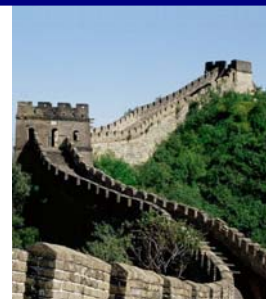




31<sup>st</sup> Annual IEEE International  
Computer Software and Applications Conference




# COMPSAC 2007

Beijing, China, July 23 - 27, 2007



## PROGRAM

*Sponsored by*

<i>Sponsor</i>	<i>Sponsor</i>	<i>Platinum Sponsor</i>	<i>Bronze Sponsor</i>	
				
<i>Bronze Sponsors in China</i>				
				

*Supported by*

<i>Supporters</i>				
				

# IEEE COMPSAC 2007 Program Summary

**This year we received 325 submissions internationally from academia, government and industrial sectors. Each paper was reviewed by at least three reviewers to evaluate its technical content and suitability to the conference theme. After a rigorous peer review process, 59 regular papers and 35 short papers have been selected for presentation and included in the conference proceedings. The regular papers include mature results. Short papers represent quality work that will spur discussion. The program contains fast abstract sessions to discuss promising but preliminary results and a doctoral symposium to present work-in-progress.**

**The program includes:**

- **3 Keynotes and 7 Panel Sections**
- **25 Research and Industry Sections (6 Tracks)**
- **2 Doctoral Symposium Sections and 2 Fast Abstracts Sections**
- **2 Tutorials**
- **1 Banquet and 1 Reception**
- **14 Workshops (Total: 41 Workshop Sections)**
  - **The First IEEE International Workshop on Testing Emerging Software Technology (TEST07)**
  - **The Second IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA07)**
  - **The First IEEE International Workshop on Engineering Mobile-Based Software and Applications (EMOBS07)**
  - **The Second IEEE International Workshop on Engineering Semantic Agent Systems (ESAS07)**
  - **The Fourth IEEE International Workshop on Software Cybernetics (IWSC07)**
  - **The First IEEE International Workshop on Software Engineering Challenges in the Automotive Domain (SECAD07)**
  - **The First IEEE International Workshop on Quality Oriented Reuse of Software (QUORS07)**
  - **The First IEEE International workshop on Software Engineering for Adaptive Software Systems (SEASS07)**
  - **The Second IEEE Asia-Pacific Workshop on Software Architectures and Component Technologies (SACT07)**
  - **The First IEEE International Workshop on Security in Software Engineering (IWSSE07)**
  - **The Third IEEE Asian Workshop on Aspect-Oriented Software Development (AOAsia07)**
  - **The First IEEE International Workshop on Development and Application of Knowledge Based Software Engineering Tool (KASET07)**
  - **The First IEEE International Workshop on Requirements Engineering for Services (REFS07)**
  - **The First IEEE International Workshop on Software Patterns: Addressing Challenges (SPAC07)**

## COMPSAC 2007 Program At-a-Glance

Monday, July 23, 2007 : Workshops (Monday Tutorials are Cancelled)									
Room	MH103	MH101	MH102	MH105	MH106	MH201	MH104		
8:00-9:30	SACT 1	EMOBS 1	ESAS 1	IWSC 1	AOAsia 1	REFS 1	STPSA 1		
9:30-10:00	AM Break								
10:00-11:30	SACT 2	EMOBS 2	ESAS 2	IWSC 2	AOAsia 2	REFS 2	STPSA 2		
11:30-13:30	Lunch (Friendship Palace)								
13:30-17:30		EMOBS 3,4,5	ESAS 3	IWSC 3,4	AOAsia 3,4	REFS 3,4			
15:00-17:00	Refreshments will be provided for two hours								
Tuesday, July 24, 2007 : The First Conference Day									
8:00-9:30	Welcome: Carl Chang, Anson Chen, Huimin Lin (RB-1/2) Program Overview: Bruce McMillin, Fevzi Belli, Hong Mei Opening Remark: IEEE Computer Society 2007 President Michael Williams								
	<b>Keynote 1:</b> Software Foundation for Critical Pervasive Computing, Sumi Helal; Chaired by: Bruce McMillin								
9:30-10:00	AM Break								
Room	RB4		RB5		JB2		JB3		
10:00-11:30	T1: Security 1		T2: Life Cycle 1		T3: QoS 1		Panel 1		
11:30-13:30	Lunch (Friendship Palace)								
13:30-15:00	T4: Security 2		T5: Life Cycle 2		T6: QoS 2		Panel 2		
15:00-15:30	PM Break								
15:30-17:00	T7: Security 3		T8: Life Cycle 3		T9: QoS 3		Panel 3		
18:30-22:00	COMPSAC 2007 Reception ( The Central Garden Of The Friendship Hotel)								
Wednesday, July 25, 2007 : The Second Conference Day									
8:00-9:30	Best Paper Awards: Bruce McMillin (RB-1/2)								
	<b>Keynote 2:</b> From Knowledge-based Software Engineering to Knowware-based Software Engineering, Ruqian Lu; Chaired by: Hong Mei								
9:30-10:00	AM Break								
Room	RB4		RB5		JB2		JB3		
10:00-11:30	W1: Security 4		W2: Requirements 1		W3: Quality 1				
11:30-13:30	Lunch (Friendship Palace)								
13:30-15:00	Doctoral Symposium 1		W5: Requirements 2		W6: Quality 2		W4: Life Cycle 4		
15:00-15:30	PM Break								
15:30-17:00	Doctoral Symposium 2		W7: Requirement 3		W8: Quality 3		Panel 4		
18:30-22:00	COMPSAC 2007 Banquet (The People's Great Hall. Bus Transportation Will Be Provided)								
Thursday, July 26, 2007 : The Third Conference Day									
8:00-9:30	Plenary Panel 5: Future Trends – Computing as a Core Discipline (RB-1/2) Chair: Bruce McMillin								
9:30-10:00	AM Break								
Room	JB2		JB3		JB1				
10:00-11:30	Fast Abstracts 1		Birds of a Feather		H2: Quality 4				
11:30-13:30	Lunch (Friendship Palace)								
13:30-15:00	Fast Abstracts 2		H1: Requirements 4		H4: Quality 5				
15:00-15:15	PM Break								
15:15-16:45	Panel 6		H3: Requirements 5		H5: Quality 6				
16:45-18:00	COMPSAC 2008 Planning Meeting (JB-1) All Are Invited!								
Friday, July 27, 2007 : Tutorials, Workshops and Industry Day									
8:00-9:30	Industry Day Plenary Panel 7: Software for the Mobile Internet (Meeting Hall 1)								
	<b>Keynote 3:</b> Software for the Mobile Internet, Anson Chen; Chaired by: Stephen Chen								
9:30-10:00	AM Break								
Room	MH101	MH102	MH103	MH104	MH105	MH106	MH201	MH202	MH203
10:00-11:30	Tutorial 1	SPAC 1	Industrial 1	KASET 1	IWSSE 1	QUORS 1	SEASS 1	TEST 1	
11:30-13:30	Lunch (Friendship Palace)								
13:30-15:00	Tutorial 1	SPAC 2	Industrial 2	KASET 2	IWSSE 2	QUORS 2	SEASS 2	TEST 2	Tutorial 2
15:00-16:00	PM Break (One Hour) <span style="float: right;">(NOTE: Tutorial 2 Time: 14:00-16:30)</span>								
15:30-18:00	Tutorial 1	SECAD	Industrial 3	KASET3,4		QUORS 3	SEASS 3		Tutorial 2
18:00-	Have A Safe Trip Back Home! / Or Tour to The Great Wall on July 28!								

