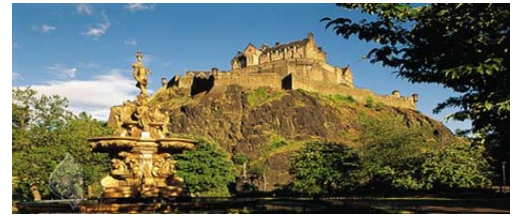# 29th Annual International
Computer Software and Applications Conference
COMPSAC 2005
Edinburgh, Scotland, July 26 – 28, 2005

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Welcome to the Twenty-Ninth **Annual International Computer Software and Applications Conference (COMPSAC 2005).**

COMPSAC is the major international forum for researchers, practitioners, managers, and policy makers interested in computer software and applications. The program includes keynote addresses, original research papers, panel discussions, fast abstracts and four participative workshops.

Program At-a-Glance

	Tuesday July 26	Wednesday July 27	Thursday July 28
09:00 – 10:00	Opening Session Keynote Address (1): Robert Berry	Plenary Panel: Security and Privacy in Distributed Collaborative Systems Stephen S. Yau	Keynote Address (2): Jeena Srinivas
10:30 – 11:00	Coffee Break	Coffee Break	Coffee Break (10:00 – 10:30)
11:00 – 12:30	Parallel Sessions:	Parallel Sessions:	Parallel Sessions: (10:30 – 12:30)
	1 Software Testing (1)	13 Internet Web Systems	25 Software Testing (2)
	2 Process Management	14 Verification and Validation	26 Dependability and Fault Tolerance
	3 Software Architecture and Metric	15 Panel: Model-based Software Testing and Verification	27 Panel: How Democratic will e-Democracy be?
	4 Panel: High Assurance Software Design for Mobile Tele-Health Systems	16 Workshop: Software Cybernetics (1)	28 Fast Abstract (1): Software Specification, Design, Analysis and Testing
12:30 – 14:00	Lunch Break	Lunch Break	Lunch Break
14:00 – 15:30	Parallel Sessions:	Parallel Sessions:	Parallel Sessions:
	5 Software Re-Engineering and Service-based Systems	17 Mobile and Pervasive/Ubiquitous Computing	29 Security and Privacy (2)
	6 Middleware and Agent-based Systems	18 Panel: 21st Century Global Software Development and Education	30 Fast Abstract (2): Computing Platforms, Services, and Applications
	7 Security and Privacy (1)	19 Workshop: Quality Assurance and Testing of Web-based Application (1)	31 Workshop: Model-driven Agile Development (1)
	8 Panel: Industry and Academia: Can They Agree on Best Practice within Software Engineering?	20 Workshop: Software Cybernetics (2)	32 Workshop: Testing and Quality Assurance for Component-based Software (1)
15:30 – 16:00	Coffee Break	Coffee Break	Coffee Break
16:00 – 17:30	Parallel Sessions:	Parallel Sessions:	Parallel Sessions:
	9 Requirement and Design (1)	21 Requirement and Design (2)	33 Network, Distributed, and Embedded System (2)
	10 Formal Method	22 Reliable Systems	34 Fast Abstract (3): Data Mining and Knowledge Management
	11 Network, Distributed, and Embedded System (1)	23 Workshop: Quality Assurance and Testing of Web-based Application (2)	35 Workshop: Model-driven Agile Development (2)
	12 Planning Meeting for COMPSAC 2006	24 Workshop: Software Cybernetics (3)	36 Workshop: Testing and Quality Assurance for Component-based Software (2)
19:00	Conference Reception	Conference Banquet	

CONFERENCE VENUE:
All technical sessions are held in William Robertson Building, University of Edinburgh

ACKNOWLEDGEMENT:
Our appreciation to *MOTOROLA* for sponsoring the conference reception and the banquet.

SOCIAL EVENTS
Pre-Conference Reception *7:30 pm, Monday, July 25*
Playfair Library Hall, Old College, University of Edinburgh

Conference Reception *7:00 pm, Tuesday, July 26*
The Edinburgh Castle

Conference Banquet *7:00 pm, Wednesday, July 27*
Our Dynamic Earth, Edinburgh

Buses will be provided to take guests from/to the Novotel Hotel and Pollock Halls to/from the conference reception on July 26 and banquet on July 27. Leave Novotel Hotel and Pollock Halls at 6:15 p.m.

