopadhyay, UMBC, United States
Zhiyuan Chen, UMBC, United States
Yelena Yesha, UMBC, United States

Aspect-based Extractive Summarization of Online Reviews

Xueke Xu, Institute of Computing Technology, Chinese Academy of Sciences, China
Meng Tao, Institute of Computing Technology, Chinese Academy of Sciences, China
Xueqi Cheng, Institute of Computing Technology, Chinese Academy of Sciences, China

ClustCube: An OLAP-based Framework for Clustering and Mining Complex Database Objects

Alfredo Cuzzocrea, ICAR-CNR and University of Calabria, Italy
Paolo Serafino, DEIS Dept., University of Calabria, Italy

Using Commutative Encryption for Privacy Preserving Distributed Association Rules Mining

Moez Waddey, Faculty of Science of Tunis, Tunisia
Tarek Hamrouni, Faculty of Science of Tunis, Tunisia
Sadok Ben Yahia, Faculty of Science of Tunis, Tunisia

TUE 2:10 – 3:50

ROOM 3

(MCA-1) Mobile Computing and Applications

Session Chair: Sheikh Ahamed, Marquette University, USA

iDetective: A Persuasive Application to Motivate Healthier Behavior Using Smart Phone

Hiroaki Kimura, Waseda University, Japan
Jun Ebisui, Waseda University, Japan
Yoshio Funabashi, Waseda University, Japan
Akihito Yoshii, Waseda University, Japan
Tatsuo Nakajima, Waseda University, Japan

A Context-Aware Audio Presentation Method in Wearable Computing

Shinichi Yataka, Kobe University, Japan
Kohei Tanaka, Mitsubishi Electric Corporation, Japan
Tsutomu Terada, Kobe University and Japan Science and Technology Agency, Japan
Masahiko Tsukamoto, Kobe University, Japan

Analyzing Different Levels of Geographic Context Awareness in Agent Ferrying over VANETs

Edison Pignaton de Freitas, Halmstad University, Sweden
Tales Heimfarth, Federal University of Lavras, Brazil
Luiz Augusto Guimarães Costa, Federal University of Lavras, Brazil
Armando Morado Ferreira, Military Institute of Engineering, Brazil
Carlos Eduardo Pereira, Federal University of Rio Grande do Sul, Brazil
Flávio Rech Wagner, Federal University of Rio Grande do Sul, Brazil
Tony Larsson, Halmstad University, Sweden

A Probabilistic Context-Aware Approach for Quality of Experience Measurement in Pervasive Systems

Karan Mitra, Monash University, Australia
Arkady Zaslavsky, Lulea University of Technology, Sweden
Christer Åhlund, Lulea University of Technology, Sweden

TUE 2:10 – 3:50

ROOM 4

(SEC-2) Computer Security

Session Chair: Helge Janicke, De Montfort University, United Kingdom

Reliable Protection Against Session Fixation Attacks

Martin Johns, SAP Research, Germany
Bastian Braun, University of Passau, Germany
Michael Schrank, University of Passau, Germany
Joachim Posegga, University of Passau, Germany

High-speed Web Attack Detection through Extracting Exemplars from HTTP Traffic

Wei Wang, Interdisciplinary Centre for Security and Trust, University of Luxembourg, Luxembourg
Xiangliang Zhang, Division of MCSE, KAUST, Saudi Arabia

Efficient Traitor Tracing for Clone Attack in Content Protection

Hongxia Jin, IBM Research Almaden, United States
Jeffrey Lotspiech, IBM Research Almaden, United States

Dynamic Audit Services for Integrity Verification of Outsourced Storages in Clouds

Yan Zhu, Peking University, China
Huaixi Wang, Peking University, China
Zexing Hu, Peking University, China
Gail-Joon Ahn, Arizona State University, United States
Hongxin Hu, Arizona State University, United States
Stephen S. Yau, Arizona State University, United States

TUE 2:10 – 3:50

ROOM 5

(OS-2) Operating Systems

Session Chair: Gwangil Jeon, Korea Polytechnic University, Korea

Virtualizing System and Ordinary Services in Windows-based OS-Level Virtual Machines

Zhiyong Shan, Stony Brook University, Renmin University of China, United States
Tzi-cker Chiueh, Stony Brook University, United States
Xin Wang, Stony Brook University, United States

Power Consumption Scheduling for Peak Load Reduction in Smart Grid Homes

Junghoon Lee, Jeju National University, Korea
Gyung-Leen Park, Jeju National University, Korea
Sang-Wook Kim, Hanyang University, Korea
Hye-Jin Kim, Jeju National University, Korea
Chang Oan Sung, Indiana University Southeast, United States

LSTAFF*: An Efficient Flash Translation Layer for Large Block Flash Memory

Tae-Sun Chung, Ajou University, Korea
Dong-Joo Park, Soongsil University, Korea
Jongik Kim, Chonbuk National University, Korea

Migration Based Page Caching Algorithm for a Hybrid Main Memory of DRAM and PRAM

Hyunchul Seok, KAIST, Korea
Youngwoo Park, KAIST, Korea
Kyu Ho Park, KAIST, Korea

A Data De-duplication Access Framework for Solid State Drives

Chin-Hsien Wu, National Taiwan University of Science and Technology, Taiwan
Hau-Shan Wu, National Taiwan University of Science and Technology, Taiwan

3:50 – 4:20

LEVELS 3 & 4

Coffee Break

TUE 4:20 – 6:00

ROOM 1

(SE-3) Software Engineering

Session Chair: John Kim, Utica College, United States

A Test Suite Reduction Approach Based on Pairwise Interaction of Requirements

Xiang Chen, Nanjing University, China
Lijiu Zhang, Nanjing University, China
Qing Gu, Nanjing University, China
Haigang Zhao, Nanjing University, China
Ziyuan Wang, Nanjing University, China
Xiaobing Sun, Southeast University, China
Daoxu Chen, Nanjing University, China

Identifying Properties of UML State Machine Diagrams that Affect Data and Control Dependence

HyeonJeong Kim, Korea Advanced Institute of Science and Technology, Korea
Vidroha Debroy, University of Texas at Dallas, United States
DooHwan Bae, Korea Advanced Institute of Science and Technology, Korea

A Semantically Rich Approach for Collaborative Model Edition

Jonathan Michaux, LIP6, France
Xavier Blanc, Université de Bordeaux, France
Marc Shapiro, LIP6 & INRIA, France
Pierre Sutra, LIP6, France

On-line Scheduling of Real-Time Services with Profit and Penalty

Shuo Liu, Florida International University, United States
Gang Quan, Florida International University, United States
Shangping Ren, Illinois Institute of Technology, United States

Testing a Binary Space Partitioning Algorithm with Metamorphic Testing

Fei-Ching Kuo, Swinburne University of Technology, Australia
Shuang Liu, Swinburne University of Technology, Australia
T. Y. Chen, Swinburne University of Technology, Australia

TUE 4:20 – 6:00

ROOM 2

(GCR) Geometric Constraints and Reasoning

Session Chair: Dominique Michelucci, CNRS, France

Well-constrained Completion for Under-constrained Geometric Constraint Problem Based on Connectivity Analysis of Graph

Gui-Fang Zhang, Beijing Forestry University, China

A Particle-Spring Approach to Geometric Constraints Solving

Simon E.B. Thierry, Université de Strasbourg, France

Origami Axioms and Circle Extension

Asem Kasem, University of Tsukuba, Japan
Fadoua Ghourabi, University of Tsukuba, Japan
Tetsuo Ida, University of Tsukuba, Japan

TUE 4:20 – 6:00

ROOM 3

(MCA-2) Mobile Computing and Applications

Session Chair: Alvin Chan, The Hong Kong Polytechnic University, Hong Kong

Flocks: Enabling Dynamic Group Interactions in Mobile Social Networking Applications

Elisa Gonzalez Boix, Vrije Universiteit Brussel, Belgium
Andoni Lombide Carreton, Vrije Universiteit Brussel, Belgium
Christophe Scholliers, Vrije Universiteit Brussel, Belgium
Tom Van Cutsem, Vrije Universiteit Brussel, Belgium
Wolfgang De Meuter, Vrije Universiteit Brussel, Belgium
Theo D'Hondt, Vrije Universiteit Brussel, Belgium

Towards Communication-Efficient Private Location Dependent Queries

Keng-Pei Lin, National Taiwan University, Taiwan
Ming-Syan Chen, National Taiwan University, Taiwan

REBIVE: A Reliable Private Data Aggregation Scheme for Wireless Sensor Networks

Farzana Rahman, Marquette University, United States
MD. Endadul Hoque, Marquette University, United States
Sheikh Ahamed, Marquette University, United States

Transmission Reduction between Mobile Phone Applications and RESTful APIs

Chin-Liang Tsai, National Chiao Tung University, Taiwan
Hsiao-Wen Chen, National Chiao Tung University, Taiwan
Jiun-Long Huang, National Chiao Tung University, Taiwan
Chih-Lin Hu, National Central University, Taiwan

TUE 4:20 – 6:00

ROOM 4

(DS) Data Streams

Session Chair: João Gama, LIAAD-University Porto, Portugal

Incremental Multi-Target Model Trees for Data Streams

Elena Ikononovska, Jozef Stefan Institute, Slovenia
Joao Gama, LIAAD-INESC Porto, Portugal
Saso Dzeroski, Jozef Stefan Institute, Slovenia

Learning Recurring Concepts from Data Streams with a Context-aware Ensemble

João Bártolo Gomes, FI-UPM, Spain
Ernestina Menasalvas, FI-UPM, Spain
Pedro Sousa, FCT-UNL, Portugal

Secure Shared Continuous Query Processing

Raman Adaikkalavan, Indiana Univeristy South Bend, United States
Thomas Perez, Indiana Univeristy South Bend, United States

L2GClust: Local-to-Global Clustering of Stream Sources

Pedro Pereira Rodrigues, University of Porto, Portugal
Joao Gama, University of Porto, Portugal
Joao Araujo, University of Porto, Portugal
Luis Lopes, University of Porto, Portugal

TUE 4:20 – 6:00

ROOM 5

(OS-3) Operating Systems

Session Chair: Chaedeok Lim, ETRI, Korea

An Open-System Framework for Flash-Memory Storage System

Jen-Wei Hsieh, National Taiwan University of Science and Technology, Taiwan
Shang-Yang Chang, National Taiwan University of Science and Technology, Taiwan

Adaptive Link Recovery Scheme for Structured Peer-to-peer Networks under Churn

Seokhyun Kim, Seoul National University, Korea
Geunyoung Park, Seoul National University, Korea
Jiman Hong, Soongsil University, Korea
Yookun Cho, Seoul National University, Korea

Supporting Dynamic Update and Resource Protection in an Embedded Operating System

Mei-Ling Chiang, Department of Information Management, National Chi-Nan University, Taiwan
Hsiang-Yu Hsu, Department of Information Management, National Chi-Nan University, Taiwan

Wednesday March 24, 2010

WED. 9:40–12:40 CORRIDOR LEVEL 0

Poster Session I

Posters of the following Tracks: **AB, APGCC, BIO, CF, CISIA, DADS, DS, MCA, EMBS, OS, PADO, RTS, SWA, WT** (see the detailed list of Posters on Page 36-37).

