Program for the 33rd Annual IEEE International Computers, Software and Applications Conference

*Harmonizing Humans, Computers, and Software in Services Environments*

Seattle, Washington USA
Hyatt Regency Bellevue
July 20-24, 2009
Welcome to COMPSAC 2009, the IEEE Signature Conference on Computers, Software and Applications

The creation of trustworthy, dependable and distributed computer services satisfying the needs of environments spans all aspects of software systems engineering. COMPSAC is a unique forum to bring together these facets and their major stakeholders. Building on the trustworthy, secure, and dependable distributed software themes of highly successful recent COMPSAC conferences, the technical theme for the 33rd conference is *Harmonizing Humans, Computers, and Software in Services Environments*.

This program continues to feature research and industrial practice papers with a wide range of topics, focusing (but not exclusively) on software and middleware development for distributed platforms, social and collaborative networks, services computing, cloud computing, data center design and applications, communication applications, and mobile and embedded systems. To properly engineer such domains, the foundations, methodologies, and mechanisms that support the design, modelling, and evaluation of software systems and computer applications must come from diverse sources. Topics of interest include but are not limited to: requirement analysis, co-analysis/co-design, modelling, development, testing, measurement, verification, validation, performance, autonomy, safety, security, and dependability constraints. Effective construction of these systems is not limited solely to the field of computer science and engineering and comes as a synergetic effort, between various domains of research. Multidisciplinary work, research and development of software prototypes, industry-university collaborations, all based on new emerging and critical technologies are of particular interest to this conference. All accepted papers listed in this program can be found in their full text form in the electronic proceedings published by the IEEE Computer Society, indexed through INSPEC and EI Index, and automatically included in the IEEE digital library.

We greatly appreciate the sponsorship of IEEE and the IEEE Computer Society. We would also like to thank our 2009 supporters: The U.S. National Science Foundation, Microsoft Research, Iowa State University (USA), Purdue University (USA), Tsinghua University (China), and the University of Westminster (UK).
Plenary Roundtable Discussion  
Wednesday July 22, 2009  
1:30-3:00pm  
Regency Ballroom

70 Years Electronic Digital Computing that Changed the World

2009 marks the 70th anniversary of the first proof-of-concept prototype of the electronic digital computer. This technical forum will re-examine, from a modern perspective, the contribution of John V. Atanasoff to the invention and development of electronic digital computing.

Expert panelists will present their views on:

1. The variety of different technologies explored and used in the early days of automatic computing.
2. The advantages of digital vs. analog calculations.
3. The importance of binary arithmetic for electronic digital computing.
4. The engineering challenge for the design of dynamically refreshed memory.

Discussion questions will include:

1. How have the main principles of electronic digital computing invented by John V. Atanasoff propagated to most of the computer designs today?
2. Does the introduction of electronic digital computing mark the beginning of a new revolution in human history?
3. What was the impact of the 1973 federal court decision on the recognition of Atanasoff’s invention?

Additional questions from the audience are welcome and encouraged!

Sponsored by the JVA Initiative Endowment at Iowa State University
Hyatt Regency Bellevue

DIRECTIONS
Directions from Sea-Tac Int’l Airport (17 miles): Follow signs to “All Freeways”. Take Hwy. 518 to 405 North to Bellevue for 14 miles. Exit onto NE 8th St. West (exit #13B). Follow NE 8th for 6 1/2 blocks. Hotel is on right after crossing 106th Ave, at corner of NE 8th and Bellevue Way.
### Monday July 20: Workshop Day

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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tr>
<td>8:30-9:30</td>
<td>REFS I QUORS I ESAS I STPSA I RTSOAA I SECASA I ME I IWSC I</td>
<td>Morning Break</td>
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<td>9:30-10:00</td>
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<tr>
<td>10:00-11:30</td>
<td>REFS II QUORS II ESAS II STPSA II RTSOAA II SECASA II ME II IWSC II</td>
<td>Lunch</td>
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<td>13:30-15:00</td>
<td>REFS III QUORS III ESAS III STPSA III RTSOAA III SECASA III IWSC III</td>
<td>Afternoon Break</td>
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<td>15:30-17:00</td>
<td>QUORS IV RTSOAA IV</td>
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<tr>
<td>19:00-21:00</td>
<td>COMPSAC/SAINT Joint Welcome Reception: East Lawn Garden, adjacent to Hyatt Regency Bellevue (alternate rain location: Regency Ballroom)</td>
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### Tuesday July 21: Conference Day 1

**8:00am:** Opening Session: Joint COMPSAC/SAINT Keynote  
Opening and Welcome Remarks  
Best Paper Awards  
Keynote Address: Larry Smarr  
*Project Greenlight: Optimizing Cyberinfrastructure for a Carbon Constrained World*  
Location: Regency Ballroom  
Session Chair: Elisa Bertino, COMPSAC09 Program Chair

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<tr>
<td>10:00-10:30</td>
<td>Morning Break</td>
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<td>Regency Ballroom ABC</td>
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<tr>
<td>10:30-12:00</td>
<td>Doctoral Symposium I Testing I Location Based Services I Software Evolution I</td>
<td>Lunch</td>
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<tr>
<td>13:30-15:00</td>
<td>Doctoral Symposium II Software Quality I Testing II Social Networks I</td>
<td>Afternoon Break</td>
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<tr>
<td>15:30-17:00</td>
<td>Panel I: Interoperable Identity Services Requirements Engineering I Embedded Systems I Software Quality II</td>
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<td>18:30-20:30</td>
<td>COMPSAC/SAINT Presidential Reception: Regency Ballroom</td>
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<tr>
<td>20:30-22:00</td>
<td>COMPSAC/SAINT Planning Meeting: Juniper Room, All invited</td>
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<td>Regency FG</td>
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### Wednesday July 22: Conference Day 2

**8:30am:** Joint COMPSAC/SAINT Keynote  
Keynote Address: Tony Hey, *Programming the Cloud*  
Location: Regency Ballroom  
Session Chair: Vladimir Getov, COMPSAC09 Program Chair

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<td>Morning Break</td>
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<tr>
<td>10:30-12:00</td>
<td>Social Networks II Software Quality III Security I Testing III Location Based Services II</td>
<td>Lunch</td>
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<td>13:30-15:00</td>
<td>Roundtable: 70 Years Electronic Digital Computing that Changed the World</td>
<td>Afternoon Break</td>
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<td>15:30-17:00</td>
<td>Panel II: Evolution of Services Computing Curriculum and Services University Requirements Engineering II Fast Abstracts I Testing IV Software Architecture I</td>
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<td>18:30-20:30</td>
<td>COMPSAC/SAINT Conference Banquet: Argosy Cruise through the Navy Locks</td>
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Shuttle busses departs Hyatt at 5:30pm; Ship departs 7pm from Naval Reserve Dockyard on Lake Washington  
*YOU MUST PRESENT YOUR TICKET AT BOARDING TO ATTEND!*
### Thursday July 23: Conference Day 3