Tuesday July 26, 2005

09:00-10:30 Opening Session (Lecture Theatre)
- **Welcome and Remarks:** General Chair: Malcolm Atkinson, University of Edinburgh and the National e-Science Centre, UK
- **Greetings and Remarks:** Standing Committee Chair: Stephen S. Yau, Arizona State University, USA
- **Additional Remarks: Incoming Standing Committee Chair:** Carl Chang, Iowa State University, USA
- **Program Overview:** Program Co-Chairs: Ing-Ray Chen, Virginia Tech, USA; Roland N. Ibbett, University of Edinburgh, UK; and Hong Mei, Peking University, China
- **Keynote Address (1):** *Market Forces and Software Assurance*, Robert Berry, CTO for Messaging Technology, IBM, UK

10:30-11:00 Coffee Break

11:00-12:30 Parallel Sessions

Session 1: SOFTWARE TESTING (1) (Seminar Room 11)
Chair: Hongji Yang, De Montfort University, UK
- *Incremental Class Testing from a Class Test Order,* Yvan Labiche, Carleton University, Canada
- *Configuration-Oriented Symbolic Test Sequence Construction Method for EFSM*, Shuhao Li, Ji Wang, Xin Wang and Zhi-Chang Qi, National Laboratory for Parallel and Distributed Processing, China
- *Iterative Metamorphic Testing,* Peng Wu, Chinese Academy of Sciences, China
- *Software Test Selection Patterns and Elusive Bugs,* William E. Howden, University of California at San Diego, USA

Session 2: PROCESS MANAGEMENT (Room G01)
Chair: Doo-Hwa Bae, KAIST, Korea
- *DIG: A Tool for Software Process Data Extraction and Grooming*, Scott D. Miller, Aditya P. Mathur, and Raymond A. DeCarlo, Purdue University, USA
- *A Defect Estimation Approach for Sequential Inspection using a Modified Capture-Recapture Model,* Ching-Pao Chang, Jia-Lyn Lv, Chih-Ping Chu, National Cheng Kung University, Taiwan
- *Parallel Changes: Detecting Semantic Interferences*, G. Lorenzo Thione, FX Palo Alto Laboratory, and Dewayne E. Perry, University of Texas at Austin, USA

Session 3: SOFTWARE ARCHITECTURE AND METRIC (Room G02)
Chair: Carl Chang, Iowa State University, USA
- *A Productivity Metric Based on Statistical Pattern Recognition*, Jody L. Sharpe and Joao W. Cangussu, University of Texas at Dallas, USA
- *Optimizing and Simplifying Software Metric Models Constructed Using Maximum Likelihood Methods*, Victor K.Y. Chan, Macao Polytechnic Institute, China, and Eric Wong, University of Texas at Dallas, USA
- *Structure Analysis for Dynamic Software Architecture based on Spatial Logic*, Tingting Han, Taolue Chen, Jian Lu, Nanjing University, China
- *Performability Analysis of a Pipeline Software Architecture*, Swapna S. Gokhale, University of Connecticut, USA, and Sherif Yacoub, HP Labs, Spain

Session 4: PANEL: HIGH ASSURANCE SOFTWARE FOR MOBILE TELEHEALTH SYSTEMS (Lecture Theatre)
Moderator: Lacal Jose, Motorola, USA
Panelists: Francisco Del Pozo, Ciudad Universitaria, Spain
Robert S. H. Istepanian, Kingston University, UK
Douglas J. McClure, Partners Healthcare System, USA

12:30-14:00 Lunch Break

14:00-15:30 Parallel Sessions

Session 5: SOFTWARE RE-ENGINEERING AND SERVICE-BASED SYSTEMS (Room G01)
Chair: Bruce M. McMillin, University of Missouri-Rolla, USA
- *An Extended Approach to Improving the Semantic Interoperation among Reuse Repositories*, Ying Pan, Lei Wang, Lu Zhang, Bing Xie, and Fuqing Yang, Peking University, China
- *An Empirical Study of a Reverse Engineering Method for the Aggregation Relationship Based on Operation Propagation*, Dowming Yeh, Pei-Chen Sun, National Kaohsiung Normal University, William Chu, TungHai University, Chien-Lung Lin, Siliconware Precision Industries, Taiwan, and Hongji Yang, De Montfort University, UK
- *Adaptive Testing, Oracle Generation, and Test Script Ranking for Web Services*, Wei-Tek Tsai, Yinong Chen, Arizona State University, Ray Paul, Department of Defense, Hai Huang, Xinyu Zhou, and Xiao Wei, Arizona State University, USA
- *Situation-awareness for Adaptable Service Coordination in Service-based Systems*, S. S. Yau, D. Huang, H. Gong, and H. Davulcu, Arizona State University, USA