# COMPSAC 2007 Program

Tuesday, July 24, 2007

## 8:00-9:30 Opening Session and Keynote 1 (Room: RB-1/2)

**Conference Welcome:** Carl Chang, Anson Chen, and Huimin Lin

**Program Overview:** Bruce McMillin, Fevzi Belli, and Hong Mei

**Opening Remark:** Michael Williams, 2007 President, IEEE Computer Society

**Keynote:** *Software Foundation for Critical Pervasive Computing*, Sumi Helal, University of Florida, USA

**Chaired by:** Bruce McMillin, USA

## 9:30-10:00 AM Break

## 10:00-11:30 Parallel Sessions

### Session T1: Security 1 - Security in Communication (Room: RB-4)

Chair: Kai-Yuan Cai, China

- *IAPF: A Framework for Enhancing Web Services Security*: Navya Sidharth, Jigang Liu
- *A Scalable Service Scheme for Secure Group Communication in Grid*: Yunfa Li, Hai Jin, Deqing Zou, Jieyun Chen
- *An End-to-end Detection of Wormhole Attack in Wireless Ad-hoc Networks*: Xia Wang, Johnny Wong

### Session T2: Life Cycle 1 - Internet and Web-Based Systems (Room: RB-5)

Chair: Simanta Mitra, USA

- *A Satisfaction Driven Model for the Composition of Interactive Web Services*: Shuchao Wan, Wei Jun, Jingyu Song, Hua Zhong
- *Knowledge Hiding in Data Mining by Transaction Adding and Removing*: Xiaoming Zhang
- *Performance Evaluation of Notifications in a Web Services and P2P-Based Network Management Overlay*: Clarissa Cassales Marquezan, Carlos Raniery Paula dos Santo, Ewerton Monteiro Salvador, Maria Janilce Bosquirol Almeida, Sérgio Luis Cechin, Lisandro Zambenedetti Granville

### Session T3: QoS 1 - Quality of Service and Performance (Room: JB-2)

Chair: Sheikh Ahamed, USA

- *Performance Prediction of Service-Oriented Applications based on an Enterprise Service Bus*: Yan Liu, Ian Gorton, Liming Zhu
- *An Online Monitoring Approach for Web Services*: Qianxiang Wang, Yonggang Liu, Min Li, Hong Mei
- *QoS: A Secure and QoS Guaranteed Solution for Mobile Service*: Chao Tong, Xiaopeng Gao, Wei Chen, Xiang Long

### Panel 1: Challenges and Experiences in Industry-University Research Collaboration and Technology Transition (Room: JB-3)

Chair: David Card, Norway/USA

Panelists: Soo-Yang Park, Korea; William Cheng-Chung Chu, Tunghai University, Taiwan; Eric Wong, University of Texas-Dallas, USA

## 11:30 – 13:30 Lunch

## 13:30-15:00 Parallel Sessions

### Session T4: Security 2 - Modeling Security (Room: RB-4)

Chair: Ville Leppanen, Finland

- *An Omnipresent Formal Trust Model (FTM) for Pervasive Computing Environment*: Munirul Haque, Sheikh Ahamed
- *An Authentication based Lightweight Device Discovery (ALDD) Model for Pervasive Computing Environment*: Sheikh Ahamed, Munirul Haque, Haifeng Li, KM Asif
- *Defining and Detecting Bad Smells of Aspect-Oriented Software*: Komsan Srivisut, Pornsiri Muenchaisri (Short)

### Session T5: Life Cycle 2 - Component-Based Software and Architecture (Room: RB-5)

Chair: Qianxiang Wang, China

- *Iterative Planning in the Context of Automated Code Synthesis*: Jicheng Fu, Farokh Bastani, I-Ling Yen
- *Automating Dynamic Reconfiguration for Non-Stop Dataflow Systems*: Wei Li, Zhikun Zhao
- *An Architectural Framework for the Design and Analysis of Autonomous Adaptive Systems*: Kendra Cooper, Joao Cangussu, Eric Wong

### Session T6: QoS 2 - Quality of Service and Service Composition (Room: JB-2)

Chair: Hongji Yang, UK

- *An Interaction Instance Oriented Approach for Web Application Integration in Portals*: Jingyu Song, Jun Wei, Shuchao Wan, Hua Zhong
- *QoS-aware Service Composition based on Tree-Coded Genetic Algorithm*: Chunming Gao, Meiling Cai, Huowang Chen
- *Dynamic Reconfigurable Testing of Service-Oriented Architecture*: Xiaoying Bai, Dezheng Xu, Guilan Dai, Wei-Tek Tsai, Yinong Chen

### Panel 2: Middleware for Next-Generation Converged Networks and Services: Myths or Reality? (Room: JB-3)

Chair: Paolo Bellavista, University of Bologna, Italy

Panelists: Sheikh I. Ahamed, Marquette University, USA; Matthias Book, University of Leipzig, Germany; Stephen Chen, Motorola, USA; George Kormentzas, University of the Aegean, Greece; Weishan Zhang, Tongji University, Shanghai, China

## 15:00-15:30 PM Break

## 15:30-17:00 Parallel Sessions

### Session T7: Security 3 - Vulnerabilities – Detecting and Assessment (Room: RB-4)

Chair: Mohammad Zulkernine, Canada

- *Mining User Query Logs to Refine Component Description*: Yan Li, Shaobin Cheng, Lu Zhang, Bing Xie, Jiasu Sun
- *A Machine Learning-Based Reliability Assessment Model for Critical Software Systems*: Venkata Challagulla, Farokh Bastani, Raymond Paul
- *A Static Analysis Framework For Detecting SQL Injection Vulnerabilities*: Xiang Fu, Kai Qian, Xin Lu, Boris Peltsverger, Lixin Tao

#### **Session T8: Life Cycle 3 - Embedded Systems (Room: RB-5)**

Chair: Tiberiu Seceleanu, Finland

- *Flexible Application Software Generation for Heterogeneous Multi-Processor System-on-Chip*: Xavier Guerin, Katalin Popovici, Wassim Youssef, Frederic Rousseau, Ahmed Jerraya
- *A Semantic Anchoring Infrastructure for the Design of Embedded Systems*: Graham Hemingway, Hang Su, Kai Chen, T. John Koo
- *Concurrency Control Modularization with Aspect-Oriented Programming*: Sergio Castelo Branco Soares, Paulo Henrique Monteiro Borba, Ricardo Massa Ferreira Lima (Short)

#### **Session T9: QoS 3 - Modeling and Validation for Quality of Service (Room: JB-2)**

Chair: I.C. Wu, China

- *Validity Checking on Grid Service Composition*: Jing Zhou, Guosun Zeng (Short)
- *A Fast Replica Selection Algorithm for Data Grid*: Dafei Yin, Bin Chen, Zhou Huang, Yu Fang (Short)
- *Improving the Accuracy of UML Class Model Recovery*: Kun Wang, Wuwei Shen (Short)
- *Connectors conveying Software Architecture Evolution*: Dalila Tamzalit, Nassima Sadou, Mourad Oussalah (Short)

#### **Panel 3: Ethics in Computing (Room: JB-3)**

Chair: Sahara Sedigh, USA

Panelists: Atilla Elçi, Eastern Mediterranean University, Turkey; Ioannis Athanasiadis, Istituto Dalle Molle di Studi sull'Intelligenza Artificiale, Switzerland; Eric Yu, University of Toronto, Canada.

### **18:30-22:00 IEEE Computer Society Presidential Welcome Reception (The Central Garden of the Friendship Hotel)**

## **Wednesday, July 25, 2007**

#### **8:00-9:30 Best Paper Awards and Keynote 2 (Room: RB-1/2)**

**Best Paper Awards:** Bruce McMillin

**Keynote:** *From Knowledge-based Software Engineering to Knowware-based Software Engineering*, Ruqian Lu, Chinese Academy of Sciences, China

**Chaired by:** Hong Mei, China

#### **9:30-10:00 AM Break**

#### **10:00-11:30 Parallel Sessions**

##### **Session W1: Security 4 - Infrastructure, Networking and Security (Room: RB-4)**

Chair: Atilla Elçi, Turkey

- *A Model-driven Framework for Representing and Applying Design Patterns*: Ghizlane El Boussaidi, Hafedh Mili (Short)
- *Infrastructure Hardening: A Competitive Coevolutionary Methodology Inspired by Neo-Darwinian Arms Races*: Travis Service, Daniel Tauritz, William Siever (Short)
- *Reliable Self-Clustering P2P Overlay Networks*: Wang Wei, Zeng Guosun (Short)
- *Software Component Re-engineering for their Runtime Structural Adaptation*: Gautier Bastide, Abdelhak Seriai, Mourad Oussalah (Short)

##### **Session W2: Requirements 1 - Design and Modeling (Room: RB-5)**

Chair: Alan Davis, USA

- *Structuring 2-way Branches in Binary Executables*: Tao Wei, Jian Mao, Wei Zou, Yu Chen (Short)
- *FLEXCM - A Component Model for Adaptive Embedded Systems*: Sindolfo Miranda Filho, Luiz Eduardo Cunha Leite, Guido Lemos, Silvio Meira
- *Structuring Software Functional Requirements for Automated Design and Verification*: Sukhamay Kundu

##### **Session W3: Quality 1 - Validation and Assessment (Room: JB-2)**

Chair: Ji Wang, China

- *Piping Classification to Metamorphic Testing: An Empirical Study towards Better Effectiveness for the Identification of Failures in Mesh Simplification Programs*: W.K. Chan, Jeffrey Ho, T.H. Tse
- *Risk Assessment in Early Software Design Based on the Software Function-Failure Design Method*: Jayson Vucovich, Robert Stone, Frank Liu, Irem Tumer
- *SRAE: An Integrated Framework for Aiding in the Verification and Validation of Legacy Artifacts in NASA Flight Control Systems*: Andres Orrego, Gregory Mundy