**8:30am: COMPSAC/SAINT Joint Keynote**  
**Keynote Address:** Tatsuaki Okamoto, *Towards Fine-Grained Secure Communications*  
**Location:** Regency Ballroom  
**Session Chair:** Haruo Takemura, SAINT 2009 General Chair

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<tr>
<td>13:30-15:00</td>
<td>Best Practice</td>
<td>Software Architecture III</td>
<td>Mobile and Pervasive Computing II</td>
<td>Fast Abstracts II</td>
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<td>15:00-15:30</td>
<td>Afternoon Break</td>
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<tr>
<td>15:30-17:00</td>
<td>Joint Panel: Emerging Pervasive Systems: Research Challenges and Proposed Solutions</td>
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<td>Education and Learning</td>
<td>Security II</td>
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**17:30-22:00**  
**COMPSAC/SAINT Joint Planning:** Invitation Only

### Friday July 24: Workshop Day

**8:30-10:00**  
**Joint Concluding Panel:** Security and Privacy in Community-based Internet Applications  
**Location:** Regency Ballroom  
**Chaired by Stephen Yau, Arizona State University**

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<td>BINDIS II</td>
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<td>CFSE II</td>
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**TRAVEL SAFELY! SEE YOU NEXT YEAR IN SEOUL, KOREA FOR COMPSAC 2010**
### REFES 2009: 3rd IEEE International Workshop on Requirements Engineering for Services

**Location:** Cedar Ballroom A  
**Organizing Chairs:** Lin Liu, Tsinghua University, China; Colette Rolland, University of PARIS-1 Pantheon Sorbonne, France; Eric Yu, University of Toronto, Canada; Jian Yang, Macquarie University, Australia

#### Session I: Services Requirements Modelling Specification

*Chair: Jian Yang, Macquarie University, Australia*

- **Requirements Engineering Needs in a Solution and Infrastructure Improvement Project**
  Xiping Song, William Sherman, Beatrice Hwong, Brian Berenbach, Gilberto Matos

- **Rediscovering Zachman Framework using Ontology from a Requirement Engineering Perspective**
  Zhuozhi Chen, Rob Pooley

- **A Scenario-Based Architecture Evaluation Framework for Network Enabled Capability**
  Colin C. Venters, Duncan J. Russell, Lu Liu, Zongyang Luo, David E. Webster, Jie Xu

- **Decomposition and Traceability in Software Design**
  Hung-Fu Chang, Stephen C-Y. Lu

#### Session II: Workshop Panel on Requirements Engineering for Services

*Moderator: Colette Rolland, University of PARIS-1 Pantheon Sorbonne, France*

*Panelists: Eric Dubois, CRP Henry Tudor, Luxembourg; Lin Liu, Tsinghua University, China; Xiping Song, Siemens Corporate Research, USA; Jian Yang, Macquarie University, Australia; Eric Yu, University of Toronto, Canada*

### ESAS 2009: 4th IEEE International Workshop on Engineering Semantic Agent Systems

**Location:** Larch Room  
**Organizing Chairs:** Atilla Elçi, Eastern Mediterranean University, North Cyprus; Mamadou Tadiou Kone, C.I.D.T. Bouake, Ivory Coast; Mehmert A. Orgun, Macquarie University, Australia

#### Session I: Semantic Mining

*Chair: Tugkan Tuglular, Izmir Institute of Technology, Turkey*

- **Variable Support Based Association Rule Mining**
  Rajul Anand, Ravi Agrawal, Joydip Dhar

- **Social Graph Generation & Forecasting using Social Network Mining**
  Marjaneh Safaei, Merve Sahan, Mustafa Ilkan

#### Session II: Mobile Agents

*Chair: Weichang Du, University of New Brunswick, Canada*

- **Mobile-agent Approach for Mobile Code Localization in Ad-hoc Networks**
  Zafoune Youcef, Mohkhtari Aicha, Kanawati Rushed

- **Implementing an Mobile Agent Platform for M-Commerce**
  Xining Li, Guillaume Autran

- **Semantic Web Enabled Composition of Semantic Web Services**
  Duygu Çelik, Atilla Elçi

#### Session III: Semantic Agent Systems

*Chair: William Wei Song, Durham University, UK*

- **An Architecture for Verification of Access Control Policies with Multi Agent System Ontologies**
  Fatih Tekbacak, Tugkan Tuglular, Oguz Dikenelli

- **OWL Manipulation toward Building Semantic Applications and Agents**
  Pooyan Balouchian, Amin Almassian, Atilla Elçi

- **Agent-Oriented Middleware for Mobile eLearning Services**
  Stanimir Stoyanov, Ivan Ganchev, Máirtín O’Droma, Hussein Zedan, Veselina Valkanova

### RTSOAA 2009: 2nd IEEE International Workshop on Real-Time Service-Oriented Architecture and Applications

**Location:** Juniper Room  
**Organizing Chairs:** Jun-Jang Jeng, IBM TJ Watson, USA; Carolyn McGregor, University of Ontario Institute of Technology, Canada; Josef Schiefer, Vienna University of Technology, Austria

#### Session I: RTSOAA Models

*Opening Remarks by Jung-Jang Jeng, IBM TJ Watson, USA*

- **Real-time Guarantees in Flexible Advance Reservations**
  Kleopatra Konstanteli, Dimosthenis Kyriazis, Theodora Varvarigou, Tommaso Cucinotta, Gaetano Anastasi

- **Respecting Temporal Constraints in Virtualised Services**
  Tommaso Cucinotta, Gaetano Anastasi, Luca Abeni

- **Universal and Extensible Service-Oriented Platform Feasibility and Experience: The Service Abstract Machine**
  Jacky Estublier, Eric Simon

#### Session II: RTSOAA for Cloud

- **Toward a Smart Cyber-Physical Space: A Context-Sensitive Resource-Explicit Service Model**
  Jian Huang, Farokh Bastani, I-Ling Yen, Jun-Jang Jeng

- **Towards Self-manageable Cloud Services**
  Ivona Brandic

- **Dynamic Service and Data Migration in the Clouds**
  Wei Hao, I-Ling Yen, Bhavani Thuraisingham
13:30-15:00  
Session III: RTSOAA Infrastructure
- Building an Enterprise Service Bus for Real-Time SOA: A Messaging Middleware Stack  
  Luis Garcés-Erice
- A Service Broker Providing Real-time Telecommunications Services for 3rd Party Services  
  Niklas Blum, Irina Boldea, Thomas Magedanz, Ulrich Staiger, Horst Stein
- A Complex Event Routing Infrastructure for Distributed Systems  
  Gabe Wishnie, Hossein Saiedian