WED 9:00 – 10:40 ROOM 1

(PL) Programming Languages

Session Chair: Marjan Mernik, University of Maribor, Slovenia

Relating Function Spaces to Resourced Function Spaces

Lidia Sánchez-Gil, Universidad Complutense de Madrid, Spain
Mercedes Hidalgo-Herrero, Universidad Complutense de Madrid, Spain
Yolanda Ortega-Mallén, Universidad Complutense de Madrid, Spain

Incremental Concrete Syntax for Embedded Languages

Tom Dinkelaker, TU Darmstadt, Germany
Michael Eichberg, TU Darmstadt, Germany
Mira Mezini, TU Darmstadt, Germany

Large-scale, AST-based API-usage Analysis of Open-source Java projects

Ralf Lämmel, Universität Koblenz-Landau, Germany
Ekaterina Pek, Universität Koblenz-Landau, Germany
Jürgen Starek, Universität Koblenz-Landau, Germany

Core Operational Semantics of Proto

Mirko Viroli, Università di Bologna, Italy
Jacob Beal, BBN Technologies, United States
Matteo Cascadei, Università di Bologna, Italy

A Domain-Specific Language for Managing Feature Models

Mathieu Acher, University of Nice Sophia Antipolis, France
Philippe Collet, University of Nice Sophia Antipolis, France
Philippe Lahire, University of Nice Sophia Antipolis, France
Robert France, Colorado State University, United States

WED 9:00 – 10:40 ROOM 2

(ILE-1) Intelligent/Innovative Learning Environments

Session Chair: Seiji Isotani, Carnegie Mellon University, USA

Positioning a Virtual Teacher in an MR Physical Task Learning Support System

Mamoun Nawahdah, Information and Media Studies, University of Tsukuba, Japan
Tomoo Inoue, Information and Media Studies, University of Tsukuba, Japan

An Agent-Based Architecture for Supporting the Workgroups Creation and the Detection of Out-of-context Conversation on Problem-Based Learning in Virtual Learning Environments

Laysa Mabel de Oliveira Fontes, Rural Federal University of the Semiárid, Brazil
Francisco Milton Mendes Neto, Rural Federal University of the Semiárid, Brazil
Alexandre Ádames Alves Pontes, Rural Federal University of the Semiárid, Brazil
Gustavo Augusto de Lima Campos, State University of Ceará, Brazil

A Cognition-Based Interactive Game Platform for Learning Chinese Characters

Chao-Lin Liu, National Chengchi University, Taiwan
Chia-Ying Lee, Academia Sinica, Taiwan
Jie-Li Tsai, National Chengchi University, Taiwan
Chia-Ling Lee, National Chengchi University, Taiwan

A Solution for Personalized T-learning Applications Integrated with a Web Educational Platform

Douglas Vêras, Federal University of Alagoas, Brazil
Ig Bittencourt, Federal University of Alagoas, Brazil
Heitor Barros, Federal University of Alagoas, Brazil
Marlos Silva, Federal University of Alagoas, Brazil
Evandro Costa, Federal University of Alagoas, Brazil

Leveraging the Dynamics of Learning by Modeling and Managing Psychosocial Relations and Behavior by Means of Game Theory and Memetics

Jairo Celso Simões, Universidade Presbiteriana Mackenzie, Brazil
Nizam Omar, Universidade Presbiteriana Mackenzie, Brazil

Style Avatar: a Visualization System for Teaching C Coding Style

Eun-Kyung Kim, Pusan National University, Republic of Korea
Jeonghoon Ji, Pusan National University, Republic of Korea
Yun-Jung Lee, Pusan National University, Republic of Korea
Gyun Woo, Pusan National University, Republic of Korea

WED 9:00 – 10:40 ROOM 3

(NETS-1) Networking

Session Chair: Prasanthi S, Pusan National University, Korea

A Hough-transform-based Anomaly Detector with an Adaptive Time Interval

Romain Fontugne, The Graduate University for Advanced Studies, Japan
Kensuke Fukuda, The National Institute of Informatics, Japan

Modeling the Dynamics of Caching in Content-based Publish/Subscribe Systems

Vasilis Sourlas, University of Thessaly, Greece. CERTH-ITI, Greece
Georgios S. Paschos, University of Thessaly, Greece. CERTH-ITI, Greece
Petteri Mannersalo, VTT Technical Research Center of Finland, Finland
Paris Flegkas, University of Thessaly, Greece. CERTH-ITI, Greece
Leandros Tassioulas, University of Thessaly, Greece. CERTH-ITI, Greece

Novel Processor Architecture For Modified Advanced Routing in NGN

Marija Kalendar, Faculty of Electrical Engineering and Information Technologies, Ss. Cyril and Methodius University, Republic of Macedonia
Danijela Jakimovska, Faculty of Electrical Engineering and Information Technologies, Ss. Cyril and Methodius University, Republic of Macedonia
Aristotel Tentov, Faculty of Electrical Engineering and Information Technologies, Ss. Cyril and Methodius University, Republic of Macedonia
Goce Dokoski, Seavus. R. Macedonia, Republic of Macedonia

Policy-driven Network Simulation: a Resilience Case Study

Alberto Schaeffer-Filho, Lancaster University, United Kingdom
Paul Smith, Lancaster University, United Kingdom
Andreas Mauthe, Lancaster University, United Kingdom

WED 9:00 – 10:40 ROOM 4

(MMV-1) Multimedia and Visualization

Session Chair: Ethan Munson, University of Wisconsin-Milwaukee, United States

Improving 3D Navigation in Multiscale Environments Using Cubemap-based Techniques

Daniel Ribeiro Trindade, Pontifical Catholic University of Rio de Janeiro, Brazil
Alberto Barbosa Raposo, Pontifical Catholic University of Rio de Janeiro, Brazil

MusCat: A Music Browser Featuring Abstract Pictures and Zooming User Interface

Kaori Kusama, Ochanomizu University, Japan
Takayuki Itoh, Ochanomizu University, Japan

A Web-based Photo Management System for Large Photo Collections with User-Customizable Quality Assessment

Dong-Sung Ryu, Pusan National University, Korea
Kwang Hwi Kim, Pusan National University, Korea
Sun-Young Park, Pusan National University, Korea
Hwan-Gue Cho, Pusan National University, Korea

Composition of HCI Evaluation Methods for Hybrid Virtual Environments

Marcus Alencar, Tecgraf/PUC-Rio, Brazil
Alberto Raposo, Tecgraf/PUC-Rio, Brazil
Simone Barbosa, PUC-Rio, Brazil

WED 9:00 – 10:40 ROOM 5

(RE-1) Requirements Engineering

Session Chair: Maria Lencastre, Universidade de Pernambuco, Brazil

Requirements Trade-offs Analysis in the Absence of Quantitative Measures: A Heuristic Method

Golnaz Elahi, Department of Computer Science, University of Toronto, Canada
Eric Yu, Faculty of Information, University of Toronto, Canada

Consolidating Multiple Requirement Specifications through Argumentation

Ebrahim Bagheri, AthabascaU and National Research Council Canada, Canada
Faezeh Ensan, University of New Brunswick, Canada

Aspect-Oriented Analysis for Software Product Lines Requirements Engineering

Patricia Varela, FCT/UNL, Portugal
Joao Araujo, FCT/UNL, Portugal
Isabel Brito, Instituto Politécnico de Beja, Portugal
Ana Moreira, FCT/UNL, Portugal

Analyzing Goal Models – Different Approaches and How to Choose Among Them

Jennifer Horkoff, Department of Computer Science, University of Toronto, Canada
Eric Yu, Faculty of Information, University of Toronto, Canada

Conditional Preferences in Software Stakeholders' Judgments

Ivana Ognjanovic, University Mediterranean, Montenegro
Dragan Gasevic, Athabasca University, Canada
Ebrahim Bagheri, Athabasca University, Canada
Mohsen Asadi, Athabasca University, Simon Fraser University, Canada

**10:40 – 11:10 LEVELS 3 & 4
Coffee Break**

WED 11:10 – 12:50 ROOM 1

(CSP) Constraint Solving and Programming

Session Chair: Stefano Bistarelli, Università di Perugia, Italy and IIT-CNR Pisa Italy

Improving CP-based Local Branching via Sliced Neighborhood Search

Fabio Parisini, University of Bologna, DEIS, Italy
Michela Milano, University of Bologna, DEIS, Italy

An Efficient Generic Network Flow Constraint

Robin Steiger, EPFL, Switzerland
Willem-Jan van Hoeve, Carnegie Mellon University, United States
Radoslaw Szymanek, EPFL, Switzerland

Optimal Stopping Methods for Finding High Quality Solutions to Satisfiability Problems with Preferences

Emanuele Di Rosa, DIST - University of Genoa, Italy
Enrico Giunchiglia, DIST - University of Genoa, Italy
Barry O'Sullivan, Cork Constraint Computation Centre (4C) - University College Cork, Ireland

Combination: Automated Generation of Puzzles with Constraints

Christopher Jefferson, University of St Andrews, United Kingdom
Wendy Moncur, University of Aberdeen, United Kingdom
Karen Petrie, University of Dundee, United Kingdom

Finding Partitions of Arguments with Dung's Properties via SCSPs

Stefano Bistarelli, Dipartimento Matematica e Informatica, Università di Perugia, Italy
Paola Campi, Dipartimento di Scienze, Università di Pescara, Italy
Francesco Santini, Dipartimento di Matematica e Informatica, Università di Perugia, Italy

WED 11:10 – 11:30 ROOM 2

(ILE-2) Intelligent/Innovative Learning Environments

Session Chair: Seiji Isotani, Carnegie Mellon University, USA

Towards the Establishment of Supporting Mechanisms for Modeling and Generating Educational Content