#### **11:30 – 13:30 Lunch**

#### **13:30-15:00 Parallel Sessions**

##### **Session W4: Life Cycle 4 - Process and Maintenance (Room: JB-3)**

Chair: Feng-Jian Wang, Taiwan

- *Tracking Projects through a Three-dimensional Software Development Model*: Juan Li, Nan Jiang, Mingshu Li, Qing Wang, Yanwu Yang
- *Traceability Link Evolution Management with Incremental Latent Semantic Indexing*: Hsin-yi Jiang, Carl K. Chang, Tien Nguyen
- *Identifying Software Decompositions by Applying Transaction Clustering on Source Code*: Renuka Sindhgatta, Krishnakumar Pooloth

##### **Session W5: Requirements 2 - Putting Models to Run (Room: RB-5)**

Chair: Dianxiang Xu, USA

- *Understanding and Classifying Requirements for Computer-Aided Healthcare Workflows*: Xiping Song, Beatrice Hwong, Gilberto Matos, Arnold Rudorfer
- *Deriving Formal Specifications from Informal Requirements*: Dubravka Ilic
- *A Model-based Object-oriented Approach to Requirement Engineering (MORE)*: William C. Chu, Chih-Wei Lu, C.H. Chang, Chih-Hung Chang (Short)
- *Tool Support to Implementing Business Rules in Database Applications*: Liwen Lin, Suzanne M. Embury, Brian C. Warboys (Short)

**Session W6: Quality 2 - Quantification (Room: JB-2)**

Chair: Xiaoying Bai, China

- *Architecture-based Software Reliability: Why only a few parameters matter?* : Margaret Hamill, Katerina Goseva-Popstojanova
- *On Identifying Bug Patterns in Aspect-Oriented Programs*: Sai Zhang, Jianjun Zhao
- *Measuring and Assessing Software Reliability Growth through Simulation-Based Approaches*: Chu-Ti Lin, Chin-Yu Huang, Chuan-Ching Sue

**15:00-15:30 PM Break**

**15:30-17:00 Parallel Sessions**

**Session W7: Requirements 3 - Event-Based and State-Based Modeling (Room: RB-5)**

Chair: Frank Liu, USA

- *Using UML Activity Diagrams and Event B for Distributed and Parallel Applications*: Ahlem Ben Younes, Leila Jemni Ben Ayed
- *Integration of Agent-Oriented Conceptual Models and UML Activity Diagrams Using Effect Annotations*: Moshiur Bhuiyan, Zahidul Islam, George Koliadis, Aneesh Krishna, Aditya Ghose
- *A Data Mining Approach for Software State Definition*: Beibei Yin, Chenggang Bai, Kaiyuan Cai

**Session W8: Quality 3 - Coverage and Prioritization for Testing (Room: JB-2)**

Chair: Joao W. Cangussu, USA

- *Effective Fault Localization using Code Coverage*: Eric Wong, Lei Zhao, Yu Qi, Kai-Yuan Cai
- *A Study of Enhanced MC/DC Coverage Criterion for Software Testing*: Jun-Ru Chang, Chin-Yu Huang
- *Test Case Prioritization for Black Box Testing*: Bo Qu, Changhai Nie, Baowen Xu, Xiaofang Zhang

**Panel 4: Software Process Improvement for Small Organizations (Room: JB-3)**

Chair: Doo-Hwan Bae, Korea

Panelists: David Card, DNV, Robert Chi Tau Lai, Beijing Cyber Recreation District, China; Sang-Eun Lee, Korea Information Promotion Agency, Korea; Sang-Yoon Min, Solution Link, Korea

**COMPSAC Banquet (The People's Great Hall - Bus transportation will be provided)**

**17:15 Buses departure from the Friendship Hotel**

**19:00 Tour in the Peoples' Great Hall**

**19:30-21:30 Banquet**

**Thursday, July 26, 2007**

**8:00-9:30 Plenary Panel 5: Future Trends – Computing as a Core Discipline (Room: RB-1/2)**

**Chair:** Bruce McMillin, University of Missouri-Rolla, USA

**Panelists:** Lionel M. Ni, The Hong Kong University of Science and Technology; Sumi Helal, University of Florida, USA; E.K. Park, National Science Foundation, USA; Liang-Jie (LJ) Zhang, IBM T.J. Watson Research Center, USA

**9:30-10:00 AM Break**

**10:00-11:30 Parallel Sessions**

**Session Birds-of-a-feather: Curriculum Initiative – Services Computing (Room: JB-3)**

Chair: LJ Zhang, USA; Hong Cai, China

**Session H2: Quality 4 – Specification and verification (Room: JB-1)**

Chair: Lin Liu, China

- *Formal Verification of Protocol Properties of Sequential Java Programs*: Ying Jin
- *Unified Property Specification for Hardware/Software Co-Verification*: Fei Xie, Huaiyu Liu
- *Model Checking Aspect-Oriented Design Specification*: Dianxiang Xu, Izzat Alsmadi, Weifeng Xu

**11:30 – 13:30 Lunch**

**13:30-15:00 Parallel Sessions**

**Session H1: Requirements 4 - Ontology for Requirements Elicitation (Room: JB-3)**

Chair: Lin Liu, China

- *Towards a Multiple Ontology Framework for Requirements Elicitation and Reuse*: Li Zongyong, Wang Zhixue, Yang Yingying, Wu Yue
- *SREM: A Service Requirement Elicitation Mechanism based on Ontology*: Jiang Xiang, Lin Liu, Wei Qiao

**Session H4: Quality 5 - Analysis and Testing (Room: JB-1)**

Chair: Jerry Gao, China

- *Parameter and Return-value Analysis of Binary Executables*: Jingbo Zhang, Rongcai Zhao, Jianmin Pang
- *Test Case Generation for Collaborative Real-time Editing Tools*: Lian Yu, Wenping Xiao, Changyan Chi, Lin Ma, Hui Su
- *Contract-based Testing for Web Services*: Guilan Dai, Xiaoying Bai, Yongbo Wang, Fengjun Dai

**15:00-15:30 PM Break**

**15:30-17:00 Parallel Sessions**

### **Session H3: Requirements 5 - Analysis and Modeling (Room: JB-3)**

Chair: Hong Zhu, UK

- *A Method of Requirement Inconsistency Analysis*: Zhang Yinkun, Yin Peng, Cui Duwu, Xia Hui (Short)
- *Analysis of Conflicts among Non-Functional Requirements Using Integrated Analysis of Functional and Non-Functional Requirements*: Vishal Sadana, Frank Liu (Short)
- *A Metamodel for the Notation of Graphical Modeling Languages*: Xiao He, Zhiyi Ma, Weizhong Shao, Ge Li (Short)

### **Session H5: Quality 6 - Quality, Diversity and Services (Room: JB-1)**

Chair: Sahara Sedigh, USA

- *Architectural Adaptation Addressing the Criteria of Multiple Quality Attributes in Mission-Critical Systems*: Xiaofeng Cui, Yanchun Sun, Gang Huang, Hong Mei (Short)
- *A Quality Verification Model for Design Pattern*: Nien-Lin Hsueh, Peng-Hua Chu, William Chu, Chian-Chium Lin (Short)
- *Bivariate Software Fault-Detection Models*: Tomotaka Ishii; Tadashi Dohi; Hiroyuki Okamura (Short)
- *Construction of an Agile Software Product-Enhancement Process by Using an Agile Software Solution Framework (ASSF) and Situational Method Engineering*: Asif Qumer, Brian Henderson-Sellers (Short)
- *Model Oriented Evolutionary Redocumentation*: Feng Chen, Hongji Yang (Short)

### **Panel 6: Test Automation in Practice (Room: JB-2)**

Chair: Rajesh Subramanyan, USA

Panelists: Jürgen Kazmeier, Software Engineering, Siemens Corporate Research (SCR), Head of Software Engineering, Princeton NJ, USA; Aditya Matur, Computer Science, Perdue University Lafayette, USA; Chao Zhang, Software Engineering, Siemens Corporate Technology, Beijing, China; T.H. Tse, University of Hongkong; Lu-jie (Roger) Jiang, HP Global Application Services, China

**17:15-18:30 COMPSAC 2007 Planning Meeting. All invited. Refreshments provided (Room: JB-1)**

## **Friday, July 27, 2007**

### **8:00-9:30 Plenary Panel 7 and Keynote 3: Industry Day Plenary Panel: Software for the Mobile Internet (Room RB: 1/2)**

**Keynote:** *Software for the Mobile Internet*, Anson Chen, Corporate Vice President, Motorola, USA

**Chaired by:** Stephen Chen, Motorola, USA

**Panelists:** Anson Chen, Motorola Software Group, USA; Jay Kishigawa, NTT, Japan; Sumi Helal, University of Florida, USA; Yeun Bae Kim, Samsung, Korea