15:30-16:45  
Session IV: RTSOAA Applications
- A Survey of Physiological Monitoring Data Models to Support the Service of Critical Care  
  Carolyn McGregor, Kathleen P. Smith
- Microcontroller-based AWGNG for Security Enhancement of Embedded Real-time Web Services  
  Behnam Rahnama, Attila Elçi, Ramin Bakhshi, Alirad Malek, Arjang Ahmadi
- Clustering Versus Shared Nothing: A Case Study  
  Jonathan Lifflancer, Adam McDonald, Orest Pilskals

15:45-16:00  
Concluding Remarks

1st IEEE International Workshop on Middleware Engineering (ME 2009)  
Location: Cottonwood Room  
Organizing Chairs: Rong Ge, Marquette University, USA; Praveen Madiraju, Marquette University, USA

8:00-9:30  
Session I  
Chair: Praveen Madiraju, Marquette University, USA
- An OSGi Based In-Vehicle Gateway Platform Architecture for Improved Sensor Extensibility and Interoperability  
  Pyungsun Park, Hongbin Yim, Heeseok Moon, Jael Jung
- Performance Impact Analysis of Two Generic Group Communication APIs  
  Leandro Sales, Henrique Teófilo, Jonathan D’Orleans, Nabor C. Mendonca, Rafael Barbosa, Fernando Trinta
- Middleware for RFID Systems: An Overview  
  Jameela Al-Jarrodi, Junaid Aziz, Nader Mohamed

10:00-11:30  
Session II  
Chair: Praveen Madiraju, Marquette University, USA
- A Software Product Line Architecture for Grid-Oriented Middleware  
  Davi Oliveira, Nelson Rosa
- Design of MIDA, a Web-Based Diagnostic Application for Hydroelectric Generators  
  Luc Vouligny, Claude Hudon, Duc Ngoc Nguyen
- An Algorithm for Mining Frequent Items on Data Stream Using Fading Factor  
  Ling Chen, Shan Zhang, Li Tu

2nd IEEE International Workshop on Software Engineering for Context Aware Systems and Applications (SECASA 2009)  
Location: Regency Ballroom A  
Organizing Chairs: John Plaice, University of New South Wales, Australia; Weichang Du, University of New Brunswick, Canada; Rondogiannis Panagiots, University of Athens, Greece

8:00-9:30  
Session I  
- Context-Aware Trust Management for Peer-to-Peer Mobile Ad-Hoc Networks  
  Rajan Shankaran, Vijay Varadharajan, Mehmet Orgun, Michael Hitchens
- A Contextual Guidance Approach to Software Security  
  Philipp Schugerl, David Walsh, Juergen Rilling, Philippe Charland
- AlertMe: A Semantic-based Context-Aware Notification System  
  Asterios Leonidis, George Baryannis, Xenofon Fafoutis, Maria Korozni, Niki Gazoni, Michail Dimitriou, Maria Koutsogiannaki, Aikaterini Boutsika, Myron Papadakis, Haridimos Papagiannakis, George Tesseris, Emmanouil Voskakis, Antonis Bikakis, Grigoris Antoniou

10:00-11:30  
Session II  
- A Quality-Aware Context Middleware Specification for Context-Aware Computing  
  Yuanping Li, Ling Feng
- Context Analysis of Intensional Languages  
  Weichang Du, Khaled Ben Hamed
- Distributed Eductive Execution of Hybrid Intensional Programs  
  Joey Paquet

13:30-15:00  
Session III  
- Relaxed Objects - Object Model for Context-Aware Applications  
  Michal Kopecký, Michal Žemlička
- Cartesian Programming: The TransLucid Programming Language  
  John Plaice, Blanca Mancilla
- Declarative Multithreaded Programming  
  Blanca Mancilla, John Plaice
3rd IEEE International Workshop on Quality Oriented Reuse of Software (QUORS 2009)
Location: Cedar Ballroom B
Organizing Chairs: Xiaodong Liu, Napier University, UK; Hongji Yang, DeMontfort University, UK

8:00-9:30  Session I: Service Based Systems
Chair: Anne Miller, Verizon Communications, USA
- Formal Analysis of Services Compatibility
  Xueqiang Gong, Jing Liu, Miaomiao Zhang, Jueliang Hu
- A Perspective on Middleware-oriented Context-aware Pervasive Systems
  Zakwan Jaroucheh, Xiaodong Liu, Sally Smith

10:00-11:30  Session II: Design Pattern and Advanced Software Design
Chair: Xiaodong Liu, Edinburgh Napier University, UK
- Towards a Problem Oriented Engineering Theory of Pattern-Oriented Analysis and Design
  Jerry Overton, Jon G. Hall, Lucia Rapanotti, Yijun Yu
- A Model-Driven Multicore Software Development Environment for Embedded System
  Chihhsiong Shih, Pao-Ann Hsiung, Nien-Lin Hsieh, Chih-Hung Chang, Chorng- Shiuh Koong, William C. Chu
- Photon: A Domain-specific Language for Testing Converged Applications
  Anne Miller, Balaji Kumar, Anukul Singhal

13:30-15:00  Session III: Software Reuse
Chair: Hongji Yang, DeMontfort University, UK
- Using Artifact Flow Diagrams to Model Artifact Usage Anomalies
  Hwai-jung Hsu, Feng-jian Wang
- Dual-Container: Extending the EJB2.x Container to Support EJB3.0
  Ziyu Wang, Minghui Zhou, Donggang Cao, Haiyan Zhao
- Best Principles in the Design of Shared Software
  Dino Konstantopoulos, John Marien, Mike Pinkerton, Eric Braude

15:30-17:00  Session IV: Software Evolution
Chair: Yang Li, BT Innovate, British Telecom plc, UK
- Domain Analysis in the Reengineering Process of a COBOL System
  Richard Millham, Hongji Yang
- A Business-Logic Based Framework for Evolving Software Systems
  Mohammed Alawaidhi, Hongji Yang
- A Constraint Based Bug Checking Approach for Python
  Baowen Xu, Tianlin Zhou, Xiaoyu Zhou

4th IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA 2009)
Location: Laurel Room
Organizing Chairs: Sheikh Iqbal Ahamed, Marquette University, USA; Mohammad Zulkernine, Queen's University, Canada

8:00-9:30  Session I
Chair: Rafael Accorsi, University of Freiburg, Germany
- Agent Protection Based on the Use of Cryptographic Hardware
  Antonio Muñoz, Antonio Maña, Rajesh Harjani, Marioli Montenegro
- Towards Usable Solutions to Graphical Password Hotspot Problem
  Kemal Bicakci, Nart Bedin Atalay, Mustafa Yuceel, Hakan Gurbaslar, Burak Erdeniz
- On Information Flow Forensics in Business Application Scenarios
  Claus Wonnemann, Rafael Accorsi, Günter Müller