Vanessa Araujo Borges, University of São Paulo, Brazil
José Carlos Maldonado, University of São Paulo, Brazil
Ellen Francine Barbosa, University of São Paulo, Brazil

WED 11:30 – 12:50 ROOM 2

(ROBOT) Intelligent Robotic Systems

Session Chair: Denis Wolf, University of Sao Paulo, Brazil

ID* Lite: Improved D* Lite Algorithm

Weiya Yue, Univ. of Cincinnati, United States
John Franco, Univ. of Cincinnati, United States
Weiwei Cao, Graduate University of Chinese Academy of Sciences, China
Hongwei Yue, Guangdong University of Technology, China

Integrated PSO and Line based Representation Approach for SLAM

Mohammad Reza Mohammadi, Islamic Azad University Qazvin Branch, Iran
Saeed Shiry Ghidary, Amirkabir University of Technology, Iran

Template-based Autonomous Navigation in Urban Environments

Jefferson Souza, University of Sao Paulo, Brazil
Daniel Sales, University of Sao Paulo, Brazil
Patrick Shinzato, University of Sao Paulo, Brazil
Fernando Osório, University of Sao Paulo, Brazil
Denis Wolf, University of Sao Paulo, Brazil

Incremental Feature-Based Mapping from Sonar Data using Gaussian Mixture Models

Milton Heinen, UFRGS, Brazil
Paulo Engel, UFRGS, Brazil

WED 11:10 – 12:50 ROOM 3

(NETS-2) Networking

Session Chair: Romain Fontugne, The Graduate University for Advanced Studies, Japan

A New TCP Mechanism for Reducing Retransmission Timeouts over Multi-hop Wireless Networks

Prasanthi S, Pusan National University, Korea
Sang-Hwa Chung, Pusan National University, Korea

HDOV - An Overlay Network for Wide Area Spatial Data Collection

Yuuichi Teranishi, Osaka University, Japan
Susumu Takeuchi, NICT, Japan
Kaname Harumoto, Osaka University, Japan

Improving Matching Performance of DPI Traffic Classifier

Tingwen Liu, Institute of Computing Technology, Chinese Academy of Sciences, China
Yong Sun, Institute of Computing Technology, Chinese Academy of Sciences, China
Li Guo, Institute of Computing Technology, Chinese Academy of Sciences, China
Binxing Fang, Institute of Computing Technology, Chinese Academy of Sciences, China

CluB: A Cluster Based Framework for Mitigating Distributed Denial of Service Attacks

Zhang Fu, Chalmers University of Technology, Sweden
Marina Papatriantafidou, Chalmers University of Technology, Sweden
Philippas Tsigas, Chalmers University of Technology, Sweden

WED 11:10 – 12:50 ROOM 4

(MMV-2) Multimedia and Visualization

Session Chair: Ethan Munson, University of Wisconsin-

A Personal Photograph Browser for Life Log Analysis based on Location, Time, and Person

Ai Gomi, Ochanomizu University, Japan
Takayuki Itoh, Ochanomizu University, Japan

A Multimodal Interaction Component for Digital Television

Diogo Pedrosa, ICMC - USP, Brazil
José Augusto C. Martins Jr., ICMC - USP, Brazil
Erick L. Melo, UFSCar, Brazil
Cesar A. C. Teixeira, UFSCar, Brazil

Considering Non-functional Aspects in the Design of Hypermedia Authoring Tools

Bruno Lima, Pontifical Catholic University of Rio de Janeiro, Brazil
Luiz Soares, Pontifical Catholic University of Rio de Janeiro, Brazil
Marcelo Moreno, Pontifical Catholic University of Rio de Janeiro, Brazil

Media-oriented Operators for Authoring Interactive Multimedia Documents Generated from Capture Sessions

Didier Augusto Vega-Oliveros, Universidade de Sao Paulo, Brazil
Diogo Santana Martins, Universidade de Sao Paulo, Brazil
Maria da Graça Campos Pimentel, Universidade de Sao Paulo, Brazil

WED 11:10 – 12:00 **ROOM 5**

(RE-2) Requirements Engineering

Session Chair: Maria Lencastre, Universidade de Pernambuco,

Goal-Driven Software Product Line Engineering

Mohsen Asadi, Simon Fraser University, Canada
Ebrahim Bagheri, Athabasca University, Canada
Dragan Gasevic, Athabasca University, Canada
Marek Hatala, Simon Fraser University, Canada
Bardia Mohabbati, Simon Fraser University, Canada

STREAM: An Strategy for Transition between Requirements Models and Architectural Models

Marcia Lucena, UFRN, Brazil
Jaelson Castro, UFPE, Brazil
Carla Silva, UFPB, Brazil
Fernanda Alencar, UFPE, Brazil
Emanuel Santos, UFPE, Brazil

WED 12:00 – 12:50 **ROOM 5**

(PADO) Green/Power-Aware Design and Optimization

Session Chair: Jian-Jia Chen, Karlsruhe Institute of Technology (KIT), Germany

Energy-Efficient Scheduling for Parallel Real-Time Tasks Based on Level-Packing

Fanxin Kong, Dept. of Computer Science & Technology, Northeastern University, China
Nan Guan, Dept. of Information Technology, Uppsala University, Sweden

Qingxu Deng, Dept. of Computer Science & Technology, Northeastern University, China
Wang Yi, Dept. of Information Technology, Uppsala University, Sweden

A System Context-Aware Approach for Battery Lifetime Prediction in Smart Phones

Xia Zhao, Peking University, China
Yao Guo, Peking University, China
Qing Feng, Peking University, China
Xiangqun Chen, Peking University, China

12:50 – 2:10 **LEVELS 0 & 2**

Lunch Break

WED. 2:40 – 5:40 **CORRIDOR LEVEL 0**

Poster Session II

Posters of the following Tracks: *CM, CSP, DE, DM, DTTA, EC, EE, IAR, ILE, MESC, OOPS, PL, PSC, SE, SOAP* (see the detailed list of Posters on Page 39).

WED 2:10 – 2:50 **ROOM 1**

(PSC) Programming for Separation of Concerns

Session Chair: Emiliano Tramontana, University of Catania, Italy

Change-based FODA Diagrams: Bridging the Gap Between Feature-oriented Design and Implementation

Peter Ebraert, Universiteit Antwerpen, Belgium
Quinten David Soetens, Universiteit Antwerpen, Belgium
Dirk Janssens, Universiteit Antwerpen, Belgium

Distributed Dynamic Weaving is a Crosscutting Concern

Michihiro Horie, Tokyo Institute of Technology, Japan
Satoshi Morita, Tokyo Institute of Technology, Japan
Shigeru Chiba, Tokyo Institute of Technology, Japan

WED 2:50 – 3:50

ROOM 1

(OOPS) Object Oriented Programming Languages and Systems

Session Chair: Andy Kellens, Vrije Universiteit Brussel, Belgium

REME-D: a Reflective, Epidemic Message-Oriented Debugger for Ambient-Oriented Applications

Elisa Gonzalez Boix, Vrije Universiteit Brussel, Belgium
Carlos Noguera, Vrije Universiteit Brussel, Belgium
Tom Van Cutsem, Vrije Universiteit Brussel, Belgium
Wolfgang De Meuter, Vrije Universiteit Brussel, Belgium
Theo D'Hondt, Vrije Universiteit Brussel, Belgium

Type Harvesting: A Practical Approach to Obtaining Typing Information in Dynamic Programming Languages

Michael Haupt, Hasso Plattner Institute, University of Potsdam, Germany
Michael Perscheid, Hasso Plattner Institute, University of Potsdam, Germany
Robert Hirschfeld, Hasso Plattner Institute, University of Potsdam, Germany

FortressCheck: Automatic Testing for Generic Properties

Seonghoon Kang, KAIST, Korea
Sukyoungh Ryu, KAIST, Korea

WED 2:10 – 3:30

ROOM 2

(TRECK) Trust, Reputation, Evidence and other Collaboration Know-How

Session Chair: Jean-Marc Seigneur, University of Geneva, Switzerland

Verification of Data Pattern for Interactive Privacy Preservation Model

Sujoy Ray, Concordia University, Canada
Mohammad Fahim Nizam, Concordia University, Canada
Swagata Das, Concordia University, Canada
Benjamin C. M. Fung, Concordia University, Canada

ImageAlert: Credibility Analysis of Text-image Pairs on the Web

Yusuke Yamamoto, Kyoto University, Japan
Katsumi Tanaka, Kyoto University, Japan

Hierarchical Trust Management for Wireless Sensor Networks and Its Application to Trust-Based Routing

Fenye Bao, Virginia Tech, United States
Ing-Ray Chen, Virginia Tech, United States
Moonjeong Chang, Virginia Tech, United States
Jin-Hee Cho, U.S. Army Research Laboratory, United States

A Formal Approach Towards Measuring Trust in Distributed Systems

Guido Schryen, RWTH Aachen, Germany
Melanie Volkamer, TU Darmstadt, Germany
Sebastian Ries, TU Darmstadt, Germany

WED 3:30 – 3:50

ROOM 2

(SWA-1) Semantic Web and its Application

Session Chair: Flavius Frasinca, Erasmus University, Netherlands

A Method for the Classification of Folksonomy Resources

Francisco Echarte, Universidad Publica de Navarra, Spain
Jose Javier Astrain, Universidad Publica de Navarra, Spain
Alberto Cordoba, Universidad Publica de Navarra, Spain
Jesus Villadangos, Universidad Publica de Navarra, Spain
Aritz Labat, Universidad Publica de Navarra, Spain

WED 2:10 – 3:50

ROOM 3

(EMBS-1) Embedded Systems: Applications, Solutions, and Techniques

Session Chair: Li-Pin Chang, National Chiao-Tung University, Hsinchu, Taiwan

Design Issues in Composition Kernels for Highly Functional Embedded Systems

Hiromasa Shimada, Department of Computer Science, Waseda University, Japan
Yuki Kinebuchi, Department of Computer Science, Waseda University, Japan
Tsungh-Han Lin, Department of Computer Science, Waseda University, Japan
Alexandre Courbot, Department of Computer Science, Waseda University, Japan
Tatsuo Nakajima, Department of Computer Science, Waseda University, Japan

CAVE: Channel-Aware Buffer Management Scheme for Solid State Disk

Sung Kyu Park, KAIST, Korea
Youngwoo Park, KAIST, Korea
Gyudong Shim, KAIST, Korea
Kyu Ho Park, KAIST, Korea