### **9:30-10:00 AM Break**

### **10:00-11:30 Industrial Track 1: Process Models (Room: MH-103)**

Chair: Robert Lai, Taiwan

- *State of Modernisation Practice in Four Swedish Organisations*: Mira Kajko-Mattsson, Mi Ta, Lukas Wilczek
- *ePVM - An Embeddable Process Virtual Machine*: Thomas Weigold, Thorsten Kramp, Peter Buhler
- *State-based Process Description Model in Chinese E-Government Affair System*: Yunxiang Zheng, Lei Li, Hai Wan (Short)
- *Analyzing and Re-Structuring Product Line Dependencies*: Juha Savolainen, Ian Oliver, Varvana Myllärniemi, Tomi Männistö (Short)

### **11:30 – 14:00 Lunch**

### **14:00-17:00**

### **Industrial Track 2 - Data, Repositories, and Design Methods (Room: MH-103)**

Chair: Tiberiu Seceleanu, Finland

- *Towards a Design Methodology for Multiprocessor Platforms*: Dragos Truscan, Tiberiu Seceleanu (Short)
- *Specification, Design and Implementation of a Reuse Repository*: Vanilson Burégio, Eduardo Almeida, Daniel Lucrédio, Silvio Meira (Short)
- *DataWarp: Empowering Applications to make Progress in the Face of Contradictory or Inconsistent Data*: Stephen Crouch, Peter Henderson, Robert Walters
- *VOEditor: a Visual Environment for Ontology Construction and Collaborative Querying of Semantic Web Resources*: Ling Li, Shengqun Tang, Lina Fang, Ruliang Xiao, Xinguo Deng, Youwei Xu, Yang Xu

### **15:00-15:30 PM Break**

### **Industrial Track 3 - Networking and Distribution (Room: MH-103)**

Chair: Hong Cai, China

- *Mobile Game Development: Object-Oriented or Not*: Weishan Zhang, Dong Han, Thomas Kunz
- *A Dynamic-Reconfigurable Architecture for Protocol Stacks of Networked Systems*: Mahdi Niamanesh, Rasool Jalili (Short)
- *A Study on Distributed Resource Information Service in Grid System*: Huo Jiuyuan, Liu Liqun, Liu Li, Yang Yi, Li Lian (Short)

# COMPSAC 2007 Tutorials

Friday, July 27, 2007

## **10:00-17:00 Tutorial 1: Just Enough Requirements Management (Room: MH-101)**

Dr. Alan M. Davis

### **Abstract:**

Requirements management (RM) needs to be made simpler, not more complex. And in today's world, where you need to accelerate development dramatically, RM must reduce, not extend, the total development effort. This tutorial will expose participants to easy-to-follow simple procedures that enable projects to start development quickly. It will increase the likelihood that systems will satisfy real user needs when delivered. Participants will learn the roles of systems and software requirements in system development, appreciate differences between elicitation, triage, and requirements specification, and be capable of selecting and using requirements techniques. The tutorial will cover a subset of the many principles put forth in the speaker's latest book, *Just Enough Requirements Management* (Dorset House).

### **About the instructor:**

Al Davis is a professor at U. Colorado at Colorado Springs. He was a member of the board of directors of Requisite, CEO of Omni-Vista, VP at BTG, and Director of the Software Technology Center at GTE Laboratories. He has held academic positions at George Mason U.; U. Tennessee; U. Western Cape, South Africa; U. Jos, Nigeria; U. Technology, Sydney, Australia; and U. Illinois at Urbana. He was EIC of IEEE Software 1994-1998. He is an editor for *Journal of Systems and Software*. He is the author of *Software Requirements*, *201 Principles of Software Development*, *Great Software Debates*, and *Just Enough Requirements Management*. He has published 100+ articles and lectured 500+ times in over 20 countries. He is a fellow of IEEE and earned his Ph.D. (Computer Science) from U. Illinois.

## **13:30-17:00 Tutorial 2: Emerging Technologies in Industrial Context: Component-Based and Service-Based Software Engineering (Room: MH-203)**

Dr. Ivica Crnkovic

### **Abstract:**

Component-based software engineering (CBSE) and service-oriented software engineering (SOSE) are two similar but distinguished approaches in software engineering. In this tutorial, we compare CBSE and SOSE and analyze them from different perspectives. We discuss the possibility of combining the strengths of the two paradigms.

### **About the instructor:**

Ivica Crnkovic is professor in Software Engineering at Malardalen University, Sweden. He has been co-organizer of CBSE symposium in last six years and has written a book and many papers in this area.



# COMPSAC 2007 Workshops

Monday, July 23, 2007

## **Workshop 1: The Second IEEE Asia-Pacific Workshop on Software Architectures and Component Technologies (SACT 2007)**

Organizer and Chair: Antony Tang and Jun Han, Swinburne University of Technology, Australia; Muhammad Ali Babar, Lero, Ireland; Hongyu Zhang, Tsing Hua University, China

### **8:00–9:30 Session 1: Software Patterns, Frameworks and Architectures (Room: MH-103)**

Chair: Jun Han

- *The Accessibility Analysis Pattern*, M.E. Fayad
- *A Composite Design Pattern for Object Frameworks*, D. Thu Tran and T. B. Tran Huynh
- *Extracting High-level Component-Connector Views from Detailed UML Models: A Case Study*, Arvind Kiwelekar and Rushikesh Joshi

### **9:30-10:00 AM Break**

### **10:00-11:30 Session 2: Component Software and Technologies (Room: MH-103)**

Chair: Hongyu Zhang

- *Dynamic Reconfiguration of Distributed Data Flow Systems*, Zhikun Zhao and Wei Li
- *Visualization of Concurrent Program Traces*, Cyrille Artho, Klaus Havelund, and Shinichi Honiden
- *AOP-based Testability Improvement for Component-based Software*, Chengying Mao
- *Salomé Platform Component Model for Numerical Simulation*, André Ribes and Christian Caremoli

## **Workshop 2: The First IEEE International Workshop on Engineering Mobile-Based Software and Applications (EMOBS 2007)**

Organizer and chair: Jerry Gao, San Jose State University, USA; Jingsha He, Beijing University of Technology, China; Axel Küpper, Ludwig-Maximilians-University Munich, Germany; Claudia Linnhoff-Popien, Ludwig-Maximilians-University Munich, Germany; Simon Shim, SAP Labs, USA.

### **8:00-9:30 Session 3: Applications and Services (Room: MH-101)**

Chair: Jingsha He

- *An Instant Messaging Framework for Flexible Interaction with Rich Clients*: Matthias Book, Volker Gruhn
- *Understanding 2D-BarCode Technology and Applications in M-Commerce – Design and Implementation of a 2D Barcode Processing Solution*: Jerry Zeyu Gao, Lekshmi Prakash, Rajini Jagatesan
- *An Optimization Method For Real-Time Natural Phenomena Simulation on WinCE Platform*: Ning Liu, Rong Li, Zhenyu Yang, Hongyang Chao

### **9:30-10:00 AM Break**

### **10:00-11:30 Session 2: Technologies for M-Commerce (Room:MH-101)**

Chair: Axel Küpper

- *MiniWap: Navigating WAP with Minimo*: Vu Hong Khiem, Park Jeongkyu, Lee Keung Hae
- *A One-Dimensional Probabilistic Model of Wireless Multihop Internet Access*: Chun-Yen Hsu, Jean-Lien C. Wu, Shun-Te Wang
- *A Distributed Intrusion Detection Scheme for Ad Hoc Networks*: Yingfang Fu, Jingsha He, Guorui Li

### **11:30-13:30 Lunch**

### **13:30-17:30 Session 3: Middleware and Service Platforms (Room: MH-101)**

Chair: Hsing Mei

- *An Aspect Oriented Middleware Architecture for Adaptive Mobile Computing Applications*: Celso Maciel da Costa, Marcelo da Silva Strzykalski, Guy Bernard
- *A Virtual Machine-Based Programming Environment for Rapid Sensor Application Development*: Jui-Nan Lin, Jiun-Long Huang
- *Wireless Multimedia Framework Based on STBC-OFDM*: Zhang Xizheng, Tang Zhihang, Wang Yaonan

### **13:30-17:30 Session 4: Ambient Intelligence and Pervasive Computing (Room: MH-101)**

Chair: Lee Keung Hae

- *Dynamic Configuration Based on Mobile Middleware in Aml System*: Shuo Wang, Rui Chen, Yi-bin Hou, Zhang-qin Huang
- *A Framework for Local Ambient Intelligence Space Application System: The Aml-Space Project*: Chen Rui, Zhang Yong, Hou Yin-bin, Huang Zhang-qin, Li Hui
- *A Service Discovery Architecture based on Anycast in Pervasive Computing*: Li Zhang, Zhen-lian Shi, Qi Shen