10:00-11:30  Session II
Chair: Zhenping Wu, University of Bridgeport, USA
- An Enforcement Architecture for Security and Trust Policies in Federated Web-service-based Systems
  Zhenping Wu, Lifeng Wang
- A Model for Privacy Policy Visualization
  Kambiz Ghazinour, Maryam Majedi, Ken Barker

13:30-15:00  Session III
Chair: Bruce M. McMillin, Missouri University of Science and Technology, USA
- The Security Implication of Multiple Observers in a Distributed System
  Derek P. Ditch, Bruce M. McMillin
- Defending Battery Exhaustion Attacks on Mobile Systems
  Sungyong Shin, Taek Lee, Hoh Peter In
- On Selecting Appropriate Development Processes and Requirements Engineering Methods for Secure Software
  Muhammad Umair Ahmed Khan, Mohammad Zulkernine

Location: Regency Ballroom E
Organizing Chairs: Joao Cangussu, University of Texas at Dallas, USA; Ratnesh Kumar, Iowa State University, USA; Ron Kenett, KPA, Israel

8:00-9:30  
Session I  
Chair: Ratnesh Kumar, Iowa State University, USA  
Introduction and Welcome to IWSC 2009 by Ron S. Kenett, KPA, Israel  
Keynote: Scott Lintelman, Boeing Networked Systems Technology, USA

10:00-11:30  
Session II  
Chair: Joao W. Cangussu, University of Texas at Dallas, USA  
• Adaptive Control Framework for Software Components: Case-Based Reasoning  
  Mykola Tkachuk, Sergii Polkoukovik, Sergiy Bronin  
• Modeling Simulink Diagrams using Input/Output Extended Finite Automata  
  Changyan Zhou, Ratnesh Kumar  
• T3: Secure, Scalable, Distributed Data Movement and Remote System Control for Enterprise Level Cyber Security  
  Gregory S. Thomas, Bill Nickless, David R. Thiede, Ian Gorton, Bill J. Pitre, Jason E. Christy, Liz Faultersack, Jeffery A. Mauth

13:30-15:00  
Session III  
Chair: Kai-Yuan Cai, Beijing University of Aeronautics and Astronautics, China  
• A Control-Based Approach to Balance Services Performance and Security for Adaptive Service Based Systems (ASBS)  
  Chang Liu, Changhai Jiang, Hai Hu, Kai-Yuan Cai, Dazhi Huang, Stephen S. Yau  
• Prevention of Sequential Message Loss in CAN Systems  
  Shengbing Jiang, Ratnesh Kumar  
• Risk-based Adaptive Group Testing of Semantic Web Services  
  Xiaoying Bai, Ron S. Kenett

19:00-21:00  
Welcome Reception: East Lawn Garden, adjacent to Hyatt Regency Bellevue—enter through the Wintergarden Lobby (main Hyatt lobby)  
Alternate rain location: Regency Ballroom

Tuesday, July 21, 2009
8:00-9:00  
Opening Session and Keynote  
Location: Regency Ballroom  
Joint Conference Welcome: Carl Chang, Chair, COMPSAC Steering Committee, Chair, SAINT Steering Committee  
Welcome Remarks: Darrell Long, General Chair SAINT09; Tony Hey, General Chair COMPSAC09  
Opening Remarks: Susan K. Land, 2009 President, IEEE Computer Society  
COMPSAC Program Overview: Vladimir Getov, COMPSAC09 Program Chair  
SAINT Program Overview: Morris Chang, Kenichi Yoshida, SAINT09 Program Chairs  
COMPSAC Best Paper Awards: Lin Liu, COMPSAC Program Chair  
SAINT Best Paper Awards: Kilnam Chon, Johnny Wong, SAINT Awards Chairs

9:00-10:00  
Keynote: Project Green Light: Optimizing Cyber Infrastructure for a Carbon Constrained World  
Larry Smarr, California Institute for Telecommunications and Information Technology, USA  
Chair: Elisa Bertino, Purdue University, USA

10:00-10:30  
AM Break

10:30-12:00  
Parallel Sessions

Location Based Services (Privacy Protection in Location Based Services)  
Chair: Paolo Bellavista, University of degli Studi di Bologna, Italy  
Location: Laurel Room  
• A Privacy Enhancing Approach for Identity Inference Protection in Location Based Services  
  Sharif Hasan, Sheikh Iqbal Ahamed, Mohammad Tanviruzzaman  
• ELALPS: A Framework To Eliminate Location Anonymizer from Location Privacy Systems  
  Mehrab Monjur, Sheikh Ahamed, Chowdhury Sharif Hasan  
• Indoor Navigation on Distributed Stationary Display Systems  
  Peter Ruppel, Florian Gschwandtner, Corina Kim Schindhelm, Claudia Linhoff-Popien

Software Evolution I (Software Architecture Development and Evaluation)  
Chair: Atilla Elçi, Eastern Mediterranean University, North Cyprus  
Location: Juniper Room  
• Aspectual Separation of Feature Dependencies for Flexible Feature Composition  
  Kwanwoo Lee, Goetz Botterweck, Steffen Thiel  
• Initiating and Institutionalizing Software Product Line Engineering: from Bottom-up Approach to Top-down Practice  
  Dong Li, Carl Chang  
• Transforming a Software Product Company into a Service Business: Case Study at F-Secure  
  Marko Komssi, Marjo Kauppinen, Juho Heiskari, Matti Ropponen  
• Viewpoint-Oriented Variability Modeling  
  Mike Mannion, Juha Savolainen, Timo Asikainen
Testing I (Context-aware Software Analysis)
Chair: Hong Zhu, Oxford Brooks University, UK
Location: Larch Room
- Practical Extensions of a Randomized Testing Tool
  Hojun Jaygarl, Sung Kim, Carl Chang
- 3D Support for Business Process Simulation
  Daniel Eichhorn, Agnes Koschmider, Yu Li, Peter Stürzel, Andreas Oberweis, Ralf Trunko
- An Empirical Study of the Use of Frankl-Weyuker Data Flow Testing Criteria to Test BPEL Web Services
  Lijun Mei, W. K. Chan, T. H. Tse, F. C. (Diana) Kuo

Doctoral Symposium
Chair: Jinchun Xia, San Jose State University, USA
Room: Regency Ballroom ABC
- Dihomotopic Reduction Used in Deadlock Detection
  David Cape, Bruce McMillin
- Towards a Resource-Aware Component Model for Embedded Systems
  Aneta Vulgarakis
- Efficient Management of Consistent Backups in a Distributed File System
  Jan Stender
- Model-checking BNDC Properties in Cyber-physical Systems
  Ravi Akella, Bruce McMillin