Session 6: MIDDLEWARE AND AGENT-BASED SYSTEMS (Room G02)
Chair: Dongman Lee, Information and Communications University, Korea
- *Self-Configuring Communication Middleware Model for Multiple Network Interfaces*, Nader Mohamed, Stevens Institute of Technology, USA
- *Using Aspect Oriented Techniques to Support Separation of Concerns in Model Driven Development*, Arnor Solberg, SINTEF, Norway, and Devon Simmonds, Raghu Reddy, Sudipto Ghosh, and Robert France, Colorado State University, USA
- *Agent Oriented Programming based on SLABS*, Ji Wang and Rui Shen, National Laboratory for Parallel and Distributed Processing, China, and Hong Zhu, Oxford Brookes University, UK
- *Intention Scheduling for BDI Agent Systems*, Shung-Bin Yan , Zu-Nien Lin, Hsun-Jen Hsu, and Feng-Jian Wang, National Chiao Tung University, Taiwan

Session 7: SECURITY AND PRIVACY (1) (Seminar Room 11)
Chair: Bhavani Thuraisingham, University of Texas at Dallas, USA
- *Detecting Intrusions Specified in a Software Specification Language,* Mohammad Feroz Raihan and Mohammad Zulkernine, Queen's University, Canada
- *SecureC: Control-flow Protection against General Buffer Overflow Attack,* Hiroyasu Nishiyama, HITACHI, Japan
- *Buffer Overrun Prevention through Component Composition Analysis,* David Llewellyn-Jones, Madjid Merabti, Qi Shi, and Bob Askwith, Liverpool John Moores University, UK
- *Efficiently Managing Security Concerns in Component Based System Design*, Ammar Masood, Purdue University, Sahra Sedigh-Ali, University of Missouri at Rolla, and Arif Ghafoor, Purdue University, USA

Session 8: PANEL: INDUSTRY AND ACADEMIA: CAN THEY AGREE ON BEST PRACTICE WITHIN SOFTWARE ENGINEERING? (Lecture Theatre)
Moderator: Barrie Thompson, University of Sunderland, UK
Panelists: Maarten Boasson, University of Amsterdam, Netherland
Dick Simmons, Texas A&M University, USA
Steven Chen, Motorola, USA
Pierre Bourque, École de Technologie Supérieure, Canada

15:30-16:00 Coffee Break

16:00-17:30 Parallel Sessions

Session 9: REQUIREMENT AND DESIGN (1) (Room G01)
Chair: Feng-Jian Wang, National Chiao Tung University, Taiwan
- *The Vital Few versus the Trivial Many: Examining the Pareto Principle for Software*, Mechelle Gittens, Yong Woo Kim, and David Godwin, IBM
- *Transitioning from Product Line Requirements to Product Line Architecture*, Juha Savolainen, and Ian Oliver, Nokia, and Mike Mannion, and Hailang Zuo, Glasgow Caledonian Univ, UK
- *Designing Controllers for Reachability*, Cristina Cerschi Seceleanu, Abo Akademi University, Finland
- *Classifying Melodies by Using EM Algorithm*, Yukiteru Yoshihara and Takao Miura, Hosei University, Japan

Session 10: FORMAL METHOD (Room G02)
Chair: Qianxiang Wang, Peking Univrsity, China
- *A Formal Approach to Designing Class-structures,* Sukhsmay Kundu, Louisiana State University, and Nigel Gwee, Southern University, USA
- *A Family of Extended Fuzzy Description Logics,* Yanhui Li, Baowen Xu, Jianjiang Lu, Dazhou Kang, and Jixiang Jiang, Southeast University, China
- *Extended Symbolic Transition Graphs with Assignment,* Weijia Deng and Huimin Lin, Chinese Academy of Sciences, China
- *MetaWSL and Meta-Transformations in the FermaT Transformation System*, Martin Ward and Hussein Zedan, De Montfort University, UK

Session 11: NETWORK, DISTRIBUTED, AND EMBEDDED SYSTEMS (1) (Seminar Room 11)
Chair: Robert S. H. Istepanian, Kingston University, UK
- *Using AOP to Monitor and Administer Software for Grid Computing Environments*, Mark Grechanik, Dewayne E. Perry, and Don Batory, University of Texas at Austin, USA
- *Nearest Neighbor Queries on Extensible Grid Files Using Dimensionality Reduction*, Ryosuke Miyoshi, and Takao Miura, Hosei University, and Isamu Shioya, SANNO University, Japan
- *Power Transmission Control Using Distributed Max Flow*, A. Armbruster, M. Gosnell, B. McMillin and M. L. Crow, University of Missouri-Rolla, USA