### **13:30-17:30 Session 5: Mobility Support (Room: MH-101)**

Chair: Jerry Gao

- *Vs Golf — Developing Location-based Multi-Player Games*: Georg Treu, Johannes Martens, Matthias Schicker, Mark Breisinger, Axel Küpper
- *Speed-Based Mobility Management for Heterogeneous Wireless Networks Interworking*: Ming-Hsien Yu, Hsing Mei
- *A Mobile Database Design Methodology for Mobile Software Solutions*: Weider Yu, Sunita Sharma

### **15:00-17:00 Refreshments will be served for two hours**

## **Workshop 3: The Fourth IEEE International Workshop on Software Cybernetics (IWSC 2007)**

Organizer and Chair: Kishor S. Trivedi, Duke University, USA; Qianxiang Wang, Peking University, China; W. Eric Wong, University of Texas at Dallas, USA; Bojan Cukic, West Virginia University, USA

### **8:00-9:30 Session 1 Papers I (Room: MH-105)**

Chair: Aditya Mathur

- *Prioritizing Coverage-Oriented Testing Process --An Adaptive-Learning-Based Approach and Case Study*: Fevzi Belli, Mubariz Eminov, Nida Gökçe
- *MASS: Middleware-based Adaptive Software System*: Qianxiang Wang

**9:30 to 10:00 AM Break**

**10:00-11:30 Session 2 Invited Talks (Room: MH-105)**

Chair: Kai-Yuan Cai

- *An Approach to Adaptive Distributed Execution Monitoring for Workflows in Service-based Systems*: Stephen S. Yau and Dazhi Huang
- *A Family of Software Reliability Growth Models*: Harald Stieber
- *Managing Service-Oriented Computing*: Wei-Tek Tsai

**11:30-13:30 Lunch**

**13:30-17:30 Session 3 (Panel Discussion) (Room: MH-105)**

Moderator: W. Eric Wong

*Future Trends in Software Cybernetics*

**13:30-17:30 Session 4: Papers II (Room: MH-105)**

Chair: Bojan Cukic

- *Towards Controllable Requirements Engineering Processes based on Cybernetics*: Lin Liu, Zhi Jin, Ruqian Lu
- *Adaptive Web Services Testing*: Xiaoying Bai, Zhongkui Shao, Wei-Tek Tsai, Yinong Chen
- *A Control-Theoretic Approach to QoS Adaptation in Data Stream*: Hai Hu, Chang-Hai Jiang, Kai-Yuan Cai, W. Eric Wong

**15:00-17:00 PM Refreshments will be served for two hours**

**Workshop 4: The Second IEEE International Workshop on Security, Trust, and Privacy for Software Applications (STPSA 2007)**

Organiser and Chair: Sheikh Iqbal Ahamed, Marquette University Milwaukee, USA; Mohammad Zulkernine, Queen's University, Canada.

**8:00-9:30 Session 1: Security, Privacy and Trust in Software Applications - I (Room: MH-104)**

Chair: Mohammad Zulkernine

**Keynote speech:** *Social Modeling for System Security*: Eric Yu, University of Toronto, Canada

- *A Soft Constraint Privacy Model based on Identifiability*: Weifeng Chen, Zhen Liu, Anton Riabov
- *Security Enhancement of a Novel Proxy Key Generation Protocol*: Chiung-Chou Tsai, Kuan-Chieh Liao, Tzung-Her Chen, Wei-Bin Lee

**9:30-10:00 AM Break**

**10:00-11:30 Session 2: Security, Privacy and Trust in Software Applications - II (Room: MH-104)**

Chair: Sheikh Iqbal Ahamed

- *An Efficient Software Implementation of AES-CCM for IEEE 802.11i Wireless Standard*: Abdul Samiah, Arshad Aziz, Nassar Ikram
- *Towards the Modeling of Personal Privacy in Ubiquitous Computing Environments*: Ryan Babbitt, Johnny Wong, Carl Chang
- *A Mutual Authentication and Key Exchange Scheme from Bilinear Pairings for Low Power Computing Devices*: Yuh-Min Tseng, Tsu-Yang Wu, Jui-Di Wu
- *Secure Multi-Agent Based Digital Coin Scheme*: Mohamed Aborizka, Mohamed Kout, Sherif Saad, Mostafa Salama, Krishna Kavi

**Workshop 5: The Third IEEE Asian Workshop on Aspect-Oriented Software Development (AOAsia 2007)**

Organizers and Chair: Elisa Baniassad, Chinese University of Hong Kong; Kung Chen, National Chengchi University; Shigeru Chiba, Tokyo Institute of Technology; Jan Hannemann, University of Tokyo; Hidehiko Masuhara, University of Tokyo; Shangping Ren, Illinois Institute of Technology; Jianjun Zhao, Shanghai Jiao Tong University (Primary Organizer)

**8:00-9:30 Session 1: Regular Presentation (Room: MH-106)**

- *Specifying Pointcut in AspectJ*: Yi Wang, Jianjun Zhao
- *A Tool for Compiler Construction based on Aspect-oriented Specifications*: Damijan Rebernak, Marjan Mernik
- *AGENT: A Framework for Automatic Generation of Testcases for Aspect Oriented Software*: Gayathri K, Chitra Babu

**9:30-10:00 AM Break**

**10:00-11:00** Group Discussion (Room: MH-106)

**11:00-11:30** Short Presentation (Room: MH-106)

**11:30-13:30 Lunch**

**13:30-14:30 Session 2 (Room: MH-106)**

- *Automated Unit Test Classification of Large Benchmarks*: Cyrille Artho, Zhongwei Chen, Shinichi Honiden
- *Aspect-Based Instrumentation for Locating Memory Leaks in Java Programs*: Kung Chen, Ju-Bing Chen
- *A Combined Concept Location Method for Java Programs*: Dapeng Liu, Shaochun Xu

**14:30-15:00** Group Discussion (Room: MH-106)

**15:00-15:30 PM Break**

**15:30-16:00** Short Presentation (Room: MH-106)

**16:00-17:00** Group Discussion and Summary (Room: MH-106)

## Workshop 6: The First IEEE International Workshop on Requirements Engineering For Services (REFS 2007)

Organizer and Chair: Eric Yu, University of Toronto, Canada; Lin Liu, Tsinghua University, China; Zhi Jin, Chinese Academy of Sciences, China; Jian Yang, Macquarie University, Australia

### 8:00-9:30 Session 1: Workshop Keynote (Room: MH-201)

Chair: Eric Yu

- *Requirements Engineering For Services: Does it make sense?:* Alan M. Davis

### 9:30-10:00 AM Break

### 10:00-11:30 Session 2: RE for Service (Room: MH-201)

Chair: Zhi Jin

- *An Intentional Perspective to Service Modeling and Discovery:* Colette Rolland, Rim-Samia Kaabi
- *Requirements and Evaluation of Protocols and Tools for Transaction Management in Service Centric Systems:* Changai Sun, Marco Aiello
- *Requirements for QoS-based Web Service Description and Discovery:* Kyriakos Kritikos, Dimitris Plexousakis
- *Towards an Agile Infrastructure to Provision Devices, Applications, and Networks: A Service-oriented Approach:* Sandy Liu, Bruce Spencer, Yong Liang, Bo Xu, Libo Zhang, Martin Brooks
- *An Object-Oriented Modular Petri-Nets for Modelling Service Oriented Applications:* Ching Huey Wang and Feng Jian Wang

### 11:30-13:30 Lunch

### 13:30-15:00 Session 3: RE and Services (Room: MH-201)

Chair: JianYang

- *Requirements, Plato's Cave, and Perceptions of Reality:* Alan Davis, Kesav Nori
- *Non-Functional Computing: Towards a more Scientific Treatment to Non-functional Requirements :* Kai-Yuan Cai
- *Developing Non-Functional Requirements for a Service-Oriented Software Platform:* Xiping Song
- *Experiences in Accurately Estimating Electronic Forms Services with a Spiral Estimate Process:* Zhoulun Dai, Yi Gu, Jun Liu, Yi Jie Xu
- *A Framework of Adaptive Requirements Engineering for USCE, Cheng Bo:* Meng Xiang-Wu, Chen Jun-Liang
- *Frameworks of Composite Services Execution Engine with Feedback Control:* Chunming Gao, Huang Tan, Huowang Chen
- *Managing Business Process Risk Using Rich Organizational Models:* Moshir Bhuiyan, Zahidul Islam, George Koliadis, Aneesh Krishna, Aditya Ghose

### 15:00-15:30 PM Break

### 15:30-17:00 Session 4: REFS Panel: Requirements Engineering For Services: Future Directions (Room: MH-201)

Moderator : Lin Liu

Panelists: Al Davis, Colette Rolland, Eric Yu, Jian Yang, Xinsheng Mao, Chi-hung Chi, Zhi Jin

## Workshop 7: The Second IEEE International Workshop on Engineering Semantic Agent Systems (ESAS 2007)

Organizer and chair: Atilla Elci, Eastern Mediterranean University, North Cyprus; Mamadou Tadiou Kone, Laval University, Canada; Mehmet A. Orgun, Macquarie University, Australia; Tharam S. Dillon, University of Technology Sydney, Australia.