Software Quality I (Software Quality Measurement, Modelling and Analysis)
Chair: Ron Kenett, KPA, Israel
Location: Larch Room
- Towards Improving OCL-based Descriptions of Software Metrics
  Taeyeon Kim, Yunkyu Kim, Heung Seok Chae
- Modeling and Predicting Software Failure Costs
  Michael Grottke, Christian Graf
- A Service Discovery System Analyzed with a Queueing Theory Model
  Beihong Jin, Haibin Weng, Yunfeng Wen, Faen Zhang

Testing II (Modularization, Composition and Reuse)
Chair: Tugkan Tuglular, Izmir Institute of Technology, Turkey
Location: Laurel Room
- How Well Do Test Case Prioritization Techniques Support Statistical Fault Localization
  Bo Jiang, Zhenyu Zhang, W.K. Chan, T. H. Tse, T. Y. Chen
- Automatic Discovery of Web Services Based on Dynamic Black-Box Testing
  Youngki Park, Woosung Jung, Byungjeong Lee, Chisu Wu
  Siripol Noikajana, Taratip Suwannasart

Social Networks I (Collaborative Networks)
Chair: Doo-Hwan Bae, KAIST, Korea
Location: Juniper Room
- Computing Reputation for Collaborative Private Networks
  Jordi Nin, Barbara Carminati, Elena Ferrari, Vicenç Torra
- Towards the Operational Semantics of User-centric Communication Models
  Yingbo Wang, Yali Wu, Andrew Allen, Barbara Espinoza, Peter Clarke, Yi Deng
- Software Outsourcing Subcontracting and Its Impacts: An Exploratory Investigation
  Yi Wang, Huihui Shi

12:00-13:30  Lunch
13:30-15:00  Parallel Sessions

15:00-15:30  PM Break
15:30-17:00  Parallel Sessions
Panel 1: Interoperable Identity Services
Location: Regency Ballroom ABC
Moderator: Kenji Takahashi and Paul Madsen, NTT, Japan
Panelists: Chi-Hung Chi, Tsinghua University, China; Kim Cameron, Microsoft, USA; Soren Peter Andersen, Danish National IT and Telecom Agency, Denmark; Joseph Smarr, Plaxo, USA

Software Quality II (Software and Services Reliability Models)
Chair: T.H. Tse, The University of Hong Kong
Location: Juniper Room
- A Hierarchical Reliability Model of Service-Based Software System
  Lijun Wang, Xiaoying Bai, Yinong Chen, Lizhu Zhou
- Applicability of Software Reliability Growth Modeling in the Quality Assurance Phase of a Large Business Software Vendor
  Arne Beckhaus, Lars M. Karg, Gerrit Hanselmann
- Towards Transaction-based Reliable Service Compositions
  Chang-ai Sun

Embedded Systems I (Design and Verification of Embedded Systems)
Chair: Tiberiu Secelleanu, ABB Corporate Research, Sweden
Location: Laurel Room
- ACaMES: A Novel Design Methodology on Multicore Embedded System
  Youngsam Shin, Seungwon Lee
- ESIDE: An Integrated Development Environment for Component-Based Embedded Systems
  Nicholas Pilkington, Juncao Li, Fei Xie
- Formalization and Verification of PLC Timers in Coq
  Hai Wan, Gang Chen, Xiaoyu Song, Ming Gu

Requirements Engineering I (Requirements Structure, Analysis, and Traceability)
Chair: Eric Dubois, CRP Henry Tudor, Luxembourg
Location: Larch Room
- System Safety Requirements As Control Structures
  Zhe Chen, Gilles Motet
- Improving E-Government through Benefit Analysis and Value Modeling
  Gustaf Juell-Skielse, Erik Perjons
- Traceability ReARMed
  Joern David, Maximilian Koegel, Helmut Naughton, Jonas Helming

Wednesday, July 22, 2009
8:00-10:00
Keynote: Programming the Cloud
Tony Hey, Corporate Vice President, External Research, Microsoft Research, Microsoft Corporation, USA
Location: Regency Ballroom
Chair: Vladimir Getov, Westminster University, UK

10:00-10:30
AM Break
10:30-12:00
Parallel Sessions

Security I (Security Analysis and Protection Techniques)
Chair: Xuhai Zou, Purdue University, USA
Location: Laurel Room
- Analyzing Semantics of Documents by using a Program Analysis Method
  Hiroyuki Sato
- Tamper Resistance for Software Defined Radio Software
  Shucai Xiao, Jung-Min "Jerry" Park, Yanzhu Ye
- A Multiple Secret Sharing Scheme based on Matrix Projection
  Kai Wang, Xukai Zou, Yan Sui

Software Quality III (Software Quality Improvement Technique)
Chair: Kai-yuan Cai, Beijing University of Aeronautics and Astronautics, China
Location: Larch Room
- Toward Middleware-based Online Application Migration
  Fang Deng, Qianxiang Wang, Jin Shao
- Tool Support for Design Pattern Recognition at Model Level
  Hong Zhu, Ian Bayley, Lijun Shan, Richard Amphlett
- Predicting Change Impact in Object-Oriented Applications with Bayesian Networks
  Abdi Mustapha Kamel, Lounis Hakim, Sahraoui Houari
- Modeling and Performance Analysis of Software Rejuvenation Policies for Multiple Degradation Systems
  Xiaozhi Du, Yong Qi, Di Hou, Ying Chen, Xiao Zhong
Testing III (Testing Economics, Models and Analysis)
Chair: Xiaoying Bai, Tsinghua University, China
Location: Juniper Room
- An Economical Approach to Usability Testing
  Carl Mueller, Dan Tamir, Oleg Komogortsev, Liam Feldman
- A Sentence Generation Algorithm for Testing Grammars
  Lixiao Zheng, Duanyi Wu
- Software Input Space Modeling with Constraints among Parameters
  Sergiy Vilkomir, Thomas Swain, Jesse Poore
- HEAT: An Integrated Static and Dynamic Approach for Thread Escape Analysis
  Qichang Chen, Liqiang Wang, Zijiang Yang

Social Networks II (Trust and Contracting in Social Networks)
Location: Regency Ballroom ABC
Chair: Chi-Hung Chi, Tsinghua University, China
- Leveraging Social Contacts for Message Confidentiality in Delay Tolerant Networks
  Karim El Defrawy, John Solis, Gene Tsudik
- Hot Set Identification for Social Network Applications
  Claudia Canali, Michele Colaianni, Riccardo Lancellotti
- An Agent-Based Framework Supporting Trust Evaluation for Service Selection
  Manling Zhu, Zhi Jin
- A Framework for Enabling User-controlled Persona in Online Social Networks
  Dongwan Shin, Rodrigo Lopes, Gail-Joon Ahn