Session 12: PLANNING MEETING FOR COMPSAC 2006 (Lecture Theatre)

18:30- Conference Reception

Wednesday July 27, 2005

09:00-10:30 Plenary Panel Session: Security and Privacy in Distributed Collaborative Systems (Lecture Theatre)
Chair: Stephen S. Yau, Arizona State University, USA
Panelists: Piero A. Bonatti, University of Napoli "Federico II", Italy
Dengguo Feng, Institute of Software, Chinese Academy of Science, China
Bhavani Thuraisingham, University of Texas at Dallas, USA

10:30-11:00 Coffee Break

11:00-12:30 Parallel Sessions

Session 13: INTERNET WEB SYSTEMS (Room G01)
Chair: Eric Wong, University of Texas at Dallas, USA
- *Tree-map Visualization for Web Accessibility,* John Bailey and Liz Burd, University of Durham, UK
- *On Personal Data License Design and Negotiation,* Yuh-Jzer Joung, Cheng Yen, Chung-Tang Huang, Yi-Jhan Huang, National Taiwan University, Taiwan
- *Adapting Single-Request/Multiple-Response Messaging to Web Services*, Michael Ruth, Feng Lin, and Shengru Tu, University of New Orleans, USA
- *A Web Data Extraction Description Language and Its Implementation,* I-Chen Wu, Jui-Yuan Su, National Chiao Tung University, and Loon-Been Chen, Tunghai University, Taiwan

Session 14: VERIFICATION AND VALIDATION (Room G02)
Chair: William Howden, University of California at San Diego, USA
- *A Blocking-based Approach to Protocol Validation,* Yu Lei, David Kung, and Qizhi Ye, University of Texas at Arlington, USA

- *An Empirical Performance Study for Validating a Performance Analysis Approach: PSIM,* Jinchun Xia, Yujia Ge, Carl K. Chang, Iowa State University, USA
- *Empirical Validation of Website Timeliness Metrics,* Yanlong Zhang, Manchester Metropolitan University, Hong Zhu and Sue Greenwood, Oxford Brookes University, UK
- *Hybrid Intelligent Systems: Selecting Attributes for Soft-computing Analysis,* Puntip Pattaraintakorn and Nick Cercone, Dalhousie University, Canada, and Kanlaya Naruedomkul, Mahidol University, Bangkok

Session 15: PANEL: MODEL-BASED SOFTWARE TESTING AND VERIFICATION (Lecture Theatre)

Moderator: Aditya Mathur, Purdue University, USA
Panelists: Mats Heimdahl, University of Minnesota, USA
Ashish Jain, Telcordia, USA
Fevzi Belli, University of Paderborn, Germany

Session 16: WORKSHOP ON SOFTWARE CYBERNETICS (1) – CONTROL SYSTEMS FOR SOFTWARE CYBERNETICS (Seminar Room 11)

Chair: Kai-Yuan Cai, Beijing University of Aeronautics and Astronautics, China
- **Keynote Speech:** *The information age: challenges and opportunities for control and engineering,* J. D. Birdwell, University of Tennessee, USA
- *State space techniques for software security quantification,* Christopher Griffin, Bharat B. Madan, Penn State University, USA, and Kishor S. Trivedi, Duke University, USA
- *Requirement process establishment and improvement: from the viewpoint of cybernetics,* Hong Xu, Beijing University of Aeronautics and Astronautics, China, Pete Sawyer and Ian Sommerville, Lancaster University, UK
- *FMECA control for software development,* James H. Graham, University of Louisville, USA
- *Supervisory Control of Time Petri Nets Using Net Unfolding,* Ugo Buy, Houshang Darabi, Mihai Lehene, and Vikram Venepally, University of Illinois at Chicago, USA

12:00-14:00 Lunch Break

14:00-15:30 Parallel Sessions

Session 17: MOBILE AND PERVASIVE/UBIQUITOUS COMPUTING (Room G01)

Chair: Stephen Chen, Motorola Global Software Group, USA
- *A Probabilistic Approach to the Anxious Home for Activity Monitoring,* Geoff West, Stewart Greenhill and Svetha Venkatesh, Curtin University of Technology, Australia
- *Exception Handling in Coordination-based Mobile Environments,* Alexei Iliasov, and Alexander Romanovsky, University of Newcastle upon Tyne, UK
- *A User Adaptable User Interface Model to Support Ubiquitous User Access to Information Applications,* Jon Davis, Andrew Tierney, Elizabeth Chang, Curtin University of Technology, Australia
- A *Dynamic Context-Conflict Management Scheme for Group-aware Ubiquitous Computing Environments,* Insuk Park, Dongman Lee, and Soon J. Hyun, Information and Communications University, Korea