System-level Co-simulation of Integrated Avionics Using Polychrony

Huafeng Yu, INRIA Rennes - Bretagne Atlantique/IRISA, France
Yue Ma, INRIA Rennes - Bretagne Atlantique/IRISA, France
Yann Glouche, INRIA Rennes - Bretagne Atlantique/IRISA, France
Jean-Pierre Talpin, INRIA Rennes - Bretagne Atlantique/IRISA, France
Loic Besnard, IRISA/CNRS, France
Thierry Gautier, INRIA Rennes - Bretagne Atlantique/IRISA, France
Paul Le Guernic, INRIA Rennes - Bretagne Atlantique/IRISA, France
Andres Toom, IRIT, Université de Toulouse, France
Odile Laurent, Airbus, France

Sector Log: Fine-Grained Storage Management for Solid State Drives

Seongwook Jin, KAIST, Korea
Jaehong Kim, KAIST, Korea
Jaeyeuk Kim, KAIST, Korea
Jaehyuk Huh, KAIST, Korea
Seungryoul Maeng, KAIST, Korea

WED 2:10 – 3:50

ROOM 4

(IAR-1) Information Access and Retrieval

Session Chair: Gloria Bordogna, CNR, Italy

On Three Fuzzy Connectives for Flexible Data Retrieval and their Axiomatization

Patrick Bosc, IriSa-Enssat, France
Olivier Pivert, IriSa-Enssat, France

Relevance Stability in Blog Retrieval

Mostafa Keikha, University of Lugano, Switzerland
Shima Gerani, University of Lugano, Switzerland
Fabio Crestani, University of Lugano, Switzerland

Performance and Perceptions of Human Computation Games for Image Tagging

Dion Goh, Nanyang Technological University, Singapore
Chei Sian Lee, Nanyang Technological University, Singapore
Alton Chua, Nanyang Technological University, Singapore

Hierarchical Comments-Based Clustering

Chiao-Fang Hsu, Texas A&M University, United States
James Caverlee, Texas A&M University, United States
Elham Khabiri, Texas A&M University, United States

WED 2:10 – 3:30

ROOM 5

(DE) Document Engineering

Session Chair: Rafael Lins, Universidade Federal de Pernambuco, Brazil

Massive Character Recognition with a Large Ground-Truthed Database

Wenjie Cai, O-RID Company, Japan
Yaokai Feng, Kyushu University, Japan
Seiichi Uchida, Kyushu University, Japan

Pixel Accurate Document Image Content Extraction

Siyuan Chen, Computer Science and Engineering Department, Lehigh University, United States
Henry Baird, Computer Science and Engineering Department, Lehigh University, United States

Multi-Document Summarization of Scientific Corpora

Ozge Yeloglu, Dalhousie University, Canada
Evangelos Milios, Dalhousie University, Canada
A. Nur Zincir-Heywood, Dalhousie University, Canada

A New Algorithm for Segmenting Warped Text-lines in Document Images

Daniel Oliveira, UFPE, Brazil
Rafael Lins, UFPE, Brazil
Gabriel Torreão, UFPE, Brazil
Jian Fan, HP Labs, United States
Marcelo Thielo, Hewlett-Packard, Brazil

WED 3:30 – 3:50

ROOM 5

(RTS-1) Real-Time Systems

Session Chair: Paulo Martins, Chaminade University, USA

A Statistical Approach to Simulation Model Validation in Response-Time Analysis of Complex Real-Time Embedded Systems

Yue Lu, Mälardalen Real-Time Research Centre, Sweden
Johan Kraft, Mälardalen Real-Time Research Centre, Sweden
Thomas Nolte, Mälardalen Real-Time Research Centre, Sweden
Iain Bate, University of York, United Kingdom

3:50 – 4:20

LEVELS 3 & 4

Coffee Break

WED 4:20 – 6:00

ROOM 1

(CM) Coordination Models, Languages and Applications

Session Chair: Matteo Casadei, Università di Bologna, Italy

Optimistic Access Control for Distributed Collaborative Editors

Asma Cherif, Loria, France
Abdessamad Imine, Loria, France
Michael Rusinowitch, Loria, France

Description Spaces with Fuzziness

Elena Nardini, Alma Mater Studiorum - Università di Bologna, Italy
Andrea Omicini, Alma Mater Studiorum - Università di Bologna, Italy
Mirko Viroli, Alma Mater Studiorum - Università di Bologna, Italy

Executable Model Composition - A Multilevel Approach

Carlos Rodríguez, Universidad de los Andes, Colombia
Mario Sánchez, Universidad de los Andes, Colombia
Jorge Villalobos, Universidad de los Andes, Colombia

WED 4:20 – 6:00

ROOM 2

(SWA-2) Semantic Web and its Application

Session Chair: Sven Groppe, University of Lübeck, Germany

Parallelizing Join Computations of SPARQL Queries for Large Semantic Web Databases

Jinghua Groppe, University of Lübeck, Germany

Sven Groppe, University of Lübeck, Germany

Ontologizing Concept Maps using Graph Theory

Amal Zouaq, Simon Fraser University, Canada
Dragan Gasevic, Athabasca University, Canada
Marek Hatala, Simon Fraser University, Canada

A Semantic Clustering-Based Approach for Searching and Browsing Tag Spaces

Damir Vandić, Erasmus University Rotterdam, Netherlands
Jan-Willem van Dam, Erasmus University Rotterdam, Netherlands
Frederik Hogenboom, Erasmus University Rotterdam, Netherlands
Flavius Frasinca, Erasmus University Rotterdam, Netherlands

Context-aware Replacement Operations for Data Cleaning

Stefan Brüggemann, OFFIS e.V., Germany
H.-Jürgen Appelrath, University of Oldenburg, Germany

Knowledge Representation and Reasoning of XML with Ontology

Fu Zhang, Northeastern University, China
Li Yan, Northeastern University, China
Z. M. Ma, Northeastern University, China
Jingwei Cheng, Northeastern University, China

WED 4:20 – 6:00

ROOM 3

(EMBS-2) Embedded Systems: Applications, Solutions, and Techniques

Session Chair: Jung-Chun Liu, Tunghai University, Taichung, Taiwan

Fixed-Point Implementation of Isolated Sub-Word Level Speech Recognition Using Hidden Markov Models

Venkatesh N, Innovation Labs, Tata Consultancy Services, India
Ruchir Gulati, Innovation Labs, Tata Consultancy Services, India
Rajeev Bhujade, Innovation Labs, Tata Consultancy Services, India
Girish Chandra M, Innovation Labs, Tata Consultancy Services, India

A Lifespan-aware Reliability Scheme for RAID-based Flash Storage

Sehwan Lee, Seoul National University, Korea
Bitna Lee, Seoul National University, Korea
Kern Koh, Seoul National University, Korea
Hyokyung Bahn, Ewha University, Korea

I4Copter: An Adaptable and Modular Quadrotor Platform

Peter Ulbrich, Friedrich-Alexander University Erlangen-Nuremberg, Germany
Rüdiger Kapitza, Friedrich-Alexander University Erlangen-Nuremberg, Germany
Christian Harkort, Friedrich-Alexander University Erlangen-Nuremberg, Germany
Reiner Schmid, Siemens Corporate Technology, Germany
Wolfgang Schröder-Preikschat, Friedrich-Alexander University Erlangen-Nuremberg, Germany

Fuzzing the Out-of-Memory Killer on Embedded Linux: An Adaptive Random Approach

K.Y. Sim, Swinburne University of Technology, Sarawak Campus, Malaysia
F.-C. Kuo, Swinburne University of Technology, Australia
R. Merkel, Swinburne University of Technology, Australia

WED 4:20 – 6:00

ROOM 4

(IAR-2) Information Access and Retrieval

Session Chair: Gloria Bordogna, CNR, Italy

A Bayesian Network Approach to Context Sensitive Query Expansion

Zheng Ye, York University, Canada
Xiangji Huang, York University, Canada
Hongfei Lin, Dalian University of Technology, China

Interactive Feature Selection for Document Clustering

Yeming Hu, Dalhousie University, Canada
Evangelos Milios, Dalhousie University, Canada
James Blustein, Dalhousie University, Canada

Calculating Content Recency based on Timestamped and Non-Timestamped Sources for Supporting Page Quality Estimation

Adam Jatowt, Kyoto University, Japan
Yukiko Kawai, Kyoto Sangyo University, Japan
Katsumi Tanaka, Kyoto University, Japan

Biomedical Concept Extraction based on Combining the Content-based and Word Order Similarities

Duy Dinh, University of Toulouse, France
Lynda Tamine, University of Toulouse, France

WED 4:20 – 6:00

ROOM 5

(RTS-2) Real-Time Systems

Session Chair: Paulo Martins, Chaminade University, USA

From Nonpreemptive to Preemptive Scheduling - From Single-Processor to Multi-Processor

Mohammad Mahdi Jaghoori, LIACS and CWI, The Netherlands, Netherlands

Stack Distance Based Worst-Case Instruction Cache Performance Analysis

Yu Liu, Southern Illinois University Carbondale, United States
Wei Zhang, Virginia Commonwealth University, United States

Fault Tolerance Evaluation and Schedulability Analysis

Florian Many, ONERA, France
David Doose, ONERA, France

Multiprocessor Schedulability Analyser

Mikel Cordovilla, ONERA, France
Frédéric Boniol, ONERA, France
Eric Noulard, ONERA, France
Claire Pagetti, ONERA, France

**Handling Overload of Target Sensitive Real-time
Applications for Increased System Utility and
Improved Resource Usage**

Raphael Guerra, Technische Universität Kaiserslautern,
Germany

Gerhard Fohler, Technische Universität Kaiserslautern, Germany

Thursday March 25, 2011

THU 9:00 – 10:40 ROOM 1

(SOAP-1) Service Oriented Architecture and Programming

Session Chair: Ivan Lanese, Università di Bologna, Italy

Measuring the Compatibility of Service Interaction Protocols

Meriem Ouederni, University of Malaga, Spain
Gwen Salaun, INRIA, France
Ernesto Pimentel, University of Malaga, Spain

Adaptive Provisioning of Human Expertise in Service-oriented Systems

Florian Skopik, Vienna University of Technology, Austria
Daniel Schall, Vienna University of Technology, Austria
Harald Psailer, Vienna University of Technology, Austria
Schahram Dustdar, Vienna University of Technology, Austria