Location Based Services II
Location: Regency Ballroom FG
Chair: Yang Li, BT Innovate, British Telecom plc, UK
- Improvements for 802.11-based Location Fingerprinting Systems
  Hendrik Lemelson, Stephan Kopf, Thomas King, Wolfgang Effelsberg
- Enhancing the Scalability of IMS-based Presence Service for LBS Applications
  Paolo Bellavista, Antonio Corradi, Luca Foschini

12:00-13:30 Lunch
13:30-15:00 Roundtable: 70 Years: Electronic Digital Computing that Changed the World
Location: Regency Ballroom
Hosts: John V. Atanasoff II, JVA Initiative; Carl K. Chang, Iowa State University
Distinguished Guests: Richard J. Gowan, IEEE Foundation, USA; Mike Geselowitz, IEEE History Center, USA
Moderator: Vladimir Getov, COMPSAC09 Program Chair
Panelists: Gordon Bell, Microsoft, USA; Charles Call, Patent Attorney, Chicago, IL, USA;
John Gustafson, Intel; Mike Williams, University of Calgary, Canada

15:00-15:30 PM Break
15:30-17:00 Parallel Sessions
Panel 2: Evolution of Services Computing Curriculum and Services University
Moderator: Liang-Jie (LJ) Zhang, IBM, USA
Location: Regency Ballroom ABC

Fast Abstracts I (Formal Methods, Software Tools, Robotics)
Chair: Hen-I Yang, Iowa State University, USA
Location: Laurel Room
- The Java Data Mining Package—A Data Processing Library for Java
  Holger Arndt
- Toward the Design of Robotic Software with Verifiable Safety
  Chih-Hong Cheng, Markus Rickert, Christian Buckl, Edward A. Lee, Alois Knoll
- A Systematic Robot Fault-tolerance Approach
  Bingu Shim, Beomho Baek, Sooyong Park
- Generation of Pairwise Test Sets using a Genetic Algorithm
  James D. McCaffrey
- An Ontology-based Approach for GUI Testing
  Han Li, Feng Chen, Hongji Yang, He Guo, William Cheng-Chung Chu
- A Fine-Grained Privacy Structure for Service-Oriented Architecture
  David Allison, Hany El Yamany, Miriam Capretz

Software Architecture I (Software Architecture Development And Scheduling)
Chair: Hongji Yang, DeMontfort University, UK
Location: Regency Ballroom FG
- Towards a Well Structured and Dynamic Application Server
  Chao You, Minghui Zhou, Zan Xiao, Hong Mei
• ProtoTalk: A Generative Framework for Prototyping Protocols in Smalltalk
  Ali Razavi, Kostas Kontogiannis

• Usage History-based Architectural Scheduling
  Dongsun Kim, Seokhwan Kim, Sooyong Park

Testing IV (Testing Theory, Methodology and Application)
Chair: Joao Cangussu, University of Texas at Dallas, USA
Location: Juniper Room
• A Study of Applying Extended PIE Technique to Software Testability Analysis
  Tsung-Han Tsai, Chin-Yu Huang, Jun-Ru Chang
• Asynchronous Input-Output Conformance Testing
  Martin Weighhofer, Franz Wotawa
• Towards a Theory for Testing Non-terminating Programs
  Arnaud Gottlieb, Matthieu Petit
• Test Case Generation for Collaborative Real-time Editing Tools
  Lian Yu, Wei Zhao, Xiaofeng Di, Changzhu Kong, Wenbo Zhao, Qianxiang Wang, Jun Zhu

Requirements Engineering II (Process Analysis and Service Management)
Chair: Colette Rolland, University of PARIS-1 Pantheon Sorbonne, France
Location: Larch Room
• Towards a Design Method Supporting the Alignment Between Business and Software Services
  Sophie Ramel, Eric Grandry, Eric Dubois
• A Framework for Cost Sensitive Assessment of Intrusion Response Selection
  Chris Strasburg, Natalia Stakhanova, Samik Basu, Johnny Wong
• Applying PageRank Algorithm in Requirement Concern Impact Analysis
  Ying Jin, Jing Zhang, Penfei Ma, Weiping Hao, Shutong Luo, Zepeng Li
• Distributed Collaborative Modeling Support System Associating UML Diagrams with Chat Messages
  Dongmei Xu, Jun Kurogi, Yoshihide Ohgame, Atsuo Hazeyama

18:30-22:00  COMPSAC Banquet: Argosy Cruise through the U.S. Navy Locks; Shuttle leaves from Hyatt Cedar Bellevue at 5:30pm. Return time: 10pm

Thursday, July 23, 2009
8:30-10:00  Keynote: Towards Fine Grained Secure Communications
  Tatsuaki Okamoto, NTT, Japan
  Location: Regency Ballroom
  Chair: Haruo Takemura, SAINT 2009 GC

10:00-10:30  AM Break
10:30-12:00  Parallel Sessions

Moderator: Rajesh Subramanyan, Siemens Corporate Research, USA
Panelists: Ron Kenett, KPA, Israel; Hamid Salemizadeh, Siemens, USA; T.H. Tse, The University of Hong Kong; Jeffrey M. Voas, SAIC, USA
Location: Regency Ballroom ABC

Software Architecture II (Software Architecture Specification and Analysis)
Chair: Kostas Kontogiannis, National Technical University of Athens, Greece
Room: Larch Room
• Software Methodologies for the Engineering of Service-Oriented Industrial Automation: The Continuum Project
  J. Marco Mendes, Axel Bepperling, João Pinto, Paulo Leitão, Francisco Restivo, Armando W. Colombo
• A Next-Generation Matrix Library for Java
  Holger Arndt, Markus Bundschus, Andreas Naegel
• Towards Dynamic Component Updating: A Flexible and Lightweight Approach
  Zan Xiao, Donggang Cao, Chao You, Haiyan Zhao, Hong Mei

Mobile and Pervasive Computing I (RFID, Wireless Network and Services)
Chair: Sheikh Iqbal Ahamed, Marquette University, USA
Location: Laurel Room
• Towards Passive RFID Event
  Wei Ye, Wen Zhao, Yu Huang, Wenhui Hu, Shikun Zhang, Lifu Wang
• Estimating Rate of Queue Usage to Differentiate Cause of Packet Loss in Multi-hop Wireless Networks
  Mi-Young Park, Sang-Hwa Chung, Prasanthi Sreekumari
• Deployment of Services Applications in Services Execution Environments
  Antonin Chazalet, Philippe Lalanda

Formal Methods (Formal Specification and Model Checking)
Chair: Cristina Seceleanu, Mälardalen University, Sweden
Location: Juniper Room
• A Formal Description Language and an Automated Detection Method for Complex Events in RFID
  Jiaqi Zhu, Yu Huang, Hanpin Wang
12:00-13:30  Lunch
13:30-15:00  Parallel Sessions