Session 18: PANEL: 21st CENTURY GLOBAL SOFTWARE DEVELOPMENT AND EDUCATION (Lecture Theatre)

Moderator: Dick Simmons, Texas A&M University, USA
Panelists: Chris Nelson, IBM, USA
Victoria Livschitz, Sun Microsystems, USA
James Cross, Auburn University, USA
Xiaoqing (Frank) Liu, University of Missouri, USA
Barrie Thompson, University of Sunderland, UK

Session 19: WORKSHOP ON QUALITY ASSURANCE AND TESTING OF WEB-BASED APPLICATIONS (1) (Room G02)

Chair: Hong Zhu, Oxford Brooke University, UK
- *An Agent-based Testing Approach for Web applications,* Yu Qi, University of Texas at Dallas, David Kung, University of Texas at Arlington, Eric Wong, University of Texas at Dallas, USA
- *Autonomous Hot Patching for Web-Based Applications,* Hai Huang, Wei-tek Tsai, and Yinong Chen, Arizona State University, USA
- *A Testing Approach for XML Schemas,* Maria Claudia F. P. Emer, State University of Campinas, Brazil, Silvia Regina Vergilio, Federal University of Paraná, Brazil, Mario Jino, State University of Campinas, Brazil

Session 20: WORKSHOP ON SOFTWARE CYBERNETICS (2) – SOFTWARE TESTING PROCESS CONTROL (Seminar Room 11)

Chair: Fevzi Belli, University of Paderborn, Germany
- *A software cybernetic approach to control of the software system test phase,* Scott D. Miller, Raymond A. DeCarlo, and Aditya P. Mathur, Purdue University, USA
- *Self-testability in unit testing,* Sami Beydeda, Federal Finance Office, Germany
Partition testing with dynamic partitioning, Kai-Yuan Cai, Tao Jing, and Cheng-Gang Bai, Beijing University of Aeronautics and Astronautics, China
- *Novelty detection for a neural network-based online adaptive system,* Yan Liu, Bojan Cukic, E. Fuller, Srikanth Gururajan, and S. Yerramalla West Virginia University, USA
- *A control approach for agile processes,* Joao W. Cangussu, University of Texas at Dallas, USA, and Richard M. Karcich, Pillar Data Systems, USA
- *On the potential of process simulation in software project schedule optimization*
Frank Padberg, Universitat Karlsruhe, Germany

15:30-16:00 Coffee Break

16:00-17:30 Parallel Sessions

Session 21: REQUIREMENT AND DESIGN (2) (Room G01)

Chair: William C. Chu, Tung Hai University, Taiwan
- *A Tool and Case Study for Specification-based Program Review,* Fumiko Nagoya, Shaoying Liu, and Yuting Chen, Hosei University, Japan
- *Tridirectional Computed Chaining: An Efficient Hashing Algorithm for Limited Space Applications,* Mitchell Loeb, IBM, and Alan L. Tharp, North Carolina State, USA
- *A Requirement Engineering Approach for Designing XML-View Driven, XML Document Warehouses,* Vicky Nassis, La Trobe University, Rajugan R. and Tharam S Dillon, University of Technology, and Wenny Rahayu, La Trobe University, Australia
- *Structured Object-Oriented Co-Analysis/Co-Design of Hardware/Software for the FACTS Power System,* Matt Ryan, Sojan Markose, Xiaoqing (Frank) Liu, Bruce McMillin, Ying Cheng, University of Missouri at Rolla, USA

Session 22: RELIABLE SYSTEMS (Lecture Theatre)

Chair: Maarten Boasson, University of Amsterdam, The Netherlands
- *Gompertz Software Reliability Model and Its Application,* Koji Ohishi, Hiroyuki Okamura and Tadashi Dohi, Hiroshima University, Japan
- *Software Reliability Growth Model considering Testing Profile and Operation Profile,* Jing Zhao, Hong-Wei Liu, Gang Cui, Xiao-Zong Yang, Harbin Institute of Technology, China
- *RIES - Internet Voting in Action,* Engelbert Hubbers, Bart Jacobs and Wolter Pieters, Radboud University Nijmegen, The Netherlands
- *Two Variations to the mCESG Pollsterless e-Voting Scheme,* Tim Storer and Ishbel Duncan, University of St. Andrews, UK

Session 23: WORKSHOP ON QUALITY ASSURANCE AND TESTING OF WEB-BASED APPLICATIONS (2) (Room G02)