Planning Service Agreements in SOA-Based Systems through Stochastic Models

Marcelo Teixeira, Federal University of Pernambuco, Brazil
Ricardo Massa, Federal University of Pernambuco, Brazil
Cesar Oliveira, Federal University of Pernambuco, Brazil
Paulo Maciel, Federal University of Pernambuco, Brazil

Advanced Service Monitoring Configurations with SLA Decomposition and Selection

Howard Foster, City University London, United Kingdom
George Spanoudakis, City University London, United Kingdom

THU 9:00 – 10:40 ROOM 2

(BIO) Bioinformatics

Session Chair: Dan Tulpan, Institute for Information Technology, Canada

BioTRON: A Biological Workflow Management System

Valeria Fionda, Free University of Bolzano-Bozen, Italy
Giuseppe Pirrò, INRIA - Grenoble, France

Efficient Clustering of Populations Using a Minimal SNP Panel

Mahdi Belcaid, University of Hawaii Manoa, United States
Kyungim Baek, University of Hawaii Manoa, United States
David S. Haymer, University of Hawaii Manoa, United States
Guylaine Poisson, University of Hawaii Manoa, United States

Rapid Computation of Distance Estimators from Nucleotide and Amino Acid Alignments

Martin Simonsen, Bioinformatics Research Centre, Denmark

Christian Nørgaard Strom Pedersen, Bioinformatics Research Centre, Denmark

Classifying Microarray Data with Association Rules

Luiza Antonie, University of Guelph, Canada
Kyrylo Bessonov, University of Guelph, Canada

Machine Classification of Melanoma and Nevi from Skin Lesions

John David Osborne, The University of Alabama at Birmingham, United States
Song Gao, The University of Alabama at Birmingham, United States
Wei-Bang Chen, The University of Alabama at Birmingham, United States
Aleodor Andea, The University of Alabama at Birmingham, United States
Chengcui Zhang, The University of Alabama at Birmingham, United States

THU 9:00 – 10:40 ROOM 3

(WT-1) Web Technologies

Session Chair: Davide Rossi, University of Bologna, Italy

Search-Logger -- Analyzing Exploratory Search Tasks

Georg Singer, University of Tartu, Estonia
Ulrich Norbisrath, University of Tartu, Estonia
Eero Vainikko, University of Tartu, Estonia
Hannu Kikkas, University of Tartu, Estonia
Dirk Lewandowski, Hamburg University of Applied Sciences, Germany

Game Vendors' Influence on the Monetary Value of Virtual Goods

Tim A. Majchrzak, University of Muenster, Germany
Kay F. Hildebrand, University of Muenster, Germany

A Framework for Automatic Annotation of Web Pages Using the Google Rich Snippets Vocabulary

Jeroen van der Meer, Erasmus University Rotterdam, Netherlands
Ferry Boon, Erasmus University Rotterdam, Netherlands
Frederik Hogenboom, Erasmus University Rotterdam, Netherlands
Flavius Frascar, Erasmus University Rotterdam, Netherlands
Uzay Kaymak, Erasmus University Rotterdam, Netherlands

Analyzing a Korean Blogosphere: A Social Network Analysis Perspective

Jiwoon Ha, Hanyang University, Korea
Duck-Ho Bae, Hanyang University, Korea
Sang-Wook Kim, Hanyang University, Korea
Seok-Chul Baek, NHN Corp., Korea
Byeong-Soo Jeong, Kyung Hee University, Korea

Extending Timestamp-Based Two Phase Commit Protocol for RESTful Services to Meet Business Rules

Luiz Alexandre Hiane da Silva Maciel, ITA, Brazil
Celso Massaki Hirata, ITA, Brazil

THU 9:00 – 10:40 **ROOM 4**
(DTTA-1) Database Theory, Technology, and Applications

Session Chair: Junping Sun, Nova Southeastern University, USA

Site-Autonomous Distributed Semantic Caching

Norvald Ryeng, NTNU, Norway
Jon Olav Hauglid, NTNU, Norway
Kjetil Norvag, NTNU, Norway

Voronoi-based Range Query for Trajectory Data in Spatial Networks

Shen Liu, Zhejiang University, China
Ling Chen, Zhejiang University, China
Gencai Chen, Zhejiang University, China

A Fast Approach for Parallel Deduplication on Multicore Processors

Guilherme Dal Bianco, UFRGS, Brazil
Renata Galante, UFRGS, Brazil
Carlos A. Heuser, UFRGS, Brazil

Top-k Service Compositions: A Fuzzy Set-Based Approach

Karim Benouaret, Lyon 1 University, France
Djamal Benslimane, Lyon 1 University, France
Allel Hadjali, University of Rennes 1, France

Determinacy and Rewriting of Conjunctive Queries Over Unary Database Schemas

Lixiao Zheng, Institute of Software Chinese Academy of Sciences, China
Haiming Chen, Institute of Software Chinese Academy of Sciences, China

THU 9:00 – 10:40 **ROOM 5**

(EE-1) Enterprise Engineering

Session Chair: Artur Caetano, IST, Technical University of Lisbon, Portugal

An Empirical Comparison of Static and Dynamic Business Process Mining

Ricardo Pérez-Castillo, Alarcos Research Group, University of Castilla-La Mancha, Spain
Ignacio García-Rodríguez de Guzmán, Alarcos Research Group, University of Castilla-La Mancha, Spain
Mario Piattini, Alarcos Research Group, University of Castilla-La Mancha, Spain
Barbara Weber, University of Innsbruck, Austria
Ángeles S. Places, Universidade da Coruña, Spain

Process Performance Management – Illuminating Design Issues through a Systematic Problem Analysis

Anne Clevén, University of St. Gallen, Switzerland
Robert Winter, University of St. Gallen, Switzerland
Felix Wortmann, University of St. Gallen, Switzerland

Efficiency Evaluation of Open Source ETL Tools

Tim A. Majchrzak, University of Muenster, Germany
Tobias Jansen, SHS VIVEON AG, Germany
Herbert Kuchen, University of Muenster, Germany

Slipstream - Architecture Options for Real-Time Process Analytics

Christian Janiesch, SAP Research, Australia
Martin Matzner, ERCIS, Germany
Oliver Mueller, ERCIS, Germany
Robert Vollmer, SAP AG, Germany
Joerg Becker, ERCIS, Germany

10:40 – 11:10 **LEVELS 0 & 2**
Coffee Break

THU 11:10 – 12:50 **ROOM 1**

(SOAP-2) Service Oriented Architecture and Programming

Session Chair: Manuel Mazzara, Newcastle University, UK

WS-Aggregation: Distributed Aggregation of Web Services Data

Waldemar Hummer, Distributed Systems Group, Vienna University of Technology, Austria
Philipp Leitner, Distributed Systems Group, Vienna University of Technology, Austria
Schahram Dustdar, Distributed Systems Group, Vienna University of Technology, Austria

Modeling Behavioral RESTful Web Service Interfaces in UML

Ivan Porres, Åbo Akademi University, Turku, Finland
Irum Rauf, Åbo Akademi University, Turku, Finland

Development and Configuration of Service-Oriented Systems Families

Bardia Mohabbati, Simon Fraser University, Canada
Marek Hatala, Simon Fraser University, Canada
Dragan Gasevic, Athabasca University, Canada
Mohsen Asadi, Simon Fraser University, Canada
Marko Boskovic, Athabasca University, Canada

Configurable SOAP Proxy Cache for Data Provisioning Web Services

Peep Kungas, Software Technology and Applications Competence Center, Estonia
Marlon Dumas, University of Tartu, Estonia

THU 11:10 – 11:50 **ROOM 2**

(ASIIS) Advances in Spatial and Image-based Information Systems

Session Chair: Richard Chbeir, University of Bourgogne, France

Spatial Network Modeling for Databases

Virupaksha Kanjilal, University of Florida, United States
Markus Schneider, University of Florida, United States

Tracking Continuous Topological Changes of Complex Moving Regions

Hechen Liu, University of Florida, United States
Markus Schneider, University of Florida, United States

THU 11:50 – 12:50 ROOM 2

(CISIA) Computational Intelligence and Signal and Image Analysis

Session Chair: Agostinho Rosa, Technical University of Lisbon, Portugal

Improving Handwritten Keyword Spotting with Self-Training

Volkmar Frinken, Institute for Computer Science and Applied Mathematics, University of Bern, Switzerland
Andreas Fischer, Institute for Computer Science and Applied Mathematics, University of Bern, Switzerland
Horst Bunke, Institute for Computer Science and Applied Mathematics, University of Bern, Switzerland

An Event-based Video Retrieval System by Combining Broadcasting Baseball Video and Web-casting Text

Yin-Fu Huang, National Yunlin University of Science and Technology, Taiwan
Li-Wen Chen, National Yunlin University of Science and Technology, Taiwan

Image Segmentation of Cervical Vertebra in X-Ray Radiographs Using the Curve Fitting Strategy

Huaifei Hu, Huazhong University of Science and Technology, China
Hong Liu, Huazhong University of Science and Technology, China
Lili Chen, Huazhong University of Science and Technology, China
Chih-Cheng Hung, Southern Polytechnic State University, United States
Xiangyang Xu, Huazhong University of Science and Technology, China
Zhicong Lan, Huazhong University of Science and Technology, China

THU 11:10 – 12:50 ROOM 3

(WT-2) Web Technologies

Session Chair: Davide Rossi, University of Bologna, Italy

Visualizing Dispute Sections and Relations from the Sequence of Replying Comments

Yun-Jung Lee, Dept. of Computer Engineering Pusan National University, Korea
Eun-Kyung Kim, Dept. of Computer Engineering Pusan National University, Korea
Hwan-Gue Cho, Dept. of Computer Engineering Pusan National University, Korea
Gyun Woo, Dept. of Computer Engineering Pusan National University, Korea

Bridging Socially-Enhanced Virtual Communities

Daniel Schall, Vienna University of Technology, Austria
Florian Skopik, Vienna University of Technology, Austria
Harald Psailer, Vienna University of Technology, Austria

Schahram Dustdar, Vienna University of Technology, Austria

Transforming the Web into a Real Application Platform: New Technologies, Emerging Trends and Missing Pieces

Matti Anttonen, Tampere University of Technology, Finland
Arto Salminen, Tampere University of Technology, Finland
Tommi Mikkonen, Tampere University of Technology, Finland
Antero Taivalsaari, Nokia Research Center, Finland

Understanding and Improving Wikipedia Article Discussion Spaces

Jodi Schneider, National University of Ireland, Galway, Ireland
Alexandre Passant, National University of Ireland, Galway, Ireland
John G. Breslin, National University of Ireland, Galway, Ireland