Software Architecture III (Analysis of Software Updates)
Chair: Qianxiang Wang, Peking University, China
Location: Larch Room
- Design of Service Component Layer in SOA Reference Architecture
  Liangjie Zhang, Jia Zhang
- The Design and Implementation of a Bare PC Email Server
  George Ford, Ramesh Karne, Alexander Wijesinha, Patrick Appiah-Kubi
- Service Identification via Ontology Mapping
  Feng Chen, Zhuopeng Zhang, Jianzhi Li, Jian Kang, Hongji Yang

Mobile and Pervasive Computing II (Software Testing and Re-engineering)
Chair: Bruce McMillin, Missouri University of Science and Technology, USA
Location: Laurel Room
- An Overlay-based Resource Monitoring Scheme for Social Applications in MANET
  Kyungman Kwak, Gonzalo Huerta-Canepa, Yangwoo Ko, Dongman Lee, Soon J. Hyun
- More Tales of Clouds: Software Engineering Research Issues from the Cloud Application Perspective
  Lijun Mei, Zhenyu Zhang, W.K. Chan
- Shift Hashing for Memory-Constrained Applications
  Sushamna Deodhar, Alan Tharp
- Transaction Level Control for Application Execution on the SegBus Platform
  Tiberiu Seceleanu, Ivica Crnkovic, Cristina Seceleanu

Best Practice
Chair: Liang-Jie (LJ) Zhang, IBM, USA
Location: Regency Ballroom ABC
- Integrating System Modeling with Project Management – a Case Study
  Jonas Helming, Jörn David, Maximilian Kögel, Helmut Naughton
- Efficient Temporal Blocking for Stencil Computations by Multicore-aware Wavefront Parallelization
  Gerhard Wellein, Georg Hager, Markus Wittmann, Thomas Zeiser, Holger Fehske
- Extensions for Integrated Queries on Heterogeneous Semantic Web Resources
  Cheng-Zen Yang, Ing-Xiang Chen, Jia-Da Ye
- Swarm Intelligence in the fine-tuning of Software Development Cost Estimation Models
  Tad Gonsalves, Kei Yamagishi, Kiyoshi Itoh

Fast Abstracts II (Software Engineering, MDA)
Chair: Katsunori Oyama, Iowa State University
Location: Juniper Room
- A Multi-Model Process Improvement Methodology Driven by Capability Profiles
  Clenio Salviano
- On Model Transformation Reuse
  Xiao He, Zhiyi Ma, Yan Zhang, Weizhong Shao
- Requirement Risk Assessment Focused-on Stakeholder Risk Analysis
  Li Xiaohong, Liu Qiang
- Industrial Opinion on the Effectiveness of Risk Management Methods
  Mira Kajko-Mattsson, Jan Lundholm, Jonas Norrby
- A Study of the Impact on Students Understanding Cross Cultural Differences in Software Engineering Work
  Nancy R. Mead, Antonio Drommi, Dan Shoemaker, Jeff Ingalsbe
- Industrial Report: Data Reengineering of COBOL Sequential Legacy Systems
  Richard Millham, Hongji Yang

15:00-15:30  PM Break
15:30-17:00  Parallel Sessions

Joint Panel: Emerging Pervasive Systems—Research Challenges and Proposed Solutions
Moderator: Sahra Sedigh, Missouri University of Science and Technology
Panelists: Paolo Bellavista, Universita di Bologna, Italy; Yuuichi Teranishi, Osaka University/NICT, Japan; Ankur Teredesai, University of Washington, USA; Johnny Wong, Iowa State University, USA;
Location: Regency Ballroom ABC
Education and Learning (Domain Specific Software Architecture Design)
Chair: Antonio Drommi, University of Detroit Mercy, USA
Location: Laurel Room
• Temporally Robust Software Features for Authorship Attribution
  Steven Burrows, Alexandra L. Uitdenbogerd, Andrew Turpin
• An Augmented Social Interactive Learning Approach through Web2.0
  Li Jin, Zhigang Wen
• RHE: A Lightweight JVM Instructional Tool
  Shaoshan Liu, Chengrui Deng, Xiao-Feng Li, Jean-Luc Gaudiot

Security II (Intelligent Applications)
Chair: Xia Wang, Google, USA
Location: Juniper Room
• Exploring Security in PROFINET IO
  Johan Akerberg, Mats Bjorkman
• A Static Java Birthmark Based on Control Flow Edges
  Hyun-il Lim, Heewon Park, Seokwoo Choi, Taisook Han
• A Secure and Flexible Electronic-ticket System
  Fahim Khan, Yashiro Takeshi, Ito So, Masahiro Bessho, Ken Sakamura
• PAIDS: A Proximity-Assisted Intrusion Detection System for Unidentified Worms
  Zhenyun Zhuang, Ying Li, Zesheng Chen

Friday, July 24, 2009
8:30-10:00   Concluding Plenary Panel: Security and Privacy in Community-based Internet Applications
Location: Regency Ballroom
Moderator: Stephen S. Yau, Arizona State University, USA
Panelists: Balachander Krishnamurthy, AT&T Bell Labs, USA; Shiro Uesugi, University of Matsuyama, Japan;
Jeffrey Voas, Science Applications International Corp., USA; Yi-Min Wang, Microsoft Research, USA

2nd IEEE International Workshop on Barriers towards INternet-Driven Information Services (BINDIS 2009)
Location: Regency Ballroom A
Organizing Chair: Yang Li, BT Innovate, British Telecom plc, UK
10:30-12:00  Session I: Service Creation and Management
Chair: Yang Li, BT Innovate, British Telecom plc, UK
• A Cooperative Framework of Service Chain for Digital Library
  Huang Meng-xing, Xing Chun-xiao, Yang Ji-jiang
• A Specialized Meta-scheduler for Business and Applications Constraints Management
  Jérémie Chevalier, Stéphane Mouton
• Towards Industry-Strength SLA Optimization Capabilities for Service Chains
  Yang Li

13:30-15:00  Session II: Service Marketing and Inoperability
Chair: Jijiang Yang, Tsinghua University, China
• Matchmaking Using Natural Language Description
  Joe Geldart, William Song, Yang Li
• An Investigation of the Role of Service Level Agreements in Classified Advertisement Websites
  Aijaz Soomro, William Song, Yang Li