Chair: Ji Wang, National Laboratory for Parallel and Distributed Processing, China
- **Keynote Speech:** *Testing Web Applications: the State of Art and Future Trends,* Giuseppe A. Di Lucca, University of Sannio, Italy
- *Increasing Web Service Dependability through Consensus Voting,* Nik Looker, Malcolm Munro, University of Durham, UK, and Jie Xu, University of Leeds, UK
- *Measuring the Functionality of Online Stores,* Ernest Cachia, and Mark Micallef, University of Malta, Malta

Session 24: WORKSHOP ON SOFTWARE CYBERNETICS (3) – CONTROL APPROACHES FOR SOFTWARE DEVELOPMENT AND BEHAVIOR (Seminar Room 11)

Chair: Aditya Mathur, Purdue University, USA
- *Consideration on a new software architecture for distributed environments using autonomous semantic agents,* Atilla Elci and Behnam Rahnama, Eastern Mediterranean University, Turkey
- *Constraint Violation Detection: A Fundamental Part of Software,* Qianxiang Wang, Peking University, China
- *Handling high bandwidth aggregates by receiver driven feedback control,* Chee-Wei Tan, Princeton University, USA, Dah-ming Chiu, John C. S. Lui, The Chinese University of Hong Kong, Hong Kong, and David K. Y. Yau, Purdue University, USA
- *Synchronized architectures for adaptive systems,* Tiberiu Seceleanu, University of Turku, Finland, and David Garlan, Carnegie Mellon University, USA
- *Component security – issues and an approach,* Nimal Nissanke, London South Bank University, UK

18:30- Conference Dinner Banquet

Thursday, July 28, 2005

09:00-10:00 Keynote Address (2): (Lecture Theatre)

Chair: Hong Mei, Peking University, China
Capability, Efficiency and a Secure Experience – A Model of Seamless Mobility, Jeena Srinivas, Vice President, Motorola, USA

10:00-10:30 Coffee Break

10:30-12:30 Parallel Sessions

Session 25: SOFTWARE TESTING (2) (Seminar Room 11)

Chair: ??
- *Towards Describing Black-Box Testing Methods as Atomic Rules,* Tafline Murnane, Richard Hall and Karl Reed, La Trobe University, Australia
- *Testing the Semantics of W3C XML Schema,* Jian Bing Li, and James Miller, University of Alberta, Canada
- *Goal-oriented Test Data Generation for Programs with Pointer Variables,* Arnaud Gotlieb and Tristan Denmat, IRISA/INRIA, and Bernard Botella, THALES Aerospace, France
- *Coverage-Directed Test Generation with Model Checkers: Challenges and Opportunities,* George Devaraj, Mats P. E. Heimdahl, and Donglin Liang, University of Minnesota, USA
- *Testing Coverage Analysis for Software Component Validation,* Jerry Gao, and Raquel Espinoza, San Jose State University, USA, and Jingsha He, Beijing University of Technology, China

Session 26: DEPENDABILITY AND FAULT TOLERANCE (Room G01)

Chair: Andreas Holzinger, Medical University Graz, Austria
- *Availability Evaluation of Hardware/Software Systems with several Recovery Procedures,* Sergiy A. Vilkomir, and David L. Parnas, University of Limerick, Ireland, Veena B. Mendiratta, Lucent Technologies, USA, and Eamonn Murphy, University of Limerick, Ireland

• *A Comparison of Network Level Fault Injection with Code Insertion*, Nik Looker, and Malcolm Munro, University of Durham, and Jie Xu, University of Leeds, UK.

• *The Coordinated Recovery of Data Service and Transaction Service in J2EE*, Tiancheng Liu, Gang Huang, Gang Fan, Hong Mei, Peking University, China

• *A Low-Latency Checkpointing Scheme for Mobile Computing Systems*, Guohui Li, Huazhong University of Science and Technology, China, and LihChyun Shu, National Cheng Kung University, Taiwan

Session 27: PANEL: HOW DEMOCRATIC WILL e-DEMOCRACY BE?
(Lecture Theatre)

Moderator: Massimo Felici, University of Edinburgh, UK
Panelists: Ian Brown, University College London, UK
            Jacques Bus, European Commission, EU
            Amreesh Modi, Motorola, USA
            Peter Ryan, University of Newcastle, UK

Session 28: FAST ABSTRACT (1) – SOFTWARE SPECIFICATION, DESIGN, ANALYSIS AND TESTING (Room G02)

Chair: Jeff Yu Lei, University of Texas at Arlington, USA

• *A Different View of Fault Detection*, T.J. Ostrand, E.J. Weyuker, R.M. Bell, and R.C.W. Ostrand, AT&T Labs, USA