An Integrated Approach to Discover Tag Semantics

Antonina Dattolo, University of Udine, Italy
Davide Eynard, USI - University of Lugano, Switzerland
Luca Mazzola, USI - University of Lugano, Switzerland

THU 11:10 – 11:50 ROOM 4

(DTTA-2) Database Theory, Technology, and Applications

Session Chair: Junping Sun, Nova Southeastern University, USA

Efficient Top-K Retrieval for User Preference Queries

Claus Dabringer, Alps Adria University Klagenfurt, Austria
Johann Eder, Alps Adria University Klagenfurt, Austria

Computing Subgraph Isomorphic Queries using Structural Unification and Minimum Graph Structures

Hasan Jamil, Wayne State University, United States

THU 11:50 – 12:50 ROOM 4

(CF) Computer Forensics

Session Chair: Lorie M. Liebrock, New Mexico Institute of Mining and Technology, USA

Towards Discovering Criminal Communities from Textual Data

Rabeah Al-Zaidy, Concordia University, Canada
Benjamin C. M. Fung, Concordia University, Canada
Amr M. Youssef, Concordia University, Canada

Cloud Application Logging for Forensics

Raffael Marty, Loggly, Inc., United States

Time Based Data Forensic and Cross-Reference Analysis

Xiaoqin Ding, Shanghai Jiao Tong University, China
Hengming Zou, Shanghai Jiao Tong University, China

THU 11:10 – 12:50 Room 5

(EE-2) Enterprise Engineering

Session Chair: Artur Caetano, IST, Technical University of Lisbon, Portugal

An Integrated Approach for Modeling and Facilitating RFID-based Collaborative Logistics Processes

Yu Li, Institute AIFB, Karlsruhe Institute of Technology, Germany
Andreas Oberweis, Institute AIFB, Karlsruhe Institute of Technology, Germany
Huayu Zhang, Institute AIFB, Karlsruhe Institute of Technology, Germany

Strong Non-Leak Guarantees for Workflow Models

Rafael Accorsi, Dept. of Telematics, University of Freiburg, Germany
Claus Wonnemann, Dept. of Telematics, University of Freiburg, Germany

Software Reuse in Agile Development Organizations - a Conceptual Management Tool

Wouter Spoelstra, University of Twente, Netherlands
Maria Iacob, University of Twente, Netherlands
Marten van Sinderen, University of Twente, Netherlands

On the Elements of an Enterprise: Towards an Ontology-Based Account

João Paulo Almeida, Federal University of Espirito Santo, Brazil
Evellin Cardoso, Federal University of Espirito Santo, Brazil

12:50 – 2:10 LEVELS 0 & 2
Lunch Break

THU 2:10 – 3:50 Room 1

(SVT-1) Software Verification and Testing

Session Chair: Jan Cederquist, Instituto Superior Técnico, Portugal

Proving the Security of ElGamal Encryption Via Indistinguishability Logic

Jan Blech, Fortiss GmbH, Germany

A Dynamic Constraint-Based BMC Strategy For Generating Counterexamples

Hélène Collavizza, University of Nice - Sophia Antipolis / I3S-CNRS, France
Nguyen Le Vinh, University of Nice - Sophia Antipolis / I3S-CNRS, France
Michel Rueher, University of Nice - Sophia Antipolis / I3S-CNRS, France
Samuel Devulder, Geensys, France

Thierry Gueguen, Geensys, France

Quotients Revisited for Isabelle/HOL

Cezary Kaliszky, University of Tsukuba, Japan
Christian Urban, Technical University Munich, Germany

XEvolve: An XML Schema Evolution Framework

Francois Picalausa, Université Libre de Bruxelles, Belgium
Frédéric Servais, Université Libre de Bruxelles, Belgium
Esteban Zimanyi, Université Libre de Bruxelles, Belgium

A Proof-Based Approach to Verifying Reachability Properties

Amel Mammari, Telecom SudParis, France
Marc Frappier, GRIL, Canada
Fama Diagne, Telecom SudParis/GRIL, France

THU 2:10 – 3:50 Room 2

(EC) Applications of Evolutionary Computing

Session Chair: Jesus S. Aguilar Ruiz, Pablo de Olavide University, Spain

An Memetic Algorithm with Strategic Controller for the Maximum Clique Problem

Kengo Katayama, Okayama University of Science, Japan
Akinori Kohmura, Okayama University of Science, Japan
Keiko Kohmoto, Kinki University, Japan
Hideo Minamihara, Okayama University of Science, Japan

HMXT-GP: an Information-Theoretic Approach to Genetic Programming that Maintains Diversity

Henry Santosa, University of Technology, Sydney, Australia
John Milton, University of Technology, Sydney, Australia
Paul Kennedy, University of Technology, Sydney, Australia

New Hybrid Genetic Algorithm for Solving Optimal Communication Spanning Tree Problem

Pham Trung Kien, Hanoi University of Science and Technology, Vietnam
Duy Nguyen Hiep, Hanoi University of Science and Technology, Vietnam
Huynh Thi Thanh Binh, Hanoi University of Science and Technology, Vietnam

Evolutionary Computation for the Prediction of Secondary Protein Structures

Alfonso E. Marquez Chamorro, Pablo de Olavide University, Spain
Federico Divina, Pablo de Olavide University, Spain
Jesus S. Aguilar Ruiz, Pablo de Olavide University, Spain

THU 2:10 – 3:50 Room 3

(CC-1) Cloud Computing

Session Chair: Madhu Kumar, National Institute of Technology Calicut, India

A Genetic Model for Pricing in Cloud Computing Markets

Mario Macias, Barcelona Supercomputing Center/Technical University of Catalonia, Spain
Jordi Guitart, Barcelona Supercomputing Center/Technical University of Catalonia, Spain

Improving High-Performance Computations on Clouds Through Resource Underutilization

Roman Iakymchuk, RWTH Aachen, Germany
Jeff Napper, Vrije Universiteit, Netherlands
Paolo Bientinesi, RWTH Aachen, Germany

A Load-Aware Scheduler for MapReduce Framework in Heterogeneous Cloud Environments

Hsin-Han You, National Chiao Tung University, Taiwan
Chun-Chung Yang, National Chiao Tung University, Taiwan
Jiun-Long Huang, National Chiao Tung University, Taiwan

AoDI: An Allocation-On-Demand Incremental Volume based on LVM

Rui Cao, Nankai University, China
Caijun Zhen, Nankai University, China
Yan Gao, Nankai University, China
Guangzhi Xu, Nankai University, China
Xiaoguang Liu, Nankai University, China
Gang Wang, Nankai University, China
Guangjun Xie, Baidu Inc., China

THU 2:10 – 3:50 ROOM 4

(APGCC-1) Asian perspective of Global and Collaborative Computing

Session Chair: Chih-Hung Chang, Hsiuping Institute of Technology, Taiwan

A Location-aware Rogue AP Detection System Based on Wireless Packet Sniffing of Sensor APs

KuoFong Kao, Hsiuping Institute of Technology, Taiwan
Tau-Heng Yeo, Hsiuping Institute of Technology, Taiwan
Wai-Shuen Yong, Hsiuping Institute of Technology, Taiwan
Hui-Hsuan Chen, Hsiuping Institute of Technology, Taiwan

A Model Transformation Approach for Verifying Multi-Agent Systems using SPIN

Lily Chang, Florida International University, United States
Xudong He, Florida International University, United States

Tagging Web Product Titles Based on Hidden Markov Model

Peng Wang, Southeast University, China
Baowen Xu, Nanjing University, China
Yue You, Southeast University, China
Lu Chen, Southeast University, China

A Pattern-based Verification Approach for a Multi-Core System Development

Peng-Hua Chu, Feng Chia University, Feng Chia University
Nien-Lin Hsueh, Feng Chia University, Taiwan
Chien-Ching Lee, Feng Chia University, Taiwan
Min-Ju Chuang, Feng Chia University, Taiwan
Pao-Ann Hsiung, National Chung Cheng University, Taiwan
William Chu, Tunghai University, Taiwan
Chih-Hung Chang, Hsiuping Institute of Technology, Taiwan
Chorng-Shiuh Koong, National Taichung University, Taiwan
Chih-Hsiung Shih, Tunghai University, Taiwan
Chao-Tung Yang, Tunghai University, Taiwan

An Approach of Creative Application Evolution on Cloud Computing Platform

Jiantao Zhou, Inner Mongolia University, China
Shang Zheng, De Montfort University, United Kingdom
Delin Jing, De Montfort University, United Kingdom
Hongji Yang, De Montfort University, United Kingdom

THU 2:10 – 3:50 ROOM 5

(AB) Applied Biometrics

Session Chair: Jean Hennebert, University of Applied Science HES-SO, Switzerland

Shifting Score Fusion: On Exploiting Shifting Variation in Iris Recognition

Christian Rathgeb, University of Salzburg, Dept. of Computer Sciences, Austria
Andreas Uhl, University of Salzburg, Dept. of Computer Sciences, Austria
Peter Wild, University of Salzburg, Dept. of Computer Sciences, Austria

Raster Image Representation of Fingerprint Minutiae

Bian Yang, Gjøvik University College, Norway
Zhibo Chen, Technicolor Corporate Research, China
Christoph Busch, Gjøvik University College, Norway

Fusion in Fingerprint Authentication: Two Finger Types vs. Two Scanner Types

Davrondzhon Gafurov, Gjøvik University College, Norway
Christoph Busch, Gjøvik University College, Norway
Patrick Bours, Gjøvik University College, Norway
Bian Yang, Gjøvik University College, Norway

Keystroke Dynamics Authentication for Mobile Phones

Emanuele Maiorana, Università degli Studi "Roma Tre", Rome, Italy
Patrizio Campisi, Università degli Studi "Roma Tre", Rome, Italy
Noelia Gonzalez-Carvalho, Universidad de Vigo, Spain
Alessandro Neri, Università degli Studi "Roma Tre", Rome, Italy

3:50 – 4:20 LEVELS 3 & 4

Coffee Break

THU 4:20 – 6:00 ROOM 1

(SVT-2) Software Verification and Testing

Session Chair: Jan Cederquist, Instituto Superior Técnico, Portugal

Semantics and Proof Rules of Invariant Based Programs

Ralph-Johan Back, Abo Akademi University, Finland
Viorel Preoteasa, Abo Akademi University, Finland

Application of Partial-order Methods for the Verification of Closed-loop SDL Systems