### 8:00-9:30 Session 1: Applications (Room: MH-102)

Chair: Atilla Elci

- *Trend Analysis using a Temporal Language in News Domains:* Sang-Kyun Kim, and Kyu-Chul Lee
- *Construction of Collaborative Design Environment Based on Multi-Agent:* Xiangzhong FENG
- *Multi-Agent Systems-based Hierarchy Grid Middleware:* Chen Jia, and Yue Wu

### 9:30-10:00 AM Break

### 10:00-11:30 Session 2: Platforms (Room: MH-102)

Chair: Aditya Ghose

- *OWL-Based Description for Agent Interaction:* Yong-Feng Lin, and Jason Jen-Yen Chen
- *Adaptive Agent Model: an Agent Interaction and Computation Model:* Liang Xiao, Dave Robertson, Madalina Croitoru, Paul Lewis, Srinandan Dashmapatra, David Dupplaw, and Bo Hu
- *Extending the Gaia Methodology for the Design and Development of Agent-based Software Systems:* Wei Huang, Elia El-Darzi, and Li Jin

### 11:30-13:30 Lunch

### 13:30-15:00 Session 3: Models (Room: MH-102)

Chair: Masoud Mohammadian

- *An Ontology-based Semantic Resource Sharing Model in P2P System:* Dan Wang, and Rongjuan Zhao

#### Keynote Speech:

- *Actor Eco-Systems: From High-Level Agent Models to Executable Processes via Semantic Annotations:* Aditya Ghose and George Koliadis

#### Position Papers:

- *Intelligent Agents and P2P Semantic Web:* Mehmet A. Orgun
- *A Distress Call: Needed Tools to Large-Scale Semantic-Aware Agent Systems:* Atilla Elçi
- *Semantic Web and Intelligent Agents Research and Practice:* Masoud Mohammadian

**Friday, July 27, 2007**

**Workshop 8: The First IEEE International Workshop on Software Patterns: Addressing Challenges (SPAC 2007)**

Organizer and Chair: Dr. M.E. Fayad, San Jose State University, USA; Dr. H.S. Hamza, Cairo University, Egypt; Eduardo Segura, vriSoft, Inc., USA

**Session 1: 10:00-11:30 Introduction Word of Welcome (Room MH-102)**

Chair: M. Fayad

- *Component Oriented Design Style*: Jing-Ying Chen
- *A Framework for Open Distributed System Design*: Alexei Iliasov, Alexander Romanovsky, Budi Arief, Linas Laibinis, Elena Troubitsyna
- *The Lifecycle Stable Analysis Pattern*: M. Fayad

**11:30-13:30 Lunch**

**13:30-15:30 Session 2 (Room MH-102)**

Chair: M. Fayad

- *Meta-Specification and Cataloguing of Software Patterns: Towards a More Dynamic Patterns Life Cycle*: León Welicki, Juan Manuel Cueva Lovelle
- *Pattern mining in a project-based environment*: Lotte De Rore, Monique Snoeck, Guido Dedene
- *Architectural Design of a Collaborative Design Pattern Repository*: Hongjun Su, Hong Zhang, W. Eric Wong

Discussion Session

Closing remarks

**Workshop 9: The First IEEE International Workshop on Software Engineering Challenges in the Automotive Domain (SECAD 2007)**

Organizers and Chair: Fabrizio Fabrini, Mario Fusani, Giuseppe Lami Istituto di Scienza e Tecnologie dell'Informazione "Alessandro Faedo" Area della Ricerca CNR di Pisa

**15:30-18:00 (Room: MH-102)**

- *Method Based on OSEK/VDX Platform Using Model-based and Autocode Technology for Diesel ECU Software Development*: Chunyang Mu, Lining Sun, Zhijiang Du, Yanchun CHEN
- *A Component Model for the AUTOSAR Virtual Function Bus*: Dietmar Schreiner, Karl M. Göschka
- *Repository based Infrastructures for effective Automotive Software Creation - an Experience Report*: Olaf Kath, Marc Born, Michael Soden
- **Panel Automotive Software: Software Engineering Challenges, Business Opportunities**

**Workshop 10: The First IEEE International Workshop on Development and Application of Knowledge Based Software Engineering Tool (KASET 2007)**

Organizer and Chair: Li Jiang, University of Adelaide, Australia; Armin Eberlein, American University of Sharjah, UAE; Lawrence Chung, The University of Texas at Dallas, USA.

**10:00-11:30 Session 1 (Room: MH-104)**

Chair: Rudolf Ramler

- *Setting and Evaluation of Flexible Points on Software User Interface*: Limin Shen, Wenwen Jiang, Chunyan Gao
- *Observing Distributions in Size Metrics: Experience from Analyzing Large Software Systems*: Rudolf Ramler, Klaus Wolfmaier, Thomas Natschlaeger
- *Software Reliability Growth Modelling using a Weighted Laplace Test Statistic*: Yan Luo, Torsten Bergander, A. Ben Hamza

**11:30-13:30 Lunch Break**

**13:30-15:30 Session 2 (Room: MH-104)**

Chair: Li Jiang

- *A Collaborative System for Software Engineering Education*: Hong Zhang, Hongjun Su
- *A Requirements Process Engineering Tool*: Li Jiang, Eberlein Armin
- *Agents, Cases-Based Reasoning and their relation to the Mexican Software Process Model (MoProSoft)*: Elena Cardenas Vargas, Hanna Oktaba, Silvia Guardatti Buemo, Ana Lilia Laureano Cruces

**15:30-16:45 Session 3 (Room: MH-104)**

Chair: LinPeng Huang

- *Research on Dynamic Update Transaction for Java Classes*: Shi Zhang, LinPeng Huang
- *Ontologies, JavaBeans and Relational Databases for Enabling Semantic*: Ioannis Athanasiadis, Ferdinando Villa, Andrea-Emilio Rizzoli
- *CGR: a Tool for Programming Using Schemes*: Jonatan Garcia, Antonio Gavilanes Ana Gil, Pedro Jesus Martin

**16:45-18:00 Session 4 (Room: MH-104)**

Chair: Hsin-Yi Jiang

- *System Modification Case Studies*: Yulin Ding, Yan Zhang
- *A History-Based Automatic Scheduling Model for Personnel Risk Management*: Hsin-Yi Jiang, Carl K. Chang, Jinchun Xia, Shuxing Cheng
- *Managing Policy Interactions in KNX-Based Smart Homes*: Mohamed Shehata, Armin Eberlein, Abraham Fapojuwo, AbdAllah Mohamed

**15:00-16:00 PM Break (One hour)**

**Workshop 11: The First IEEE International Workshop on Software Engineering for Adaptive Software Systems (SEASS 2007)**

Organizer and Chair: Yan Liu, National ICT Australia, Australia; Liming Zhu, National ICT Australia, Australia; Ian Gorton, Pacific Northwest National Laboratory, Australia; Shiping Chen, CSIRO ICT Centre, Australia; Qing Wang, Chinese Academy of Science, China

#### 10:00-11:00 Invited Talk (Room: MH-201)

*The Four Major Challenges of Engineering Adaptive Software Architecture:* Jun Han and Alan Colman, Swinburne University of Technology, Australia

#### 11:00-11:30 Session 1 (Room: MH-201)

- *A Service-oriented Approach for Flexible Information Resource Integration:* Zhuohao Wang, Zhuofeng Zhao, Jun Fang

#### 11:30-13:30: Lunch

#### 13:30-15:00: Session 2 (Room: MH-201)

- *Adaptability Evaluation of Software Architectures: A Case Study,* by Pentti Tarvainen
- *Decision Support for Dynamic Adaptation of Business Systems Based on Feature Binding Analysis:* Liwei Shen, Xin Peng, Wenyun Zhao
- *Towards Requirements Engineering for Context Adaptive Systems:* Wassiou Sitou, Bernd Spanfelner
- *Toward Runtime Self-adaptation Method in Software-Intensive Systems Based on Hidden Markov Model:* Hua Wang, Jing Ying

#### 15:00-16:00: PM Break (One hour )

#### 15:50-17:00: Session 3 (Room: MH-201)

- *An Adaptive Approach for Web Cache Pre-fetching:* Wenyong Feng, Hua Chen
- *SLA-based Data Integration on Database Grid:* Tiezheng Nie, Guangqi Wang, Derong Shen, Meifang Li, Ge Yu
- *A Framework for Separation of Concerns in Concurrent Programming:* Rafael Ramirez, Andrew Santosa

### Workshop 12: The First IEEE International Workshop on Quality Oriented Reuse of Software (QUORS 2007)

Organizer and chair: Xiaodong Liu, Napier University, UK; Hongji Yang, De Montfort University, UK; *Kyo Kang*, Pohang University of Science & Technology, Korea.