• *A Specification Construction Unit-based editor for Z,* Hiroshi Ishikawa, Fukuyama University, Japan

• *Contract-based Formal Specification of Safety Critical Systems,* Wei Dong, Ji Wang, National Laboratory for Parallel and Distributed Processing, China

• *Towards Verification via Supercompilation,* Alexei Lisitsa, The University of Liverpool, UK, Andrei Nemytykh, Program Systems Institute, Russia

• *What is SINS?* Ramesh Bharadwaj, Naval Research Laboratory, USA

• *Configuration Strategies for Evolutionary Testing,* Xiaoyuan Xie, Baowen Xu, Changhai Nie, and Liang Shi, Southeast University, China

12:30-14:00 Lunch Break

14:00-15:30 Parallel Sessions

Session 29: SECURITY AND PRIVACY (2) (Seminar Room 11)

Chair: Johnny S. Wong, Iowa State University, USA

• *Automated Negotiation of Privacy Contracts*, Michael Maaser, and Peter Langendorfer, IHP, Germany

• *A Novel Method for Protecting Sensitive Knowledge in Association Rules Mining*, En Tzu Wang, Guanling Lee, and Yu Tzu Lin, National Dong Hwa University, Taiwan

• *Protecting Users against Phishing Attacks with AntiPhish,* Engin Kirda and Christopher Kruegel, Technical University of Vienna, Austria

• *A Performance-Based Grid Intrusion Detection System,* Fang-Yie Leu, Jia-Chun Lin, Ming-Chang Li, and Chao-Tung Yang, Tung-Hai University, Taiwan

Session 30: FAST ABSTRACT (2) - COMPUTING PLATFORM, SERVICE AND APPLICATION (Room G02)

Chair: Massimo Felici, University of Edinburgh, UK

• *PerAd-Service: A Middleware Service for Pervasive Advertisement in M-Business,* S. Ahmed, M. Sharmin, and S.I. Ahamed, Marquette University, USA

• *Ubiquitous Computing for Hospital Applications: RFID-Applications to enable research in Real-Life environments,* Andreas Holzinger, Medical University Graz, Austria, Klaus Schwaberger, SOLVION Information Management, Austria, and Matthias Weitlaner, Infineon Technologies Austria, Austria

• *Product Families On-Chip - Combining the Software Product Family Paradigm with Run-time Reprogrammable Hardware Technology,* and Michel Jaring, VTT Electronics, Finland

• *A HAL for Component-Based Embedded Operating Systems*, Qiming Teng, Hua Wang, and Xiangqun Chen, Peking University, China.

• *Preventing Illegal Usage of Mobile Phone Software,* Yun-Sam Kim and Eun-Sun Cho, Chungbuk National University, Korea

Session 31: WORKSHOP ON MODEL-DRIVEN AGILE DEVELOPMENT (1) – EXTREME PROGRAMMING FOR RE-ENGINEERING (Room G01)

Chair: Ramesh Bharadwaj, Naval Research Laboratory, USA

• **Keynote Speech:** *Model-Driven Agile Development (MAD) for Situation-Aware Software in Ubiquitous Computing Environments*, Stephen S. Yau, Arizona State University, USA

• *Component Based Approach for Automation of Rules in a Business Process,* Saqib Ali, Ben Soh and Torab Torabi, La Trobe University, Australia

• *Extreme Programming for Distributed Legacy System Reengineering,* Bin Xu, Zhejiang Gongshang University, China, Xiaohu Yang and Zhijun He, Zhejiang University, China

Session 32: WORKSHOP ON TESTING AND QUALITY ASSURANCE OF COMPONENT BASED SYSTEMS (1) – COMPONENT-BASED SOFTWARE TESTING AND REGRESSION TESTING (Lecture Theatre)

Chair: Jerry Gao, San Jose State University, USA

• *Fault Injection Approach based on Dependence Analysis,* Regina Lúcia de Oliveira Moraes, State University of Campinas, Eliane Martins, Institute of Computing, and Naaliel Vicente Mendes, State University of Campinas, Brazil

• *Reasoning about Software Architecture-based RegressionTesting through a Case Study,* Henry Muccini, University of L'Aquila, Italy, Marcio Dias, University of Durham, UK, and Debra J. Richarson, University of California Irvine, USA.