Xavier Dumas, CS-SI, Toulouse, France
Frédéric Boniol, ONERA, University of Toulouse, France
Philippe Dhaussy, ENSIETA, Toulouse, France
Eric Bonnafous, CS-SI, Toulouse, France

THU 4:20 – 6:00

ROOM 2

(No session scheduled)

THU 4:20 – 6:00

ROOM 3

(CC-2) Cloud Computing

Session Chair: Madhu Kumar, National Institute of Technology Calicut, India

Towards Improved Load Balancing for Data Intensive Distributed Computing

Sven Groot, The University of Tokyo, Japan
Kazuo Goda, The University of Tokyo, Japan
Masaru Kitsuregawa, The University of Tokyo, Japan

Rapid Application Configuration in Amazon Cloud using Configurable Virtual Appliances

Huan Liu, Accenture Technology Labs, United States

Patterns for Configuration Requirements of Software-as-a-Service

Jaekeun Shim, Seoul National University, Republic of Korea
Jongdae Han, Seoul National University, Republic of Korea
Jindae Kim, Seoul National University, Republic of Korea
Byungjeong Lee, The University of Seoul, Republic of Korea
Jaewon Oh, The Catholic University of Korea, Republic of Korea
Chisu Wu, Seoul National University, Republic of Korea

Sense-Respond Cloud Mediator Architecture for Services Evolution

Jay Ramanathan, The Ohio State University, United States
Rajiv Ramnath, The Ohio State University, United States
Nisheet Singh, The Ohio State University, United States
Zhe Xu, The Ohio State University, United States
Yingxiao Xu, Software School of Fudan University, China

THU 4:20 – 6:00

ROOM 4

(APGCC-2) Asian perspective of Global and Collaborative Computing

Session Chair: Pao-Ann Hsiung, National Chung Cheng University, Taiwan

Change Impact Analysis for Object-Oriented Programs Evolved to Aspect-Oriented Programs

Chien-Hung Liu, National Taipei University of Technology, Taiwan
Shu-Ling Chen, Southern Taiwan University, Taiwan
Wei-Lun Jhu, National Taipei University of Technology, Taiwan

An Automatic Selective Color Transfer Algorithm for Images

Yao-Hsien Huang, Shih Chien University, Taiwan
Peng-Cheng Wang, Hsiuping Institute of Technology, Taiwan
Chia-Chi Chou, Shih Chien University, Taiwan
Kui-Ping Lin, Shih Chien University, Taiwan

THU 4:20 – 6:00

ROOM 5

(MESC) Mediation Services in Computing Environments

Session Chair: Rachid Anane, Coventry University, UK

Matching Customer Requests to Service Offerings in Real-Time

Marcel Tilly, European Microsoft Innovation Center, Germany
Stephan Reiff-Marganiec, University of Leicester, United Kingdom

Service-Oriented Dynamic Data Driven Application Systems to Potential Field Method Vehicle Navigation

Szu-Yin Lin, Institute of Information Management, National Chiao-Tung University, Taiwan
Kuo-Ming Chao, Faculty of Computing and Engineering, Coventry University, United Kingdom
Chi-Chun Lo, Institute of Information Management, National Chiao-Tung University, Taiwan

**THURSDAY 6:00PM
CONFERENCE ENDS**

SAC 2011 POSTERS LIST

WED 9:40 - 12:40 **Corridor Level 0**

Poster Session I

(AB) Applied Biometrics Track

Random Forgery Attacks Against DTW-based Online Signature Verification Algorithm

Daigo Muramatsu, Seikei University, Japan

Deceit Detection via Online Behavioral Learning

Nisha Bhaskaran, University at Buffalo, SUNY, United States
Ifeoma Nwogu, University of Rochester, United States
Mark G. Frank, University at Buffalo, SUNY, United States
Venu Govindaraju, University at Buffalo, SUNY, United States

(APGCC) Asian perspective of Global and Collaborative Computing Track

Performance Analysis on IEEE 802.11 Ad Hoc Based Broadcast

Yi-Hung Huang, National Taichung University of Education, Taiwan
Chao-Yu Kuo, National Chung Hsing University, Taiwan

Harmonic Functions Based Semi-Supervised Learning For Web Spam Detection

Weifeng Zhang, Nanjing University of Posts and Telecommunications, China
Danmei Zhu, Nanjing University of Posts and Telecommunications, China
Yinzhou Zhang, Nanjing University of Posts and Telecommunications, China
Guoqiang Zhou, Nanjing University of Posts and Telecommunications, China
Baowen Xu, Nanjing University, China

(BIO) Bioinformatics Track

Computing Rearrangement Distance of Every Permutation in the Symmetric Group

Gustavo Rodrigues Galvão, Institute of Computing, University of Campinas, Brazil
Zanoni Dias, Institute of Computing, University of Campinas, Brazil

The Bacterial Strains Characterization Problem

Fabien Chhel, LERIA - University of Angers, France
Adrien Goeffon, LERIA - University of Angers, France
Antoine Lafosse, LERIA - University of Angers, France
Frédéric Lardeux, LERIA - University of Angers, France
Frédéric Saubion, LERIA - University of Angers, France
Gilles Hunault, HIFI - University of Angers, France
Tristan Boureau, UMR PAVE - University of Angers, France

Prediction of Permuted Super-secondary Structures in Beta-barrel Proteins

Van Du Tran, Laboratory of Computer Science, Ecole Polytechnique, France
Philippe Chassignet, Laboratory of Computer Science, Ecole Polytechnique, France
Jean-Marc Steyaert, Laboratory of Computer Science, Ecole Polytechnique, France

(CF) Computer Forensics Track

Event Clustering for Log Reduction and Run Time System Understanding

Kostas Kontogiannis, National Technical University of Athens, Greece
Ahmed Wasfy, University of Waterloo, Canada
Serge Mankovskii, CA Labs, Canada

Towards Designing a Tool for Event Reconstruction using Gladyshev Approach

Merin Sebastian, NITC, India
Priya Chandran, NITC, India

(CISIA) Computational Intelligence and Signal and Image Analysis Track

A Comparative Study and Analysis on K-View Based algorithms for Image Texture Classification

Yihua Lan, Huazhong University of Science and Technology, China
Hong Liu, Huazhong University of Science and Technology, China
Enmin Song, Huazhong University of Science and Technology, China
Chih-Cheng Hung, Southern Polytechnic State University, United States

(DADS) Dependable and Adaptive Distributed Systems

An Approach for Providing Dependable Self-Adaptation in Distributed Embedded Systems

Marc Zeller, Fraunhofer Institute for Communication Systems ESK, Germany
Gereon Weiss, Fraunhofer Institute for Communication Systems ESK, Germany
Dirk Eilers, Fraunhofer Institute for Communication Systems ESK, Germany
Rudi Knorr, Fraunhofer Institute for Communication Systems ESK, Germany

(DS) Data Streams Track

Resource-Aware ECG Analysis on Mobile Devices

Abhijat Sinha, Monash University, Australia
Hossein Tayebi, Monash University, Australia
Shonali Krishnaswamy, Monash University, Australia
Agustinus Borgy Waluyo, Monash University, Australia
Mohamed Gaber, University of Portsmouth, United Kingdom

(MCA) Mobile Computing and Applications Track

Formal Analysis of Device Authentication Applications in Ubiquitous Computing

William Claycomb, Sandia National Laboratories, United States
Dongwan Shin, New Mexico Tech, United States

ProQuPri: Towards Anonymity Protection with Privacy Quantification for Context-aware Applications

Farzana Rahman, Marquette University, United States
Sheikh Ahamed, Marquette University, United States
Md. Endadul Hoque, Marquette University, United States

(EMBS) Embedded Systems: Applications, Solutions, and Techniques Track

FPGA Based Parallel Transitive Closure Algorithm

Zheng Ding, Shanghai Jiao Tong University, China
Wei Shu, University of New Mexico, United States
Min-You Wu, Shanghai Jiao Tong University, China

Exploiting Time Predictable Two-Level Scratchpad Memory for Real-Time Systems

Yu Liu, Southern Illinois University Carbondale, United States
Wei Zhang, Virginia Commonwealth University, United States

(OS) Operating Systems Track

Development of the Wireless Embedded Sensor Network for Energy-Efficient Flooding

Sanghyun Ahn, School of Computer Science, University of Seoul, Korea

Yujin Lim, Department of Information Media, University of Suwon, Korea

Sanggil Kang, Computer Science and Information Engineering, Inha University, Korea

SPAD: Software Protection through Anti-debugging Using Hardware Virtualization

Qian Lin, Shanghai Jiao Tong University, China
Mingyuan Xia, Shanghai Jiao Tong University, China
Miao Yu, Shanghai Jiao Tong University, China
Peijie Yu, Shanghai Jiao Tong University, China
Min Zhu, Shanghai Jiao Tong University, China
Shang Gao, Shanghai Jiao Tong University, China
Zhengwei Qi, Shanghai Jiao Tong University, China
Kai Chen, Shanghai Jiao Tong University, China
Haibing Guan, Shanghai Jiao Tong University, China

FMCM: A Efficient Flash Memory Cache Management Scheme for Energy-Efficient Disks

YoungHwan Kim, Dept. of Computer Science, Soongsil University, Korea

TaeHyoung Kim, Dept. of Computer Science, Soongsil University, Korea

Yuri Kim, Dept. of Computer Science, Soongsil University, Korea
Ah-Reum Kim, Dept. of Computer Science, Soongsil University, Korea

Predictable Multithread Scheduling with Cycle - Accurate Thread Progress Monitor

Youngsam Shin, Samsung Advanced Institute of Technology Samsung Electronics CO., LTD., Korea
Seungwon Lee, Samsung Advanced Institute of Technology Samsung Electronics CO., LTD., Korea
Minyoung Son, Samsung Advanced Institute of Technology Samsung Electronics CO., LTD., Korea
Shihwa Lee, Samsung Advanced Institute of Technology Samsung Electronics CO., LTD., Korea

Coexisting Real-Time OS and General Purpose OS on an Embedded Virtualization Layer for a Multicore Processor

Hitoshi Mitake, Department of Computer Science, Waseda University, Japan
Yuki Kinebuchi, Department of Computer Science, Waseda University, Japan
Alexandre Courbot, Department of Computer Science, Waseda University, Japan
Tatsuo Nakajima, Department of Computer Science, Waseda University, Japan

Experimenting with System and Libc Call Interception Attacks on ARM-based Linux Kernel