1st IEEE International Workshop on Computer Forensics in Software Engineering (CFSE 2009)
Location: Regency Ballroom E
Organizing Chairs: Jigang Liu, Kyoto University, Japan; Doris Carver, Louisiana State University, USA
10:30-12:00  Session I: Software System Forensics
Chair: Jigang Liu, Kyoto University, Japan
• Analysis of Redundant Traces for Consistency
  Fred Cohen
• A Method for Historical Ext3 Inode to Filename Translation on Honeypots
  Kevin D. Fairbanks, Ying H. Xia, Henry L. Owen III
• Log Data as Digital Evidence: What Secure Logging Protocols Have to Offer?
  Rafael Accorsi

13:30-15:00  Session II: Protection Testing and Computer Forensics
Chair: Jigang Liu, Kyoto University, Japan
• Penetration Testing for Spam Filters
  Yugesh Madhavan, Joao W. Cangussu, Ram Dantu
• Acer Aspire One Netbooks: A Forensic Challenge
  Amrit Pal Singh, Michael Lavine, Benjamin Turnbull, Trupti Shiralkar
1st IEEE International Workshop on Security Aspects of Process and Services Engineering (SAPSE 2009)
Location: Larch Room
Organizing Chair: Stelvio Cimato, University of Milan, Italy
10:30-12:00  Session I: Service Collaboration and Access Control
Chair: Stelvio Cimato, University of Milan, Italy
- Policy Composition based on Petri Nets
  Hejiao Huang, Helene Kirchner
- Verification of Access Control Policies for REA Business Processes
  Vahid R. Karimi, Donald D. Cowan
- Towards the Verification of Services Collaboration
  Yue Xie, Dehui Du, Jing Liu, Zuohua Ding

13:30-15:00  Session II: Service Security and Protection
Chair: Stelvio Cimato, University of Milan, Italy
- Towards Validating Security Protocol Deployment in the Wild
  Luca Compagna, Ulrich Flegel, Volkmar Lotz
- On a Classification Approach for SOA Vulnerabilities
  Lutz Lowis, Rafael Accorsi
- SN2K Attacks and Honest Services
  Ashish Kundu
- PhishCatch – A Phishing Detection Tool
  Weider Yu, Shruti Nargundkar, Nagapriya Tiruthani

2nd IEEE International Workshop on Component-Based Design of Resource-Constrained Systems (CORCS 2009)
Location: Juniper Room
Organizing Chairs: Cristina Secelanu, Mälardalen Real-Time Research Centre (MRTC), Sweden; Paul Pettersson, Mälardalen Real-Time Research Centre (MRTC), Sweden
10:30-12:00  Session I: Modeling and Optimization of Component-based Systems
Chair: Paul Pettersson, Mälardalen University, Sweden
- Optimizing Component-Based Embedded Software
  Olivier Lobry, Juan Navas, Jean-Philippe Babau
- Towards a Unified Behavioral Model for Component-Based and Service-Oriented Systems
  Aida Ćaušević, Aneta Vulgarakis

13:30-15:00  Session II: Analyzing Complex Real-Time and Embedded Systems
Chair: Cristina Secelanu, Mälardalen University, Sweden
- Testing with Large Parameter Sets for the Development of Embedded Systems in the Automation Domain
  Florian Kantz, Thomas Ruschival, Philipp Nenninger, Detlef Streitferdt
- Transformational Specification of Complex Legacy Real-Time Systems via Semantic Anchoring
  Yue Lu, Antonio Cicchetti, Stefan Bygde, Johan Kraft, Thomas Nolte, Christer Norström

2nd IEEE International Workshop on Industrial Experience in Embedded Systems Design (IEESD 2009)
Location: Cottonwood Room
Organizing Chairs: Tiberiu Secelanu, ABB Corporate Research, Sweden; Detlef Streitferdt, ABB Corporate Research, Sweden
10:30-12:00  Session I
- An Integrative Approach for Embedded Software Design with UML and Simulink
  Tibor Farkas, Carsten Neumann, Andreas Hinnerichs
- State of the Art in Using Agile Methods for Embedded Systems Development
  Radu Dobrin, Kristina Lundqvist
- Test Case Mutation in Hybrid State Space for Reduction of No-Fault-Found Test Results in the Industrial Automation Domain
  Philipp Nenninger, Florian Kantz, Detlef Streitferdt

1st IEEE International Workshop on Software Test Automation (STA 2009)
Location: Laurel Room
Organizing Chairs: Rajesh Subramanyan, Siemens Corporate Research, USA; Fevzi Belli, University of Paderborn, Germany
10:30-12:00  Session I: Test Automation I
Chair: Rajesh Subramanyan, Siemens Corporate Research, USA
Keynote speaker: Hamid Salemizadeh, Siemens, USA
- Implementing an Effective Test Automation Framework
  Eun Ha Kim, Jong Chae Na., Seok Moon Ryoo
- GUI-Based Testing of Boundary Overflow Vulnerability
  Tugkan Tuglular, Can A. Muftuoglu, Ozgur Kaya, Fevzi Belli, Michael Linschulte

13:30-15:00  Session II: Test Automation II
Chair: Tugkan Tuglular, Izmir Institute of Technology, Turkey
- Test Selection Prioritization Strategy
  Rajesh Subramanyan, Christof Budnik
- Automatic Testing of Program Security Vulnerabilities
  Hossain Shahriar, Mohammad Zulkernine
- A New Mutation Analysis Method for Testing Java Exception Handling
  Changbing Ji, Zhenyu Chen, Baowen Xu, Ziyuan Wang
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The creation of trustworthy, dependable, distributed, and smart services satisfying the needs of today pervasive and ubiquitous computing environments spans all aspects of software systems engineering. COMPSAC is a unique forum bringing together these facets and their major stakeholders. It gives researchers and practitioners an opportunity to share their perspective with others interested in the various aspects of computer systems and applications.

The technical theme for the 34th conference is Computationally Smart Environments. Smart software solutions applied to diverse areas (including but not limited to Healthcare, Energy, Social, Environmental, Industrial applications etc...) can improve efficiency, reliability, quality and simultaneously reduce costs. Requirement analysis, co-analysis/co-design, modelling, development, testing, measurement, verification, validation, performance, autonomy, safety, security, and dependability constraints are a few of numerous computing disciplines that can collectively contribute to these smart solutions and are some of the topics of interest. The program of COMPSAC 2010 will continue to feature research and industrial practice papers with a wide range of topics, focusing on software and middleware development for distributed platforms, services computing, cloud computing, and mobile systems. The program is not limited to these topics. Interdisciplinary submissions are also encouraged.

To properly engineer smart solutions, the foundations, methodologies, and mechanisms that support the design, modelling, and evaluation of software systems and computer applications must come from diverse sources. Multidisciplinary work, research and development of software prototypes, industry-university collaborations, all based on new emerging and critical technologies will be of particular interest to this conference. All accepted papers will be published in the electronic proceedings by the IEEE Computer Society, indexed through INSPEC and EI Index, and automatic inclusion in the IEEE digital library.

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