• *Automated Harvesting of Test Oracles for Reliability Testing,* Oliver Hummel and Colin Atkinson, University of Mannheim, Germany

15:30–16:00: Coffee Break

16:00–17:30: Parallel Sessions

Session 33: NETWORK, DISTRIBUTED, AND EMBEDDED SYSTEMS (2) (Seminar Room 11)

Chair: Wei-tek Tsai, Arizona State University, USA

• *Scoped Broadcast in Dynamic Peer-to-Peer Networks*, Hung-Chang Hsiao and Chung-Ta King, National Tsing-Hua University, Taiwan

• *Character Recognition System for Cellular Phone with Camera*, K. S. Bae, K. K. Kim, Y. G. Chung, W. P. Yu, Electronics and Telecommunications Research Institute, Korea

• *Towards a Contract Aware CORBA Component Container,* Egon Teiniker, Robert Lechner, Gernot Schmoelzer, Christian Kreiner, and Zsolt Kovacs, Graz University of Technology, Austria, and Reinhold Weiss, Salomon Automation GmbH, Austria

• *New Method for Dispatching Waiting Logical Processors in Virtual Machine Systems,* Hidenori Umeno and Masato Kiyama, Kumamoto University, Takafumi Fukunaga, Kumamoto Pref. College of Technology, Takashige Kubo and Toyohisa Imada, Hitachi, Japan

Session 34: FAST ABSTRACT (3) - DATA MINING AND KNOWLEDGE MANAGEMENT (Room G02)

Chair: Baowen Xu, Southeast University, China

• *Recovering "Lack of words" in Text Categorization for Item Banks*, Atorn Nuntiyagul, Mahidol University, Thailand, Nick Cercone, Dalhousie University, Canada, and Kanlaya Naruedomkul, Mahidol University, Thailand

• *Searching Design Patterns in Source Code*, Detlef Streitferdt, Christian Heller, and Ilka Philippow, Ilmenau Technical University, Germany

• *A Probabilistic Evaluation Function for Relaxed Unification*, Tony Abou-Assaleh, Nick Cercone, and Vlado Keselj, Dalhousie University, Canada

• *Association Rule Based Data Mining Agents for Personalized Web Caching*, Sujaa Rani Mohan, E.K. Park, and Yijie Han, University of Missouri, Kansas City

• *Data Mining Application in Customer Relationship Management of Credit Card Business*, Ruey-Chyi Wu, Ruey-Shun Chen, Chan-chine Chang and J.Y. Chen, National Chiao Tung University, Taiwan

• *Similarity Measurement between Images*, Chaur-Chin Chen and Hsueh-Ting Chu, National Tsing Hua University, Taiwan

Session 35: WORKSHOP ON MODEL-DRIVEN AGILE DEVELOPMENT (2) – COMPONENT-BASED AGILE DEVELOPMENT (Room G01)

Chair: Ramesh Bharadwaj, Naval Research Laboratory, USA

• *From Extreme Programming and Usability Engineering to Extreme Usability*, Andreas Holzinger, Maximilian Errath, Gig Searle, Medical University Graz, Bettina Thurnher, Vienna University of Technology, and Wolfgang Slany, Graz University of Technology, Austria

• *Experiences with a Dialog-Driven Process Model for Web Application Development,* Matthias Book and Volker Gruhn, University of Leipzig, Germany

Session 36: WORKSHOP ON TESTING AND QUALITY ASSURANCE OF COMPONENT BASED SYSTEMS (2) - COMPONENT VALIDATION, QUALITY MEASUREMENT AND TEST AUTOMATION (Lecture Theatre)

Chair: Sahra Sedigh-Ali, University of Missouri at Rolla, USA

• *Towards Self-Testing of Component-Based Software,* Fevzi Belli and C.J. Budnik, University of Paderborn, Germany

• *A Component Testability Model for Verification and Measurement,* Jerry Gao and Ming-Chih Shin, San Jose State University, USA

• *A Framework for Efficient Contract-based Testing of Software Components,* Egon Valentini, Gerhard Fliess and Edmund Haselwanter, Graz University, Austria

17:30 End of Program

Information for SWEBOK Workshop

The first International Workshop on the Evolution of the Guide to the Software Engineering Body of Knowledge (SWEBOK) will be held in Seminar Room 10, July 27 – 28, 2005.

COMPSAC 2006

COMPSAC 2006 will be held in Chicago, September 18 - 21, 2006. The conference and associated workshops will be co-located with the International Conference on Web Services (ICWS), International Conference on Services Computing (SCC), and perhaps other events to form the IEEE Computer Society's Congress on Software Technology and Engineering Practice, namely CoSTEP.

A planning session for COMPSAC 2006 will be held on Tuesday, July 26, 2005 from 4:00 to 5:30 p.m. in the Lecture Theatre. All participants are welcome to discuss the program development for COMPSAC 2006.