Hyeong-chan Lee, Soongsil University, Korea
Chung Hui Kim, Soongsil University, Korea
Jeong Hyun Yi, Soongsil University, Korea

Optimization of Out of Memory Killer for Embedded Linux Environments

Joongjin Kook, Soongsil University, Korea
Sukil Hong, Soongsil University, Korea
Wooseung Lee, Soongsil University, Korea
Eunkyeung Jae, Soongsil University, Korea
JungYeop Kim, Utica College, United State

(PADO) Green/Power-Aware Design and Optimization Track

Petri net based Performance Modeling for Effective DVFS for Multithreaded Programs

Arun Rangasamy, Indian Institute of Science, Bangalore, India
Y. N. Srikant, Indian Institute of Science, Bangalore, India

(RTS) Real-Time Systems Track

Preemptibility-Aware Responsive Multi-Core Scheduling

Jupyung Lee, Samsung Electronics, Korea
Geunsik Lim, Samsung Electronics, Korea
Sang-bum Suh, Samsung Electronics, Korea

(SWA) Semantic Web and its Application Track

SpotTheLink: Playful Alignment of Ontologies
Stefan Thaler, STI Innsbruck, Austria

Elena Simperl, Karlsruhe Institute of Technology, Germany
Katharina Siorpaes, STI Innsbruck, Austria

An Offer Evaluation System based on Buyers' Interests

Samira Sadaoui, University of Regina, Canada
Wei Jiang, University of Regina, Canada

(WT) Web Technologies Track

Towards Better Social Integration Through Mobile Web 2.0 Ambient Assisted Living Devices

Tim A. Majchrzak, University of Muenster, Germany
Adalbert Jakubiec, University of Muenster, Germany
Martin Lablans, University Hospital of Muenster, Germany
Frank Ückert, University Hospital of Muenster, Germany

Extracting Preference Terms from Web Browsing Histories Excluding Pages Unrelated to Users' Interests

Kenta Sasaki, Research & Development Center, Toshiba Corporation, Japan
Masayuki Okamoto, Research & Development Center, Toshiba Corporation, Japan
Nayuko Watanabe, Research & Development Center, Toshiba Corporation, Japan
Masaaki Kikuchi, Core Technology Center, Visual Products Company, Toshiba Corporation, Japan
Takayuki Iida, Core Technology Center, Visual Products Company, Toshiba Corporation, Japan
Masanori Hattori, Research & Development Center, Toshiba Corporation, Japan

Fast Lists Intersection with Bloom Filter using Graphics Processing Units

Fan Zhang, Nankai University, China
Di Wu, Nankai University, China
Naiyong Ao, Nankai University, China
Gang Wang, Nankai University, China
Xiaoguang Liu, Nankai University, China
Jing Liu, Nankai University, China

WED 2:40 - 5:40 **Corridor Level 0**

Poster Session II

(CM) Coordination Models, Languages and Applications Track

Programming Coordination Laws of Artifacts in CartAgO

Marco Sbaraglia, Alma Mater Studiorum - Universita' di Bologna, Italy
Matteo Casadei, Alma Mater Studiorum - Universita' di Bologna, Italy
Mirko Viroli, Alma Mater Studiorum - Universita' di Bologna, Italy

(CSP) Constraint Solving and Programming Track

Parallel Constraint-Based Local Search on the HA8000 Supercomputer (Abstract)

Yves Caniou, JFLI - CNRS / University of Lyon, Japan
Philippe Codognet, JFLI - CNRS / University of Tokyo, Japan
Daniel Diaz, Universite Paris, France
Salvador Abreu, Universidade de Evora, Portugal

Adaptive Hybridization Strategies

Eric Monfroy, UTFSM and LINA, France
Carlos Castro, UTFSM, Chile
Broderick Crawford, PUCV, Chile
Christian Figueroa, UTFSM, Chile

(DE) Document Engineering Track

An Assessment of Data Matrix Barcode Recognition under Scaling, Rotation and Warping

Andrei Formiga, UFPE, Brazil
Rafael Lins, UFPE, Brazil
Steven Simske, Hewlett-Packard, United States
Gary Dispoto, Hewlett-Packard, United States
Marcelo Thielo, Hewlett-Packard, Brazil

Automated Extractive Single-Document Summarization: Beating the Baselines with a New Approach

Araly Barrera, University of Houston, United States
Rakesh Verma, University of Houston, United States

(DM) Data Mining Track

Equivalence Class Transformation Based Mining of Frequent Itemsets from Uncertain Data

Carson K. Leung, The University of Manitoba, Canada
Lijing Sun, The University of Manitoba, Canada

Exact Top-K Keyword Search on Graph Databases

Meirong Wang, The University of Electro-Communications, Japan
Lijun Jiang, The University of Electro-Communications, Japan
Liru Zhang, The University of Electro-Communications, Japan
Tadashi Ohmori, The University of Electro-Communications, Japan

(DTTA) Database Theory, Technology, and Applications Track

Mining Uncertain Web Log Sequences with Access History Probabilities

Olalekan Kadri, School of Computer Science, University of Windsor, Canada
Christie Ezeife, School of Computer Science, University of Windsor, Canada

(EC) Applications of Evolutionary Computing Track

A Software Platform for Genetic Algorithms based Parameter Estimation on Digital Sound Synthesizers

Kamer Ali Yuksel, Sabanci University, Turkey
Batuhan Bozkurt, Istanbul Technical University, Turkey
Hamed Ketabdar, Deutsche Telekom Laboratories, TU Berlin, Germany

Applying Genetic Algorithms to Optimize the Power in Tiled SNUCA Chip Multicore Architectures

Aparna Mandke Dani, Indian Institute of Science, Bangalore, India
Bharadwaj Amrutur, Indian Institute of Science, Bangalore, India
Y. N. Srikant, Indian Institute of Science, Bangalore, India

(EE) Enterprise Engineering Track

Tool Support for Realising a Common Understanding of Business Documents in Collaborating Enterprises

Usman Wajid, University of Manchester, United Kingdom
Panagiotis Gouvas, Singular Logic, Greece
Nikolay Mehandjiev, University of Manchester, United Kingdom
Abdallah Namoun, University of Manchester, United Kingdom

An Architecture Proposal for the Prosumerized Enterprise

Andreas Emrich, German Research Center for Artificial Intelligence, Germany
Alexandra Chapko, German Research Center for Artificial Intelligence, Germany
Christina di Valentin, German Research Center for Artificial Intelligence, Germany
Dirk Werth, German Research Center for Artificial Intelligence, Germany

(IAR) Information Access and Retrieval Track

Representing a Bilingual Lexicon with Suffix Trees

Jorge Costa, FCT-UNL, Caparica, Portugal
Gabriel Pereira Lopes, FCT-UNL, Caparica, Portugal
Luís Gomes, FCT-UNL, Caparica, Portugal
Luís M. S. Russo, FCT-UNL, Caparica, Portugal

Inferring Situation-Based Interests for Mobile Users: A Case Based Reasoning Approach

Ourdia Bouidghaghen, IRIT-University Paul Sabatier of Toulouse, France
Lynda Tamine, IRIT-University Paul Sabatier of Toulouse, France
Mohand Boughanem, IRIT-University Paul Sabatier of Toulouse, France

(ILE) Intelligent/Innovative Learning Environments Track

Teaching Intelligible Speech to the Autistic Children by Interactive Computer Games

Mirfat Akter Sharmin, Bangladesh University of Engineering and Technology, Bangladesh
Md. Mizanur Rahman, Bangladesh University of Engineering and Technology, Bangladesh
Syed Ishtiaque Ahmed, Bangladesh University of Engineering and Technology, Bangladesh
Md. Mustafizur Rahman, Bangladesh University of Engineering and Technology, Bangladesh
S. M. Ferdous, Bangladesh University of Engineering and Technology, Bangladesh

Style Avatar: a Visualization System for Teaching C Coding Style

Jin-Su Lim, Pusan National University, Korea
Jeong-Hoon Ji, Pusan National University, Korea
Yun-Jung Lee, Pusan National University, Korea
Gyun Woo, Pusan National University, Korea

Effects of Scaffoldings on Interactive Diagram Constructions in Educational Interface for Elementary School Teachers Training

Ana Emilia de Melo Queiroz, Federal University of São Francisco Valley, Brazil
Alex Sandro Gomes, Federal University of Pernambuco, Brazil
Claudia Roberta Araújo Gomes, Federal Rural University of Pernambuco, Brazil
Sávio Silveira de Queiroz, Federal Rural University of Espirito Santo, Brazil

(MESC) Mediation Services in Computing Environments Track

A Choreography Language for eBusiness Collaboration

Alex Nortta, University of Helsinki, Finland

(OOPS) Object Oriented Programming Languages and Systems Track

A Formal Framework for a Functional Language with Adaptable Components

Pascal Coupey, LIPN, France
Christophe Fouqueré, LIPN, France

(PL) Programming Languages Track

Feedback-driven Points-to Analysis

Tobias Gutzmann, Linnaeus University, Sweden
Jonas Lundberg, Linnaeus University, Sweden
Welf Löwe, Linnaeus University, Sweden

An Overview of a Proof-Based Approach to Detecting C Vulnerabilities

Amel Mamar, Telecom SudParis, France

(PSC) Programming for Separation of Concerns Track

Structuring Adaptive Replicated Systems with Design Patterns and Aspects

Rodrigo Ramos Couto, Ci&T, Brazil
Rodrigo Pereira Valentim, IBM Global Business Services, Brazil
Udo Fritzsche Jr., PUC Minas, Brazil
Luiz Alberto Ferreira Gomes, PUC Minas, Brazil
Daniel Merli Moraes, PUC Minas, Brazil

(SE) Software Engineering Track

A GUI Bug Finding Framework for Android Applications

Cuixiong Hu, University of California, Riverside, United States
Iulian Neamtiu, University of California, Riverside, United States

(SOAP) Service Oriented Architecture and Programming Track

Requirements Engineering for Services: An Ontological Framework

Bertrand Verlaine, PReCISE Research Center, University of Namur, Belgium
Ivan Jureta, PReCISE Research Center, University of Namur, Belgium
Stéphane Faulkner, PReCISE Research Center, University of Namur, Belgium

SAC 2012 INVITATION

SAC 2012 will be held in Trento, Italy, in March, 2012. It is hosted by the The Microsoft Research - University of Trento Centre for Computational and Systems Biology. Please check the registration desk for handouts. You can also visit the website at <http://www.acm.org/conferences/sac/sac2012/>.