#### 10:00-10:30 Panel Discussion Session (Room: MH-106)

Chair: Hongji Yang

#### 10:30-11:30 Session 1: Aspects and SE (Room: MH-106)

Chair: Xiaodong Liu

- *Improvement of Object-Oriented System Analysis and Design with Aspects:* Guo Yanhong, Teng Guifa, Li Yueli, Wang Fang, Zhao Yang, Ma Jianbin
- *Using Aspect Orientation in Understanding Legacy COBOL Code:* Jianjun Pu, Zhuopeng Zhang, Jian Kang, Yang Xu, Hongji Yang
- *A Connector-Centric Approach to Aspect-Oriented Software Evolution:* Yiming Liu, Wenyun Zhao, Xin Peng, Shan Tang

#### 11:30-13:30 Lunch

#### 13:30-15:00 Session 2: Components and QoS (Room: MH-106)

Chair: Hongji Yang

- *The Empirical Studies on Quality Benefits of Reusing Software Components:* Jingyue LI, Anita Gupta, Jon Arvid Børretzen, Reidar Conradi
- *A Product Line Based Aspect-Oriented Generative Unit Testing Approach to Building Quality Components:* Yankui Feng, Xiaodong Liu, Jon Kerridge
- *An Automatic Connector Generation Method for Dynamic Architecture:* Yiming Yang, Xin Peng, Wenyun Zhao
- *Four Automated Approaches to Analyze the Quality of UML Sequence Diagrams:* Marcel van Amstel, Christian Lange, Michel Chaudron

#### 15:00-16:00 Break (One hour )

#### 15:30-17:00 Session 3: Internet Applications (Room: MH-106)

Chair: Marcel van Amstel

- *QoS-driven Service Selection Optimization Model and Algorithms for Composite Web Services:* Wentao Zhang, Yan Yang, Shengqun Tang, Lina Fang
- *Verification of Web Service Conversations Specified in WSCL:* Zhifeng Gu, Juanzi Li, Jie Tang, Bin Xu, Ruobo Huang
- *Quality Metrics for Internet Applications: Developing "New" from "Old":* Shikun Zhou, Xiaodong Liu

### Workshop 13: The First IEEE International Workshop on Testing Emerging Software Technology (TEST 2007)

Organizer and Chair: Sami Beydeda, ZIVIT, Germany; David Kung, University of Texas at Arlington, USA

#### 10:00-11:30 Session 1: Test models, methods and tools for new technologies (Room: MH-202)

Chair: Hong Zhu

- *A Unified Framework of the Modeling of Fault-Detection and Fault-Correction Processes in Software Reliability Analysis:* Jung-Hua Lo
- *Automated Testing EJB Components Based on Algebraic Specifications:* Liang Kong, Hong Zhu, Bin Zhou
- *Built-in Regression Testing for Component-based Software Systems:* Chengying Mao
- *Towards Automatic Regression Test Selection for Web Services:* Michael Ruth, Shengru Tu

#### 11:30-13:30 Lunch

#### 13:30-15:00 Session 2 (Room: MH-202)

Chair: Hong Zhu

- *Generating User Acceptance Test Plans from Test Cases:* Karl R.P.H. Leung, W.L. Yeung
- *Client based Object-Oriented Cohesion Metrics:* Sami Mäkelä, Ville Leppänen
- *A new Approach to Detecting Dynamic Memory Errors in C Programs:* Dae Wan Cho, Hyeon Soo Kim
- *Learning Parameterized State Machine Model for Integration Testing:* Muzammil Shahbaz, Keqin Li, Roland Groz

## Workshop 14: The First IEEE International Workshop on Security in Software Engineering (IWSSE 2007)

Organizer and Chair: Michael Jiang, Motorola Labs, USA; Patrick McDaniel, Pennsylvania State University, USA; Jan Jurjens, the Open University, UK; Yan Liu, Motorola Labs, USA

### 10:00-11:30 Session 1 (Room: MH-105)

Chair: Michael Jiang

- *ACIR: An Aspect-Connector Based Intrusion Response Approach for Component-Based Software*: Mohammad Uddin, Hossain Shahriar, Mohammad Zulkernine
- *Test Generation from Security Policies Specified in Or-BAC*: Keqin Li, Laurent Mounier, Roland Groz
- *An Adaptive Security Model for Multi-agent Systems and Application to a Clinical Trials Environment*: Liang Xiao, Andrew Peet, Paul Lewis, Srinandan Dasmahapatra, Carlos Sáez, Madalina Croitoru, Javier Vicente, Horacio González-Vélez, Magí Lluch

### 11:30-13:30 Lunch

### 13:30-15:00 Session 2 (Room: MH-105)

Chair: Michael Jiang

- *Avoiding Privacy Violation for Resource Sharing in Ad hoc Networks of Pervasive Computing Environment*: KM Asif, Sheikh Ahamed
- *Conformance Checking of Access Control Policies Specified in XACML*: Vincent Hu, Evan Martin, Tao Xie
- *Process Activities Supporting Security Principles*: Koen Buyens, Riccardo Scandariato, Wouter Joosen

## COMPSAC 2007 Doctoral Symposium

Wednesday, July 25, 2007

### 13:30-17:00 (Room: RB-4), 15:00-15:30 PM Break

Chair: Sahra Sedigh, USA

- *Challenges in Selecting COTS Component Guideline*: Walisa Romsaiyud
- *Management and Control of Coding and Testing of Component-based Software*: Tatiane Lopes, Clovis Fernandes
- *Functional Specifications of Object Oriented Systems: A Model Driven Framework*: Sabnam Sengupta, Swapan Bhattacharya
- *Model Checking of Component Connectors*: Mohammad Izadi, Ali Movaghar, Farhad Arbab
- *Towards End User Service Composition*: Xuanzhe Liu, Gang Huang, Hong Mei

## COMPSAC 2007 Fast Abstracts

Thursday, July 26, 2007

### 10:00-11:30

#### Session 1: Software Engineering Methods and Tools (Room: JB-2)

Chair: Eric Yu

- *An Empirical Evaluation of Fault-based Testing for General Boolean Specifications*: Zhenyu Chen, Baowen Xu, Changhai Nie
- *Patterns Topology for Performance Evaluation*: Mohamed. E. Fayad
- *Mining Software Repositories to Understand the Performance of Individual Developers*: Shen Zhang, Yongji Wang, Feng Yuan, Li Ruan
- *Adaptive Performance Tuning for Internet-Based Workflows*: Paolo Vercesi, Alberto Bartoli
- *Towards Capability Maturity in Software Review*: Bin Xu, Hua Hu, Xiaohu Yang
- *Fuxi: An Agile Development Environment for Embedded Systems*: Zhongbin Wang
- *OCLAX: An Action Semantics Language for UML Model Execution*: Jiang Ke, Zhang Lei, Miyake Shigeru

### 13:30-15:00

#### Session 2: Software Applications (Room: JB-2)

Chair: Chi-Hung Chi

- *WEB-Service Architecture; a Solution for e-Government Application*: Aurelie Aurilla Bechina Arntzen
- *An Aspect-Oriented Intrusion Detection Framework*: Zhi Jian Zhu, Mohammad Zulkernine
- *An Innovative Workflow Product Structure: All Application Data Are Relevant to Workflow*: Haiping Zha, Jianming Wang
- *Matrix-based Change Impact Analysis for Component-based Software*: Chengying Mao, Jinlong Zhang, Yansheng Lu
- *An Novel Authentication Scheme Based on Trust-value Updated Model in Ad Hoc Network*: Ya-tao YANG, Yong FANG, Ping ZENG, Ya-ping CHI
- *luv: A Programming Language for Describing Human Relationships*: Michael de la Maza
- *The Execution Mechanism of Service Proxy in the Web Services Composition Execution Engine*: Chunming Gao, Xiaojuan Yuan, Huowang Chen
- *Web System for Electronic Navigational Charts Service Based On ArcIMS*: Zhu Feixiang, ZhaNG Yingjun, Zhu Berlin

# COMPSAC 2007 Conference Organization

## General Co-Chairs

Huimin Lin, Chinese Academy of Sciences, China  
Anson Chen, Motorola Inc., USA

## Program Co-Chairs

Fevzi Belli, University of Paderborn, Germany  
Bruce McMillin, University of Missouri, Rolla, USA  
Hong Mei, Peking University, China

## Requirements Track Co-Chairs

Dave Card, Q-Labs, France  
Tiberiu Seceleanu, University of Turku, Finland

## Quality Track Co-Chairs

Warren Harrison, Portland State University, USA  
Ji Wang, Changsha Institute of Technology, China

## Maintenance and System Life Cycle Track Co-Chairs

Kai-Yuan Cai, Beijing University of Aeronautics and Astronautics, China  
Rajesh Subramanyan, Siemens Corporate Research, USA

## Security Track Co-Chairs

Johnny Wong, Iowa State University, USA  
Armin Mikler, University of North Texas, USA

Cristina Serban, AT&T, USA

## Industry Track Co-Chairs

Hui Su, IBM Research, China  
Stephen Chen, Motorola Inc., USA  
Ina Schieferdecker, Fraunhofer FOKUS, Germany

## Education Track Co-Chairs

Pradip Srimani, Clemson University, USA  
Baowen Xu, Southeast University, China

## Quality of Service Track Chair

Paolo Bellavista, DEIS, University Bologna

## Tutorial Co-Chairs

Sami Beydeda, The Federal Finance Office, Germany  
Chunxiao Xing, Tsinghua University, China

## Workshop Chair

Atilla Elci, Eastern Mediterranean University, North Cyprus

## Fast Abstract Chair

Lin Liu, Tsinghua University, China

## Doctoral Symposium Chair

Sahra Sedigh, University of Missouri, Rolla, USA

## Proceedings Chair

Tien Nguyen, Iowa State University, USA

## Finance Chair

Simanta Mitra, Iowa State University, USA

## Local Arrangements Chair

Qianxiang Wang, Peking University, China

## Industry Panels Chair

Edward Zou, Motorola Global Software Group (GSG), China

## Publicity Chairs

Gang Huang, Peking University, China  
Ville Leppanen, University of Turku, Finland  
Frank Liu, University of Missouri-Rolla, USA

## Registration Co-Chairs

Donggang Cao, Peking University, China  
Hsinyi Jiang, Iowa State University, USA

## Web Co-Chairs

Jinchun Xia, Iowa State University, USA  
Hsinyi Jiang, Iowa State University, USA

## Standing Committee Chair

Carl K. Chang, Iowa State University, USA

## Program Committee

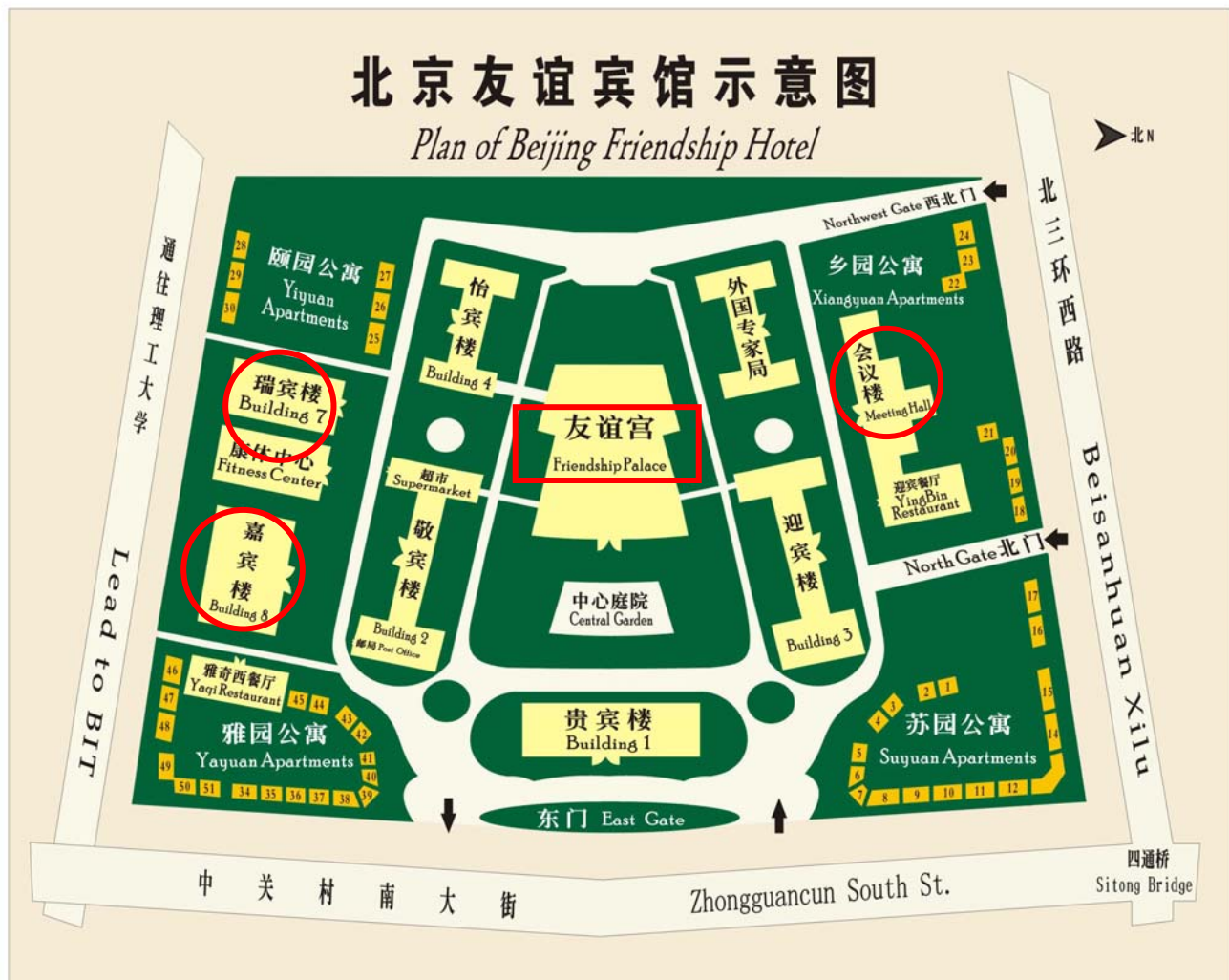
Sheikh Ahamed, USA  
Mikio Aoyama, Japan  
Doo-Hwan Bae, Korea  
Paolo Bellavista, Italy  
Fevzi Belli, Germany  
Sami Beydeda, Germany  
Maarten Boasson, The Netherlands  
Kai-Yuan Cai, China  
Joao W. Cangussu, USA  
Dave Card, France  
Young-Fu Chang, USA  
Stephen Chen, USA  
T.Y. Chen, Australia  
Y. C. Chen, Taiwan  
Shing-Chi Cheung, Hong Kong  
William Chu, Taiwan  
James Cross, USA  
Alan Davis, USA  
Tharam Dillon, Australia  
Atilla Elci, North Cyprus  
Hiroshi Esaki, Japan  
Warren Harrison, USA  
Vladimir Getov, UK  
Chris Gill, USA  
Neelam Gupta, USA  
Pankaj Jalote, India  
Ahmed Amine Jerraya, France  
T. Ming Jiang, Taiwan  
Karama Kanoun, France  
Seong W. Kim, Korea  
John Koo, USA  
Dave Kung, USA  
Jenny Li, USA  
Frank Liu, USA  
Lin Liu, China  
Jian Lu, China  
Hong Mei, China  
Bruce McMillin, USA  
Simanta Mitra, USA  
Tien Nguyen, USA  
Lionel Ni, Hong Kong  
Doug Niehaus, USA  
Cristina Cerschi Seceleanu, Finland  
Tiberiu Seceleanu, Finland  
Sahra Sedigh, USA  
Cristina Serban, USA  
Ina Schieferdecker, Germany  
Pradip Srimani, USA  
Hui Su, China  
Rajesh Subramanyan, USA  
Michiharu Takemoto, Japan  
Feng-Jian Wang, Taiwan  
Ji Wang, China  
Qianxiang Wang, China  
Armin Mikler, USA  
Johnny Wong, USA  
Chunxiao Xing, China  
Baowen Xu, China  
Dianxiang Xu, USA  
Hongji Yang, UK  
Y. T. Yu, Hong Kong  
Edward Zou, China  
Jian Zhang, China  
Hong Zhu, UK  
Mohammad Zulkernine, Canada

## Steering Committee Members

Stephen S. Yau, Aditya Mathur, Dick Simmons, T.H. Tse, Eric Wong, Johnny Wong, and Carl K. Chang (Chair)

# 北京友谊宾馆示意图

Plan of Beijing Friendship Hotel



“Friendship Palace” sites locates on the centre of the hotel

MH: Meeting Hall (Right side of the Friendship Palace)

RB: Building 7 (Left side of the Friendship Palace, Ruibin Building)

JB: Building 8 (Left side of the Friendship Palace, Jiabin Building)